

VU Research Portal

A cohort study into the effectiveness of long-term psychoanalytic treatment for patients with personality disorders and/or chronic depression

Berghout, C.C.

2010

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Berghout, C. C. (2010). *A cohort study into the effectiveness of long-term psychoanalytic treatment for patients with personality disorders and/or chronic depression*. [PhD-Thesis – Research external, graduation internal, Vrije Universiteit Amsterdam].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

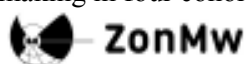
vuresearchportal.ub@vu.nl

**A cohort study into the effectiveness of long-term
psychoanalytic treatment for patients with personality
disorders and/or chronic depression**

ISBN: 978-90-8659-467-2

This thesis was prepared within the Department of Research and Quality Assurance of the Netherlands Psychoanalytic Institute & EMGO Institute for Health and Care Research, VU University Medical Center.

This project was supported by the Netherlands Organization for Health Research and Development (ZonMw, grant number 945-04-414). Full project title: “Implementing a routine outcome monitoring system to study the effectiveness of long-term psychoanalytic treatment and therapeutic decision making in four cohorts of personality disordered and/or recurrent or chronic depressive patients”



VRIJE UNIVERSITEIT

**A cohort study into the effectiveness of long-term
psychoanalytic treatment for patients with personality
disorders and/or chronic depression**

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor aan
de Vrije Universiteit Amsterdam,
op gezag van de rector magnificus
prof.dr. L.M. Bouter,
in het openbaar te verdedigen
ten overstaan van de promotiecommissie
van de faculteit der Geneeskunde
op vrijdag 11 juni 2010 om 9.45 uur
in de aula van de universiteit,
De Boelelaan 1105

door

Caspar Christiaan Berghout

geboren te Rotterdam

promotor: prof.dr. J.T.V.M. de Jong
copromotor: dr. D.J. Zevalkink

PhD committee:

prof.dr. A.T.F. Beekman
prof.dr. P. Cuijpers
prof.dr. P. Fonagy
prof.dr. P. Schnabel
prof.dr. J.A. Swinkels
prof.dr. W. van Tilburg

TABLE OF CONTENTS

INTRODUCTION

- CHAPTER 1: Expanding the evidence base for the effectiveness and cost-effectiveness of long-term psychoanalytic treatment 11

CHARACTERISTICS OF PATIENTS BEFORE LONG-TERM PSYCHOANALYTIC TREATMENT

- CHAPTER 2: Identifying clinical cases among patients assigned to psychoanalytic treatment 21

- CHAPTER 3: Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic treatment: Psychoanalysis versus psychoanalytic psychotherapy 31

EFFECTIVENESS OF LONG-TERM PSYCHOANALYTIC TREATMENT

- CHAPTER 4: Effectiveness of long-term psychoanalytic treatment: Measuring personality functioning and symptomatic distress in a multiple-cohort design 45

- CHAPTER 5: Clinical Significance of Long-Term Psychoanalytic Treatment 65

LONGITUDINAL MEASUREMENTS

- CHAPTER 6: Changes in symptoms and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis 83

COST-EFFECTIVENESS OF LONG-TERM PSYCHOANALYTIC TREATMENT

- CHAPTER 7: The effects of long-term psychoanalytic treatment on health care utilization and work productivity and their associated costs 103

- CHAPTER 8: A cost-utility analysis of psychoanalysis versus psychoanalytic psychotherapy 113

GENERAL DISCUSSION

- CHAPTER 9: Conclusions and discussion 125

- SUMMARY 137

- SAMENVATTING 141

- CURRICULUM VITAE 145

- LIST OF PUBLICATIONS 147

- ACKNOWLEDGEMENTS 149

INTRODUCTION

CHAPTER 1

Expanding the evidence base for the effectiveness and cost-effectiveness of long-term psychoanalytic treatment

Based on: Zevalkink, J., & Berghout, C.C. (2006). Expanding the evidence base for the cost-effectiveness of long-term psychoanalytic treatment. *Journal of the American Psychoanalytic Association*, 54, 1313-1319.

INTRODUCTION

A survey in 1943 by Obendorf was oriented toward answering the multifaceted question “What type of treatment is best suited to what kind of patient, suffering from what kind of illness, at what point in life, when treated by what kind of analyst, in what manner?” (Galatzer-Levy, Bachrach, Skolnikoff, & Waldron, 2000, p. 53). In recent years, the question of cost-effectiveness can be added to these concerns. Despite the long history of posing the right questions, research into the effectiveness of psychoanalysis and psychoanalytic psychotherapy has been hampered by vexing methodological, technical, theoretical, and ethical problems, not to mention a diverse array of opposing viewpoints on scientific and empirical research itself (Gerber, 2004). Nevertheless, we consider systematic empirical research relevant to the study of psychoanalytic treatment¹. To overcome some of the daunting difficulties in this area, it is important to choose a theoretical framework, research instruments, and a research design adequate to addressing these questions. This introduction aims to explain the choice of theoretical framework, instruments, and design of our study into the effectiveness of psychoanalytic treatment for which data collection started in January 2005. The project was a collaboration of four mental health institutes and was intended to evaluate the health- and cost-effectiveness of ambulatory government-funded psychoanalytic psychotherapy and psychoanalysis in regular clinical practice in the Netherlands. This was done by using a routine outcome monitoring system developed for monitoring change in long-term psychotherapeutic treatments. In addition, the project evaluated the usefulness of the monitoring system for quality assurance purposes. At first, we performed a pilot study on the characteristics (e.g., level of psychopathology) of patients assigned to long-term psychoanalytic treatment in order to investigate the feasibility of doing effectiveness research in this setting. The pilot study intended to provide a detailed description of the patient population in regular clinical practice. Subsequently, we performed a large effectiveness study using a multiple cohort design.

THEORETICAL FRAMEWORK

A theoretical framework accompanying research on the effectiveness of psychoanalytic treatment should provide a conceptual model and hypotheses about the domains in which patients might benefit from the treatment. Psychoanalytic treatment refers to a range of therapeutic strategies –based on a variety of theoretical models– that are designed to treat psychological disorders. Psychoanalysis and psychoanalytic psychotherapy are two particular forms of long-term ambulatory treatment, which will be the treatments under investigation here. The varying theoretical models that underpin both treatments all highlight the significance of mental disorders of early development, current and past relationships with attachment figures, imagination and fantasy (particularly in relation to mental states), and enduring mental structures that derive from these experiences (Fonagy & Target, 2009). The essence of psychoanalytic treatment is to explore those aspects of self that are not fully known, which can be manifested and influenced in the therapeutic relationship (Shedler, 2010). Fonagy and Target (2009) described the aim of psychoanalytic or psychodynamic treatment as follows:

“All psychodynamic therapies aim to strengthen patients’ ability to understand the motivations for and meanings of their own and others’ subjective experiences, behavior, and relationships. The therapist aims to expand patients’ conscious awareness of these mechanisms and influences so that they are better able to use their increased emotional awareness to manage continuing pressures.”
(p.4)

Although symptom reduction may be seen as an important target of long-term psychoanalytic treatment, the broader goal is to achieve *structural change* (Gabbard, 2009; Shedler, 2010). Theories and measurements of this concept vary widely, leading to a range of contrasting definitions. Many

¹ In the literature, the terms psychodynamic and psychoanalytic are often used interchangeable. In this thesis, we will mainly use the term psychoanalytic treatment.

psychoanalytic theories have been developed in the area of interpersonal functioning and object relations (Fairbairn, 1952; Kernberg, 1976; Klein, 1957). Object relations theory focuses on understanding psychopathology in terms of mental representations of dyadic self and object relationships, which are rooted in past relationships, and later grow to encompass multiple relationship representations (Fonagy & Target, 2009). Efforts to grapple the complexity of the psychological dynamics in psychoanalytic treatment have often fragmented the field, resulting in a broad range of hypotheses (Fonagy, 1999). Most of the theoretical and clinical assumptions were not studied empirically or at least not according to the current state of science in this field. In contrast, a particularly coherent theoretical framework for studying structural change is provided by attachment theory (Ainsworth & Bowlby, 1965; Bowlby, 1969, 1973, 1980, 1988) and its later refinements, such as the theory on mental processing and reflective functioning developed by Fonagy and colleagues (e.g., Fonagy, Gergely, Jurist, & Target, 2002), which is also particularly well suited for empirical research. Within this well-defined and well-researched theory of intrapsychic and interpersonal processes, several instruments have been developed with good psychometric properties. Moreover, these instruments can be used alongside a-theoretical instruments measuring symptomatic change and improvement in functioning (Gerber, 2004).

INSTRUMENTS

As Gerber (2004) has observed, “Rather than there being too few measures of structural change, it is impressive to see how many measures have been devised in the past quarter century.” Unfortunately, most of these measures have been found to be too abstract, not sufficiently reliable, or too highly correlated with global, generic symptom measures. As things stand, more than enough well-established measures of symptoms already exist that have the additional benefit of having been used in non-psychoanalytic effectiveness studies. The current project includes a number of these symptoms measures. For instance, the Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1983) has been used widely as a general dimensional measure of psychopathology and can be easily used in repeated measurements. Of course, it is also important to include theoretically based instruments that are relevant to change in psychoanalytic treatment and take into account the complexity and richness of human experience. An example of a theoretically based instrument is the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996; Main, Goldwyn, & Hesse, 2003). This instrument meets several criteria as a useful measure of structural change: it has a cohesive theoretical base; is experience-near; is based on an observer rating scheme; and has amassed a sizable empirical literature demonstrating its reliability and validity in clinical samples (Gerber, 2004). Another example of a theoretically based instrument is the Inventory of Interpersonal Problems, which aims to identify dysfunctional patterns in interpersonal relations (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000).

We focused on symptomatic functioning and on structural change at interpersonal and intrapsychic levels, using them as primary outcome measures. Symptomatic functioning was measured using the following questionnaires: Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1983), Beck Depression Inventory II (BDI-II; Beck, Steer, and Brown, 1996), and the State-Trait Anxiety Inventory (STAI; Spielberger, 1983). Structural change was measured using the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), the Adult Attachment Interview (AAI; George et al., 1996; Main et al., 2003), the Rorschach (scored according to the Comprehensive System; Exner, 2003), and the Inventory of Interpersonal Problems (IIP-64; Horowitz et al., 2000). As primary effect parameter in the economic evaluation we computed quality-adjusted life years (QALYs) based on preference-based health values assessed with the Short Form-36 Health Survey (SF-36; Ware, Snow, Kosinski, & Gandek, 1993). Direct and indirect costs were measured by assessing treatment costs at each mental health clinic and by a questionnaire for each patient: Trimbos/iMTA questionnaire for direct and indirect costs associated with psychiatric illness (TiC-P; Hakkaart-van Roijen, van Straten, Donker, & Tiemens, 2002).

DESIGN

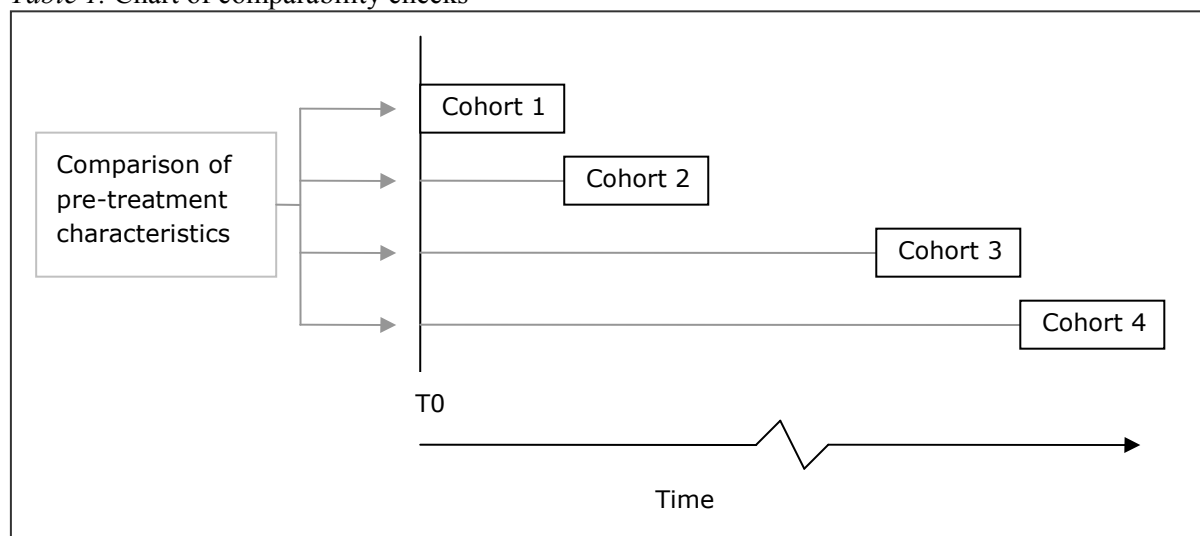
Research on the effectiveness of long-term psychoanalytic treatments can encounter several difficulties. The long duration of the treatment makes it complicated to design an effect study meeting

the highest scientific standards. With regard to primary data collection, Randomized Controlled Trials (RCTs) are considered the 'gold standard' for research in (mental) health care. However, research on long-term treatments following the RCT method faces some serious methodological difficulties (Fonagy, 2002; de Maat, Dekker, Schoevers, & de Jonghe, 2007; Seligman, 1995). For one, in randomized trials on long-term treatments it is methodologically and ethically very difficult to design an alternative treatment condition and keep patients in that condition. Patients actively seek their treatments, interrupt those which they are not satisfied with, and seek other, new treatments (Sandell et al., 2000). Earlier attempts have shown that recruitment and attrition of research subjects are major problems with this type of study design. It seems that there is a trade-off between experimental rigor on the one hand and clinical representativeness and feasibility on the other hand. The more internal validity is emphasized, the less clinically representative the study becomes. Another problem with applying the RCT method to research on long-term treatments is that such studies are extremely expensive, both in terms of money and time. In applying for funding, we encountered the following restriction: a research grant of The Netherlands Organisation for Health Research and Development (ZonMw) was available for a period of only three years. The external and internal restrictions forced us to choose a research design that enabled us to investigate the effectiveness of long-term psychoanalytic treatments within this relatively short period of time. Cohort studies provide the best available evidence when randomized controlled trials (RCTs) are not feasible (Centre of Evidence Based Medicine Oxford, 2009). In this study, we used a quasi-experimental longitudinal cohort design with repeated (overlapping) measurements. This method is also called an 'accelerated longitudinal design' or 'cohort sequential design for longitudinal research' (Anderson, 1995; Raudenbush & Chan, 1992). We were inspired by a design from the noteworthy study of Sandell and colleagues (Blomberg, Lazar, & Sandell, 2001; Sandell et al., 2000).

The effectiveness of long-term psychoanalytic treatment was studied by following patients in four cohorts that differed in the phase of treatment they were in: before treatment, one year into treatment, at the end of treatment, and two years after treatment (follow-up). The patients in each cohort were followed for a period of one year. During this year they were assessed three times, each measurement being six months apart ($T_0 = 0$ months, $T_1 =$ after 6 months, $T_2 =$ after 12 months). The three assessments included questionnaires about symptoms and interpersonal problems. The more time-consuming structural measures, namely the MMPI-2, the AAI, and the Rorschach, were only administered at T_0 . Power analyses were performed using a clinical trials design program to investigate the minimal number of patients in relation to the estimated effect size. We expected a conservative estimated effect size after one year of treatment of 0.50 and an effect size of 1.00 at the end of treatment. We calculated that we needed 65 appraisable patients in each cohort, with a total sample size of 260. To increase the power, we used one-way analyses of covariance (ANCOVA) and related statistical methods. To study the effectiveness of a treatment one must compare the treatment results with patients in a control condition. As a good alternative to placebo, waiting-list or treatment-as-usual control groups, we used data from natural remission of diagnostically comparable patient groups. We also made comparisons with scores from clinical and non-clinical groups to determine what proportion of patients scored within the non-clinical range across the different stages of psychoanalytic treatment.

The assumption of comparability of the cohorts is the cornerstone of an accelerated longitudinal design. It was therefore essential to control for this, in order to ensure the quality of the study. The comparability of the cohorts was increased by introducing overlap between measurement points across different cohorts. In that way, we could make comparisons on the different outcome measures and look at possible age-cohort and period-cohort interaction effects. The comparability of cohorts was also investigated by checking the pretreatment status of all patients in each cohort. If the cohorts were in fact comparable at the outset, mean pretreatment Global Assessment of Functioning (GAF) scores (DSM-IV-R) and sociodemographic data would not differ significantly between the four cohorts. It was important to determine whether clinicians' decision making in assigning patients to psychoanalytic treatment has changed notably over the past ten years. We investigated this by providing a select group of psychoanalysts with a random selection of 'blinded' pretreatment reports from patient files and we asked them whether they would refer this patient to psychoanalysis, psychoanalytic psychotherapy, or some other form of treatment. Table 1 provides a visual summary of our checks on the comparability of the cohorts.

Table 1. Chart of comparability checks



In the cost-utility analysis we examined the Incremental Cost-Effectiveness Ratio (ICER) of high-dosage versus lower-dosage psychoanalytic treatment, because in cost-utility analyses it is always necessary to compare one form of treatment with another. Following this line of investigation, we also studied further differences between psychoanalysis and psychoanalytic psychotherapy regarding patient characteristics, course of improvement and treatment effectiveness exploratively. Because we could not randomize or match patients to the two treatment modalities, we realize that we have to be careful in interpreting the observed differences.

HYPOTHESES

We expected psychoanalytic treatment to be effective in reducing the patient's symptoms after one year of treatment and to improve the patient's interpersonal and intrapsychic functioning and overall wellbeing to a non-clinical level after three to five years of psychoanalytic treatment, with dose and frequency of sessions correlating positively with improvement rates. Health care utilization and work impairment of patients after psychoanalytic treatment was expected to be significantly lower in comparison to that of patients before psychoanalytic treatment.

OVERVIEW OF THE THESIS

Chapters 2 and 3 describe the results from the pilot study about the characteristics of patients assigned to psychoanalytic treatment. Chapter 2 deals with the question whether patients assigned to psychoanalytic treatment present 'enough' mental health problems to justify such an intensive treatment. A common assumption is that psychoanalytic treatment is for the 'worried well'. Therefore we investigated how the levels of symptoms, interpersonal problems, and personality pathology relate to those of non-clinical samples and other clinical samples. We also combined the test scores of the different instruments to assess the number of clinical cases at the start of long-term psychoanalytic treatment. In chapter 3 we investigated differences in mental health characteristics between patients assigned to psychoanalysis and patients assigned to psychoanalytic psychotherapy.

The following chapters are based on the results of the multiple cohort study. We have identified three sections: effectiveness, longitudinal measurements, and cost-effectiveness. Chapters 4 and 5 deal with the effectiveness of long-term psychoanalytic treatment, and describe results from cross-sectional cohort comparisons. In these chapters we reported the differences between patients in the four phases of treatment (pre, during, post, follow-up) regarding symptoms and personality functioning. In chapter 4 the main focus is on comparing group means and calculating effect sizes with subsequent attention to potential moderators of treatment outcome. Chapter 5 deals with the clinical significance of the results and compares test scores to normative samples.

The results of the longitudinal measurements of symptoms and interpersonal problems during the first two years of psychoanalysis and psychoanalytic psychotherapy are reported in chapter 6. Longitudinal measurements can provide important information regarding varieties in developmental trajectories of patients in long-term treatment. We used an accelerated longitudinal design with five consecutive measurement points across two cohorts of patients to model the courses of improvement in both treatment groups.

The results of the cost-effectiveness data of long-term psychoanalytic treatment are described in chapters 7 and 8. Long-term psychoanalytic treatment is perceived as an expensive ambulatory treatment for mental illnesses. In chapter 7 we investigated the effects of long-term psychoanalytic treatment on health care utilization and work impairment and also calculated the associated societal costs. In chapter 8 we examined the incremental cost-effectiveness ratio of high-dosage versus lower-dosage psychoanalytic treatment which estimates the additional costs that need to be invested to achieve an extra QALY when choosing psychoanalysis over psychoanalytic psychotherapy.

In the final chapter of this thesis we provide a general discussion of the conclusions that can be drawn from the studies. We comment on the clinical and economical implications, discuss the research methodology, and provide suggestions for future research.

REFERENCES

- Ainsworth, M. D. S., & Bowlby, J. (1965). *Child care and the growth of love* (2nd ed.). London: Penguin.
- Anderson, E. R. (1995). Accelerating and maximizing information from short-term longitudinal research. In J. M. Gottman (Ed.), *The analysis of change* (pp. 139-163). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Blomberg, J., Lazar, A., & Sandell, R. (2001). Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis study. *Psychotherapy Research, 11*, 361-382.
- Bowlby, J. (1969). *Attachment and loss, vol I: Attachment*. London: Hogarth Press.
- Bowlby, J. (1973). *Attachment and loss, vol II: Separation: Anxiety and anger*. London: Hogarth Press.
- Bowlby, J. (1980). *Attachment and loss, vol III: Loss: Sadness and depression*. London: Hogarth Press.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *The Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis, MN: University of Minnesota Press.
- Centre of Evidence Based Medicine Oxford (2009). *Levels of Evidence*. Available at: <http://www.cebm.net>. Accessed October 6, 2009.
- Derogatis, L. R. (1983). *SCL-90-R: Administration, scoring and procedures manual II*. Towson, MD: Clinical Psychometric Research.
- Exner, J. E. (2003). *The Rorschach: A comprehensive system* (4th ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Fairbairn, W. R. D. (1952). *Psychological Studies of the Personality*. London: Routledge & Kegan Paul.
- Fonagy, P. (1999). Points of contact and divergence between psychoanalytic and attachment theories: Is psychoanalytic theory truly different? *Psychoanalytic Inquiry* 19, 448-480.
- Fonagy, P. (Ed.). (2002). *An open door review of outcome studies in psychoanalysis* (2nd ed.). London: International Psychoanalytic Association.
- Fonagy, P., Gergely, G., Jurist, E. L., & Target, M. (2002). *Affect regulation, mentalization, and the development of the self*. New York: Other Press.
- Fonagy, P., & Target, M. (2009). Theoretical models of psychodynamic psychotherapy. In G. O. Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments* (pp. 3-42). Washington, DC: American Psychiatric Publishing, Inc.
- Gabbard, G. O. (2009). Techniques of psychodynamic psychotherapy. In G. O. Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments* (pp. 43-67). Washington, DC: American Psychiatric Publishing, Inc.
- Galatzer-Levy, R. M., Bachrach, H., Skolnikoff, A., & Waldron Jr., S. (2000). *Does psychoanalysis work?* New Haven & London: Yale University Press.
- George, C., Kaplan, N., & Main, M. (1996). *Adult Attachment Interview*. Unpublished manuscript, University of California, Berkeley.

- Gerber, A. J. (2004). *Structural and symptomatic change in psychoanalysis and psychodynamic psychotherapy: A quantitative study of process, outcome, and attachment*. Unpublished dissertation, University College London.
- Hakkaart-van Roijen, L., Straten, A. v., Donker, M., & Tiemens, B. (2002). *Handleiding Trimbos/iMTA questionnaire for costs associated with psychiatric illness (Tic-P)*. Rotterdam: Erasmus Universiteit.
- Horowitz, L. M., Alden, L. E., Wiggins, J. S., & Pincus, A. L. (2000). *Inventory of Interpersonal Problems: Manual*. New York: The Psychological Corporation Harcourt.
- Kernberg, O. (1976). *Object relations theory and clinical psychoanalysis*. New York: Aronson.
- Klein, M. (1957). *Envy and gratitude*. London: Tavistock.
- Maat, S. de, Dekker, J., Schoevers, R., & Jonghe, F. de (2007). The effectiveness of long-term psychotherapy: Methodological research issues. *Psychotherapy Research, 17*, 59-65.
- Main, M., Goldwyn, R., & Hesse, H. (2003). Adult attachment scoring and classification systems. Unpublished manuscript, University of California, Berkeley.
- Raudenbush, S. W., & Chan, W. S. (1992). Growth curve analysis in accelerated longitudinal designs. *Journal of Research in Crime and Delinquency, 29*, 387-411.
- Sandell, R., Blomberg, J., Lazar, A., Carlsson, J., Broberg, J., & Schubert, J. (2000). Varieties of long-term outcome among patients in psychoanalysis and long-term psychotherapy. *International Journal of Psychoanalysis, 81*, 921-942.
- Seligman, M. E. P. (1995). The effectiveness of psychotherapy: The Consumer Reports Study. *American Psychologist, 50*, 965-974.
- Shedler, J. (2010). The efficacy of psychodynamic psychotherapy. *American Psychologist, 65*, 98-109.
- Spielberger, C. D. (1983). *Manual for the State-Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- Ware, J. E., Snow, K. K., Kosinski, M., & Gandek, B. (1993). *SF-36 Health survey manual and interpretation guide*. Boston, MA: The Health Institute, New England Medical Centre.

**CHARACTERISTICS OF
PATIENTS BEFORE LONG-TERM
PSYCHOANALYTIC TREATMENT**

CHAPTER 2

Identifying clinical cases among patients assigned to psychoanalytic treatment

Berghout, C.C. & Zevalkink, J. (2008). Identifying clinical cases among patients assigned to psychoanalytic treatment. *Bulletin of the Menninger Clinic*, 72, 163-178.

ABSTRACT

The present study compared 89 patients assigned to long-term psychoanalytic psychotherapy or psychoanalysis in the Netherlands with psychiatric and nonclinical norm groups with regard to symptoms and personality pathology as assessed with six instruments. Patients filled in four self-report questionnaires (Symptom Checklist-90-Revised [SCL-90-R], Beck Depression Inventory-II [BDI-II], State-Trait Anxiety Inventory [STAI], Inventory of Interpersonal Problems-64 [IIP-64]) and underwent a personality assessment (Minnesota Multiphasic Personality Inventory-2 [MMPI-2], Rorschach-CS). The authors used statistically defined cutoff values for each measure. For each instrument separately, about 50% of the patients reported clinical levels of psychopathology, some patients being more depressed and others reporting other symptoms. By combining the test scores of the different instruments, the authors found that 91% of the patients were identified as clinical cases. Compared to psychiatric norm groups, these patients appeared to report lower levels of symptom distress, but similar levels of personality pathology. The next step will be to investigate the level of improvement after long-term psychoanalytic treatment.

INTRODUCTION

Although several countries (e.g., Norway, Belgium, Germany, Canada, The Netherlands) provide government funding for long-term ambulatory psychotherapy, such as psychoanalysis and psychoanalytic psychotherapy, not much is known about the characteristics of the patients assigned to these treatments. Do they resemble the general psychiatric population, or do they report psychopathology at a similar level as a nonclinical norm group? The present study aims to investigate whether patients assigned to long-term psychotherapy can be identified as clinical cases or not. In concordance with previous research (Derogatis & Lazarus, 1994; Sandell et al., 2000), we calculated the proportion of patients whose test scores were above a statistically defined cutoff score on the different instruments to estimate the percentage of patients that are clinical cases. The answer to this research question might be relevant to researchers and policy makers, as well as clinicians.

First, researchers will know whether outcome studies into the effectiveness of long-term psychotherapy are feasible with the instruments selected for the current project. If the results of this study would show that these patients resemble patients in psychiatric care more than they resemble nonpatients, it would mean that the instruments apparently are sensitive enough to detect the mental health problems associated with this patient population and would therefore be useful in detecting improvements as a result of treatment. Second, policy makers will gain knowledge about the characteristics and distribution of illnesses of patients before psychoanalytic treatment, which they can use in order to provide more effective services (Howard et al., 1996).

Third, clinicians will get information and/or confirmation about the range of mental health characteristics they can expect from patients assigned to long-term ambulatory treatments (e.g., Health Council of the Netherlands, 2001). In the Netherlands, a routine outcome monitoring system was implemented to follow patients before and during psychoanalytic treatment (Zevalkink, 2004). The system included the Symptom Checklist-90-Revised (SCL-90-R), Beck Depression Inventory-II (BDI-II), State-Trait Anxiety Inventory (STAI), Inventory of Interpersonal Problems-64 (IIP-64), Minnesota Multiphasic Personality Inventory-2 (MMPI-2), and the Rorschach inkblot test¹. We intended to determine where patients applying for long-term psychoanalytic treatment would fit within the clinical spectrum of patients with mental health problems on the basis of these six instruments. The present study was a first step in a larger project of assessing the (cost-)effectiveness of long-term psychoanalytic psychotherapy and psychoanalysis in a naturalistic setting (Zevalkink & Berghout, 2006).

Recent meta-analyses showed that psychoanalytic treatment proved to be an effective treatment for depression (Leichsenring, 2001) and personality disorders (Leichsenring & Leibling, 2003). For the present study, we first conducted a systematic review of the research literature to investigate the results of other naturalistic studies on ambulatory psychoanalytic treatment that used similar instruments.

With regard to the symptom questionnaires, patients at onset of psychoanalytic treatment were found to score significantly higher on general symptomatology (SCL-90-R), depression (BDI-II), anxiety (STAI), and interpersonal problems (IIP-64) compared to nonclinical norm groups, though not all patients had clinically elevated scores on all instruments (Finland: Knekt & Lindfors, 2004; Germany: Brockman, Schlüter, Brodbeck, & Eckert, 2002; Leichsenring, Biskup, Kreische, & Staats, 2005; Puschner, Kraft, & Bauer, 2004; Sweden: Blomberg, Lazar, & Sandell, 2001; Sandell et al., 2000; United States: Vaughan et al., 2000).

Next, for each of the six instruments the number of clinical cases in the norm groups—as reported in the manuals—was examined. This confirmed that not every patient in the psychiatric norm group could be identified as a clinical case. For example, the percentage of psychiatric patients with a clinically elevated mean score (calculated according to Sandell et al., 2000) on the BDI-II appeared to be 69% (van der Does, 2002), and on the STAI (Trait score) 48% of the psychiatric patients scored above the clinical cutoff (van der Ploeg, 2000).

¹ The Adult Attachment Interview (AAI; George, Kaplan, & Main, 1996) is included in the monitoring system as well, but results from this instrument are not available for this group of patients.

Relatively few studies using the MMPI-2 have been done with patients in psychoanalytic treatment. In the United States, Gordon (2001) administered the MMPI to outpatients receiving long-term psychoanalytic psychotherapy. He showed that patients at onset of treatment scored within the clinical range on several scales and started to change significantly after 2 years of treatment (Gordon, 2001). Studies on the Rorschach showed that patients at onset of ambulatory psychoanalytic treatment had clinically elevated mean scores on most of the selected Comprehensive System indices of adjustment difficulty, and thus fulfilled the clinical criteria of maladjustment (Knekt & Lindfors, 2004; Weiner & Exner, 1991). With regard to the Special Indices of the Rorschach, Weiner and Exner (1991) studied two indices and found that 32% of their patients had an elevated Coping Deficit Index (CDI > 3) and 60% had an elevated Depression Index (DEPI > 4). We expected patients applying for psychoanalytic treatment in the Netherlands to show similar patterns.

Patients assigned to long-term psychoanalytic treatment (“intention-to-treat”) were compared with two reference groups, one consisting of patients in regular clinical practice and the other of nonclinical subjects. For this comparison, we used standardized means as reported in each of the instrument’s manuals to constitute the two reference groups. The data in these manuals consists of established, up-to-date, and reliable reference groups. Furthermore, we examined whether or not our patients could be identified as clinical cases according to specific criteria. In this, we followed other researchers who had shown that it is possible to use statistically defined cutoff values and combine different instruments to come to a global assessment of the percentage of clinical cases in a certain patient population (Blomberg et al., 2001; Puschner, Kraft, Kächele, & Kordy, 2007; Sandell et al., 2000).

METHOD

Subjects

The total sample consisted of 89 subjects (76% female) who were indicated for long-term ambulatory psychoanalytic treatment. The mean age at intake was 30.8 years (SD = 7.1; range 18-48). Of this group, 31% had a spouse and 16% had children. The majority of patients was employed (78%) and had received higher education (76%). Eleven percent had a non-Western cultural background. With regard to treatment history, we found that 65% of our patients had received previous (psychotherapeutic) treatment before applying for long-term psychoanalytic treatment. Most commonly diagnosed DSM-IV-TR disorders were: mood disorders (51%; in particular dysthymia 35%), anxiety disorders (18%), and adjustment disorders (8%), where 18% were diagnosed with more than one Axis I disorder. Seventy-four percent of the patients was diagnosed with an additional V-code, of which identity problems and relational problems were most common. Twenty percent of the patients was diagnosed with no Axis I disorder, only a V-code. Due to administrative problems, no systematic data were available with regard to Axis II disorders. The average GAF score was 59.9 (SD = 8.8).

Procedure

All patients who applied for treatment between June 2002 and November 2004 at a community mental health clinic specialized in long-term ambulatory psychoanalytic treatment were asked to fill in four self-report questionnaires (SCL-90-R, BDI-II, STAI, and IIP-64). After this, a personality assessment was carried out consisting of the MMPI-2 and the Rorschach inkblot test. The administration and scoring of the Rorschach were done by well-trained psychologists according to the Comprehensive System (Exner, 2001, 2003). In total, 89 patients who participated in the personality assessment received an indication for long-term psychoanalytic treatment at our facility. Rorschach and MMPI-2 data for all patients were complete. However, for 4 patients the data of the screening questionnaires were not complete.

Measures

Symptom questionnaires. In the Netherlands, norms and translation of the SCL-90-R were developed by Arrindell and Ettema (2003). The Global Severity Index (GSI) gives an indication of the general symptomatology. The BDI-II measures depressive symptoms, and van der Does (2002) developed norm scores in the Netherlands. The IIP-64 is used to systematically examine different

types of interpersonal problems (Horowitz, Alden, Wiggins, & Pincus, 2000). The translation and norm scores of the STAI were developed by van der Ploeg (2000).

Personality assessment. The MMPI-2 aims to give a quantitative measurement of the individual's level of emotional adjustment and attitude toward test taking, resulting in clusters of personality variables (Groth-Marnat, 1997). In concordance with other research, we used eight clinical scales, because scales 5-Masculinity-Femininity (Mf) and 0-Social Introversion (Si) are usually not considered as clinical scales (Nieberding et al., 2003; Terlidou et al., 2004). Derksen, de Mey, Sloore, and Hellenbosch (2006) translated the MMPI-2 and developed norms for use in the Netherlands. The relatively new Personality Psychopathology Five (PSY-5) scales were also included: Aggressiveness, Psychoticism, Disconstraint, Negative Emotionality/Neuroticism, and Introversion/Low Positive Emotionality (Harkness & McNulty, 2006). The Rorschach is useful for predicting and evaluating outcome and provides an assessment of someone's personality structure and dynamics (Groth-Marnat, 1997; Viglione, 1999). In this study, we used the six Special Indices: Perceptual-Thinking, Depression, Coping Deficit, Suicide Constellation, Hypervigilance, and Obsessive Style. Norm scores were derived from Exner (2001). We included scores on the Ego Impairment Index-2 (EII-2), which is a relatively new Rorschach composite. The EII-2 measures psychological impairment and thought disturbance (Viglione, Perry, & Meyer, 2003). For descriptive purposes, we also examined the emotional coping style (EB). The EB gives an indication of a person's predominant emotional coping style: ambitent (varied use of external and internal resources), extratensive (mostly use external resources for gratification of basic needs), introversive (mostly use inner life for satisfaction of important needs), or avoidant (tend to minimize the importance of the stimulus field) (Exner, 2003). On the emotional coping style (EB) we found the following results: 44% ambitent, 12% extratensive, 35% introversive, and 9% avoidant.

Statistical analyses

Comparison with nonclinical and psychiatric norm groups. We examined differences and similarities by comparing test scores of our patients with those of the psychiatric reference groups and nonclinical norm groups that are mentioned in the manuals of the different instruments (t-test, chi-square).

Criterion for clinical case. To estimate the percentage of patients that could be identified as clinical cases, we calculated the proportion of patients whose test scores were located above a statistically defined cutoff score on the different instruments. In concordance with previous research (Derogatis & Lazarus, 1994; Sandell et al., 2000), we used the value that divides the 10% worst scoring persons in the nonclinical norm group from the 90% best scoring persons. This division corresponds to 1.28 standard deviation above the mean in a normal distribution. The overall criterion for clinical case was established as patients with scores within the clinical range on at least two of the screening questionnaires and/or two clinical scales of the MMPI-2 and/or two of the Rorschach Special Indices.

RESULTS

Symptom questionnaires: Comparisons with nonclinical and psychiatric norm groups

Table 1 shows the mean scores and standard deviations on the four questionnaires. Our patient group scored significantly higher (i.e., more complaints/problems) on all questionnaires in comparison to the nonclinical norm groups. Subscale scores are not mentioned in Table 1, but without exception they were all significantly higher in our patient group compared to the nonclinical norm groups. Table 1 also shows that our patients scored significantly lower than other psychiatric norm groups regarding general symptomatology (SCL-90-R), depression (BDI-II), and interpersonal problems (IIP-64). On trait anxiety (STAI Trait) there was no significant difference between our patients and the psychiatric norm group.

Table 1. Means and standard deviations on the four symptom questionnaires and comparisons with psychiatric and non-clinical norm groups

Questionnaire	Group			Comparison	
	1	2	3	1 vs. 2	1 vs. 3
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>t</i>
SCL-90-R GSI score	0.98 (0.50)	1.26 (0.68)	0.31 (0.36)	-5.19 ***	12.42 ***
BDI-II Total score	17.9 (8.5)	21.4 (12.2)	6.2 (6.2)	-2.96 **	12.27 ***
IIP-64 Total score	92.0 (30.3)	112.2 (34.2)	51.5 (34.3)	-5.65 ***	11.58 ***
STAI Trait score	52.9 (9.0)	51.6 (11.6)	38.4 (10.8)	0.92	12.99 ***

Note. Group 1 = Patients before psychoanalytic treatment ($N = 85-87$); Group 2 = Psychiatric norm group; Group 3 = Non-clinical norm group. Data from the psychiatric and non-clinical norm group for the SCL-90-R were derived from Arrindell & Ettema (2003); BDI-II: Van der Does (2002); IIP-64: Horowitz, Alden, Wiggins & Pincus (2000); and STAI: Van der Ploeg (2000).

** $p < .01$; *** $p < .001$.

Personality assessment: Comparisons with nonclinical and psychiatric norm groups

Table 2 shows the mean scores and standard deviations on the clinical scales of the MMPI-2. On all MMPI-2 clinical scales except scale 9-Hypomania, patients applying for psychoanalytic treatment scored significantly higher than the nonclinical norm group. However, comparisons with the psychiatric norm group showed that our patients scored significantly lower on scales 1-Hypochondriasis, 2-Depression, 3-Hysteria, 6-Paranoia, 8-Schizophrenia, and 9-Hypomania. No differences were found on the other clinical scales. We also investigated the percentage of patients who had clinically elevated scores on the PSY-5 variables. We found no significant deviations from the percentages in the nonclinical reference group on the first three variables, but on the scale for Negative Emotionality/Neuroticism 38% had an elevated score and on Introversion/Low Positive Emotionality 39% scored within the clinical range.

Table 2. Means and standard deviations on the clinical scales of the Minnesota Multiphasic Personality Inventory-2 and comparisons with psychiatric and non-clinical norm groups

MMPI-2 scale	Group			Comparison	
	1	2	3	1 vs. 2	1 vs. 3
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>t</i>
1-Hypochondriasis	55.8 (10.9)	61.6 (5.9)	50 (10)	-4.39 ***	4.86 ***
2-Depression	62.9 (12.7)	67.9 (11.6)	50 (10)	-2.66 **	9.39 ***
3-Hysteria	61.0 (13.0)	66.9 (9.3)	50 (10)	-3.41 ***	7.84 ***
4-Psychopathic deviate	67.1 (10.8)	66.2 (9.8)	50 (10)	0.53	14.49 ***
6-Paranoia	61.5 (11.7)	65.4 (10.5)	50 (10)	-2.27 *	9.10 ***
7-Psychasthenia	67.0 (12.5)	66.2 (8.8)	50 (10)	0.49	12.58 ***
8-Schizophrenia	63.4 (10.8)	69.1 (13.0)	50 (10)	-3.11 **	11.38 ***
9-Hypomania	52.0 (11.0)	62.5 (8.3)	50 (10)	-7.03 ***	1.70

Note. Group 1 = Patients before psychoanalytic treatment ($N = 89$); Group 2 = Psychiatric norm group; Group 3 = Non-clinical norm group. Data from the psychiatric and non-clinical norm group were derived from Derksen, de Mey, Sloore & Hellenbosch (2006).

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3 shows the percentage of patients with clinically elevated scores on the Special Indices of the Rorschach. On all Special Indices except the Obsessive Style Index, significantly more of our patients appeared to have clinically elevated scores in comparison to the nonclinical norm group. Comparisons with the psychiatric norm group showed that in our patient group, significantly fewer patients had a clinically elevated score on the Obsessive Style Index. However, on the Perceptual-Thinking Index, Depression Index, Suicide Constellation, and Hypervigilance Index, our patient group had

significantly more clinically elevated scores than the psychiatric norm group. No significant difference was found on the Coping Deficit Index. Next, we analyzed Ego Impairment Index-2 scores. We found that 47% of the patients had high scores, indicating moderate to severe impairment (EII-2 > 0.7). More than half of these patients even had significant impairment (EII-2 > 1.3).

Table 3. Percentage of patients with clinically elevated scores on the six Rorschach Special Indices in comparison to clinical and non-clinical reference groups

Rorschach Special Indices	Group			Comparison	
	1	2	3	1 vs. 2	1 vs. 3
	%	%	%	χ^2	χ^2
Perceptual-Thinking (PTI > 2)	15	2	0	28.3 ***	74.1 *** ^a
Depression (DEPI > 4)	53	20	5	43.5 ***	178.5 ***
Coping Deficit (CDI > 3)	25	31	4	1.4	55.4 ***
Suicide Constellation (S-CON > 7)	7	0	0	23.9 *** ^a	33.4 *** ^a
Hypervigilance (HVI Positive)	26	11	3	13.7 ***	72.3 ***
Obsessive Style (OBS Positive)	1	8	1	4.7 * ^a	0.1 ^a

Note. Group 1 = Patients before psychoanalytic treatment ($N = 89$); Group 2 = Psychiatric norm group; Group 3 = Non-clinical norm group. Data from the psychiatric and non-clinical norm group were derived from Exner (2001).

^a χ^2 with Yates correction.

* $p < .05$; *** $p < .001$.

Combining instruments: Clinical cases across instruments

We first combined the test scores from the four symptom questionnaires and calculated the percentages of patients who scored within the clinical range on SCL-90-R GSI score, BDI-II Total score, STAI Trait score, or IIP-64 Total score. We found that 60% of our patients had clinically elevated scores on at least two questionnaires. To be more specific, 16% scored within the clinical range on two questionnaires, 18% on three questionnaires, and 26% on all four symptom questionnaires. Then we combined the test scores from the two personality assessment instruments and looked at the percentage of patients who had clinically elevated scores on either the MMPI-2 (at least two clinical scales) or the Rorschach (at least two Special Indices). We found that 85% of our patients met these criteria. More specifically, 50% of the patients had clinically elevated scores on the MMPI-2 but not on the Rorschach; 9% of the patients scored clinically elevated on the Rorschach but not on the MMPI-2; and 26% of the patients had clinically elevated scores on both the MMPI-2 and the Rorschach. Finally, we combined the results from the symptom questionnaires with the personality assessment instruments. A clinical case was defined as someone who scored within the clinical range on at least two symptom questionnaires and/or at least two MMPI-2 clinical scales and/or at least two Rorschach Special Indices. On these criteria, 91% of the patients assigned to long-term psychoanalytic treatment were identified as clinical cases.

DISCUSSION

In the present study we gave a description of patients assigned to long-term ambulatory psychoanalytic treatment in the Netherlands on the basis of six instruments. Four screening questionnaires and two personality assessment instruments were used. Compared to psychiatric norm groups, our patients appeared to report lower levels of symptom distress, whereas with regard to personality problems our patients presented similar levels of psychopathology. Patients assigned to long-term psychoanalytic treatment were characterized by high levels of depression, hypervigilance, trait anxiety, and problems in reality testing. In addition, we found that most of these patients had an introversive style of coping with emotional difficulties or made varied use of external and internal resources. This particular personality pathology in combination with the high prevalence of (chronic) mood disorders shows that this patient population occupies its own niche within mental health care. For clinicians, it is important to identify the particulars of this patient group, so that better decisions can be made regarding treatment assignment. This concerns patients who seemingly have few symptoms or complaints and

can therefore function reasonably well in certain areas of life, but nonetheless suffer from high levels of hidden distress and personality problems for which they seek help. Scores on the Rorschach EII-2, for example, suggest that problem-solving failures or ineffective and idiosyncratic thinking in complex and demanding life situations were very common in our patient sample. These problems exist on a deeper personality level, which seem hard to capture with short self-report questionnaires. The PSY-5 scales of the MMPI-2 showed that many patients assigned to psychoanalytic treatment had a tendency to focus on problematic aspects of experiences/stimuli, or, in other words, to worry about and anticipate the “worst case scenario”. Moreover, many of these persons seem to have developed an introvert style of dealing with emotional problems as a result of early life experiences. These results are in concordance with those of other studies on patients before psychoanalytic treatment (Blatt & Shahar, 2004; Fonagy et al., 1996; Holmes, 2001; Horowitz, Rosenberg, & Bartholomew, 1993; Levy et al., 2006). The results of these studies suggested that patients with an avoidant attachment style and patients with “introjective” psychopathology might improve significantly more after a high-frequency and long-term treatment in contrast to a low-frequency and short-term treatment.

As reported elsewhere, the clinicians’ assignment to long-term treatments seems to be in line with the research findings (e.g., Zevalkink & Berghout, 2008). Perhaps the stereotype of psychoanalytic treatment being for the “worried well” is based on the observation that these patients report fewer symptoms in comparison with other psychotherapy patients. With the aid of personality assessments, however, the current study shows that the majority of these patients were in fact clinical cases, although in less easily detectable areas of social and emotional functioning. In line with other researchers, we suggest that long-term treatments are especially well suited for patients with personality disorders and/or recurrent or chronic depression, because of the complexity of the underlying problems (Bateman & Fonagy, 1999; Doidge et al., 2002; Perry, Banon, & Ianni, 1999).

Some limitations can be noted with regard to the generalizability of our results. First, with regard to sociodemographic characteristics, results were comparable with those in other studies of patients assigned to psychoanalytic treatment: mainly women, highly educated, and without a spouse (e.g., Sandell et al., 2000). We could not compare this with characteristics of patients in the reference groups, because these data were not mentioned in the manuals of the instruments. Results from Olfson and Pincus (1994) did show that long-term psychotherapy users tended to have a higher education than either short-term psychotherapy users or those who did not use psychotherapy. Therefore, the generalizability of these results might apply only to patients assigned to long-term treatment. Second, the generalizability depends on the quality of the instruments. We selected instruments with good psychometric properties. Most controversial in our test battery is the Rorschach inkblot test. The Rorschach, scored according to the Comprehensive System, has good psychometric qualities (Exner, 2003; Meyer & Archer, 2001) but has not yet been researched extensively in the Netherlands (Evers, van Vliet-Mulder, & Groot, 2000). Therefore, our results may have a bias with norm groups outside the Netherlands. More normative research is needed for the Rorschach in the Netherlands so that differences and similarities with other psychotherapy patients can be identified more accurately. Third, the definition of a clinical case is crucial in this discussion. In this, we followed other studies (Blomberg et al., 2001; Derogatis & Lazarus, 1994; Puschner et al., 2007; Sandell et al., 2000) and tried to make an even more conservative estimate of the number of clinical cases. This was done by adding the criteria that a person would be considered a clinical case if this shows on *several* symptom questionnaires and/or *several* MMPI-2 clinical scales and/or *several* Rorschach Special Indices. For instance, a person who had a clinically elevated score on just one of the questionnaires (e.g., BDI-II), one MMPI-2 clinical scale (e.g., scale 2-Depression), and only one of the Special Indices (e.g., DEPI) would not be considered a clinical case according to our criteria. In our sample, this was the case for 9% of our patients. This number is in agreement with other research findings showing that approximately 15% of patients in ambulatory treatment report functioning in the nonclinical range on standardized tests at intake (Lambert, Okiishi, Finch, & Johnson, 1998). This, however, does not necessarily mean that these patients do not have substantial problems. It can also indicate that these patients’ problems are very hard to detect, even with well established assessment instruments. Further research is needed to find out if this tighter definition of a clinical case will be useful. Finally, no data on outcome are available yet. The next step is to investigate whether long-term psychoanalytic treatment is effective in reducing the number of clinical cases and realizing stable improvements in a

person's emotional and social functioning. What we do know is that personality instruments play a crucial role in detecting clinical cases in this particular patient niche.

REFERENCES

- Arrindell, W.A., & Ettema, J.H.M. (2003). *Symptom Checklist: Handleiding bij een multidimensionele psychopathologie-indicator* [Symptom Checklist: Manual of the multidimensional indicator of psychopathology]. Lisse: Swets Test Publisher.
- Bateman, A., & Fonagy, P. (1999). Effectiveness of partial hospitalization in the treatment of borderline personality disorder: A randomized controlled trial. *American Journal of Psychiatry*, *156*, 1563-1569.
- Blatt, S.J., & Shahar, G. (2004). Psychoanalysis -- With whom, for what, and how? Comparisons with psychotherapy. *Journal of the American Psychoanalytic Association*, *52*, 393-448.
- Blomberg, J., Lazar, A., & Sandell, R. (2001). Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis study. *Psychotherapy Research*, *11*, 361-382.
- Brockmann, J., Schlüter, T., Brodbeck, D., & Eckert, J. (2002). Die effekte psychoanalytisch orientierter und verhaltenstherapeutischer langzeittherapien [Effects of psychoanalytically oriented and of behavioral long-term therapies]. *Psychotherapeut*, *47*, 347-355.
- Derksen, J.J.L., Mey, H.R.A. de, Sloore, H., & Hellenbosch, G. (2006). *MMPI-2: Handleiding voor afname, scoring en interpretatie* [MMPI-2: Manual for administration, scoring and interpretation]. Nijmegen: Pen Psychodiagnostics.
- Derogatis, L.R., & Lazarus, L. (1994). SCL-90-R, Brief Symptom Inventory, and matching clinical rating scales. In M.E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcome assessment* (pp. 217-248). Hillsdale, New Jersey: Lawrence Erlbaum.
- Does, A.J.W. van der (2002). *BDI-II-NL: Handleiding Beck Depression Inventory-II, Nederlandse vertaling en bewerking* [BDI-II-NL: Manual Beck Depression Inventory-II, Dutch translation and adaptation]. Lisse: Swets Test Publisher.
- Doidge, N., Simon, B., Brauer, L., Grant, D.C., First, M., Brunshaw, J., Lancee, W.J., Stevens, A., Oldham, J.M., & Mosher, P. (2002). Psychoanalytic patients in the U.S., Canada, and Australia: 1.DSM-III-R disorders, indications, previous treatment, medications, and length of treatment. *Journal of the American Psychoanalytic Association*, *50*, 575-614.
- Evers, A., van Vliet-Mulder, J.C., & Groot, C.J. (2000). *Documentatie van tests en testresearch in Nederland* [Documentation of tests and test research in the Netherlands]. Assen: Van Gorcum; Amsterdam: Nederlands Instituut voor Psychologen (NIP).
- Exner, J.E. (2001). *A Rorschach workbook for the Comprehensive System*. Asheville, North Carolina: Rorschach Workshops.
- Exner, J.E. (2003). *The Rorschach: A Comprehensive System* (4th ed.). Hoboken, New Jersey : John Wiley & Sons, Inc.
- Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., Target, M., & Gerber, A. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology*, *64*, 22-31.
- George, C., Kaplan, N., & Main, M. (1996). *Adult Attachment Interview* (3rd ed.). Department of Psychology, University of California, Berkeley.
- Gordon, R.M. (2001). MMPI/MMPI-2 Changes in long-term psychoanalytic psychotherapy. *Issues in Psychoanalytic Psychotherapy*, *23*, 59-79.
- Groth-Marnat, G. (1997). *Handbook of psychological assessment*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Harkness, A.R., & McNulty, J.L. (2006). An overview of personality: The MMPI-2 Personality Psychopathology Five Scales. In James N. Butcher (Ed.), *MMPI-2: A practitioner's guide* (pp. 73-97). Washington, DC: American Psychological Association.
- Health Council of the Netherlands (2001). *The efficiency of long-term psychotherapy*. The Hague: Health Council of the Netherlands, 2001/8E.
- Holmes, J. (2001). *The search for the secure base: Attachment theory and psychotherapy*. Hove: Brunner-Routledge.
- Horowitz, L.M., Aldern, L.E., Wiggins, J.S., & Pincus, A.L. (2000). *Inventory of Interpersonal Problems: Manual*. New York: The Psychological Corporation Harcourt.
- Horowitz, L.M., Rosenberg, S.E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology*, *61*, 549-560.
- Howard, K.I., Cornille, T.A., Lyons, J.S., Vessey, J.T., Lueger, R.J., & Saunders, S.M. (1996). Patterns of mental health service utilization. *Archives of General Psychiatry*, *53*, 696-703.

- Knekt, P., & Lindfors, O. (2004). *A randomized trial of the effect of four forms of psychotherapy on depressive and anxiety disorders: Design, methods, and results on the effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy during a one-year follow-up*. Helsinki: Edita.
- Lambert, M.J., Okiishi, J.C., Finch, A.E., & Johnson, L.D. (1998). Outcome assessment: From conceptualization to implementation. *Professional Psychology: Research and Practice, 29*, 63-70.
- Leichsenring, F. (2001). Comparative effects of short-term psychodynamic therapy and cognitive-behavioral therapy in depression: A meta-analysis. *Clinical Psychology Review, 21*, 401-419.
- Leichsenring, F., Biskup, J., Kreische, R., & Staats, H. (2005). The Göttingen study of psychoanalytic therapy: First results. *International Journal of Psychoanalysis, 86*, 433-455.
- Leichsenring, F., & Leibing, E. (2003). The effectiveness of psychodynamic therapy and cognitive behavior therapy in the treatment of personality disorders: A meta-analysis. *American Journal of Psychiatry, 160*, 1223-1232.
- Levy, K.N., Meehan, K.B., Kelly, K.M., Reynoso, J.S., Weber, M., Clarkin, J.F., & Kernberg, O.F. (2006). Change in attachment patterns and reflective function in a randomized control trial of Transference-Focused Psychotherapy for Borderline Personality Disorder. *Journal of Consulting and Clinical Psychology, 74*, 1027-1040.
- Meyer, G.J., & Archer, R.P. (2001). The hard science of Rorschach research: What do we know and where do we go? *Psychological Assessment, 13*, 486-502.
- Nieberding, R.J., Gacono, B.B., Pirie, M., Bannatyne, L.A., Viglione, D.J., Cooper, B., Bodholt, R.H., & Frackowiak, M. (2003). MMPI-2 based classification of forensic psychiatric outpatients: An exploratory cluster analytic study. *Journal of Clinical Psychology, 59*, 907-920.
- Olfson, M., & Pincus, H.A. (1994). Outpatient psychotherapy in the United States, II: Patterns of utilization. *American Journal of Psychiatry, 151*, 1289-1294.
- Perry, J.C., Banon, E., & Ianni, F. (1999). Effectiveness of psychotherapy for personality disorders. *American Journal of Psychiatry, 156*, 1312-1321.
- Ploeg, H.M. van der (2000). *Handleiding bij de Zelf BeoordelingsVragenlijst: Een Nederlandstalige bewerking van de Spielberger State-Trait Anxiety Inventory* [Manual of the State-Trait Anxiety Inventory: A Dutch translation of the Spielberger State-Trait Anxiety Inventory]. Lisse: Swets Test Publisher.
- Puschner, B., Kraft, S., & Bauer, S. (2004). Interpersonal problems and outcome in outpatient psychotherapy: Findings from a long-term longitudinal study in Germany. *Journal of Personality Assessment, 83*, 223-234.
- Puschner, B., Kraft, S., Kächele, H., & Kordy, H. (2007). Course of improvement during two years in psychoanalytic and psychodynamic outpatient psychotherapy. *Psychology and Psychotherapy, 80*, 51-68.
- Sandell, R., Blomberg, J., Lazar, A., Carlsson, J., Broberg, J., & Schubert, J. (2000). Varieties of long-term outcome among patients in psychoanalysis and long-term psychotherapy. *International Journal of Psychoanalysis, 81*, 921-942.
- Terlidou, C., Moschonas, D., Kakitsis, P., Manthouli, M., Moschona, T., & Tsegos, I.K. (2004). Personality changes after completion of long-term group-analytic psychotherapy. *Group Analysis, 37*, 401-418.
- Vaughan, S.C., Marshall, R.D., MacKinnon, R.A., Vaughan, R., Mellman, L., & Roose, S.P. (2000). Can we do psychoanalytic outcome research? A feasibility study. *International Journal of Psychoanalysis, 81*, 513-527.
- Viglione, D.J. (1999). A review of recent research addressing the utility of the Rorschach. *Psychological Assessment, 11*, 251-265.
- Viglione, D.J., Perry, W., & Meyer, G.J. (2003). Refinements in the Rorschach Ego Impairment Index incorporating the Human Representational Variable. *Journal of Personality Assessment, 81*, 149-156.
- Weiner, I.B., & Exner, J.E. (1991). Rorschach changes in long-term and short-term psychotherapy. *Journal of Personality Assessment, 56*, 453-465.
- Zevalkink, J. (2004). *Indicatie- en behandelingsprotocol voor volwassenen* [Protocol for treatment assignment and treatment progress in adult patients]. Amsterdam: Netherlands Psychoanalytic Institute.
- Zevalkink, J. & Berghout, C.C. (2006). Expanding the evidence base for the cost-effectiveness of long-term psychoanalytic treatment. *Journal of the American Psychoanalytic Association, 54*, 1313-1319.
- Zevalkink, J. & Berghout, C.C. (2008). Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychotherapy Research, 18*, 316-325.

CHAPTER 3

Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic treatment: Psychoanalysis versus psychoanalytic psychotherapy

Zevalkink, J. & Berghout, C.C. (2008). Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic treatment: Psychoanalysis versus psychoanalytic psychotherapy. *Psychotherapy Research, 18*, 316-325.

ABSTRACT

The present study investigated mental health characteristics of 170 patients assigned to long-term psychoanalytic psychotherapy (PP) versus psychoanalysis (PA) across treatment and studies. Both univariate and multivariate statistics showed that the main difference between treatments was found in the interpersonal domain. PA patients reported significantly more interpersonal problems (as measured by the Inventory for Interpersonal Problems-64), scored higher on the avoidant coping style and lower on the perceptual thinking index of the Rorschach-Comprehensive System, and scored lower on Aggressiveness and Psychoticism Minnesota Multiphasic Personality Inventory-2 PSY-5 scales compared with PP patients. Compared with psychoanalytic patients in other studies, our patients had similar levels of mental health problems, although not always in the same health areas. Limitations of the study were noted, such as the lack of outcome data and other comparison groups.

INTRODUCTION

Both psychoanalytic psychotherapy and psychoanalysis are particular forms of long-term psychotherapy (>50 sessions). Questions about the effectiveness of both treatments have been justly raised to determine with whom these long-term psychoanalytic treatments should be started (e.g., Doidge, 1997; Health Council of the Netherlands, 2001; Roth & Fonagy, 1996). For instance, recent theoretical and empirical insights into the development of interpersonal problems have shown that patients with an internal working model of relationships that reflect a defensive, avoiding style needed higher intensity psychoanalytic treatment in order to change compared with those with a more preoccupied internal working model (Blatt & Shahar, 2004; Fonagy et al., 1996; Holmes, 2001; Horowitz, Rosenberg, & Bartholomew, 1993). Do patients actually differ on these and related mental health aspects before starting on one of the two types of psychoanalytic treatments? Do therapists use this information in their treatment assignment? The present article examines whether systematic differences could be detected in mental health characteristics between patients assigned to either psychoanalysis or psychoanalytic psychotherapy and whether the mental health characteristics of these patients differed from psychoanalytic patients in other studies. Potential differences could show us the extent to which therapists' treatment assignment was guided by systematic data on mental health characteristics (e.g., Erle & Goldberg, 2003; Scheidt et al., 2003). Comparing mental health characteristics across treatments and research projects is a necessary first step in assessing the effectiveness of long-term psychoanalytic psychotherapy and psychoanalysis in a naturalistic setting.

Psychoanalysis is a three- to five-times-a-week treatment, with an average duration of 4 to 5 years (e.g., Blomberg, Lazar, & Sandell, 2001; Erle & Goldberg, 2003). Doidge et al. (2002, pp. 582-583) summarized the American Psychiatric Association guidelines in one sentence: "Psychoanalysis is indicated for patients whose chronic DSM disorders or symptoms are based both on intrapsychic conflict and developmental inhibition, for whom less intensive treatment would not work or would prolong or cause needless suffering, and who are 'analyzable'." Like psychoanalysis, psychoanalytic psychotherapy is a long-term but less intensive treatment, with a maximum frequency of two sessions a week. Clear guidelines have not yet been developed for psychoanalytic psychotherapy, although some attempts have been made in Germany (Brandl et al., 2004; Leichsenring, Biskup, Kreisliche, & Staats, 2005) and particular types of psychoanalytic psychotherapies have been manualized (e.g., Luborsky, 1984). Both types of treatment differ in setting (couch vs. chair), average dosage (600 vs. 200 sessions), professional training of therapists, and technique, but empirical data on selective differences between both groups patients are not available yet (e.g., Fonagy, Roth, & Higgitt, 2005). Fortunately, both psychoanalysis and psychoanalytic psychotherapy are still available to all economic groups in the Netherlands because of its national mental health plan. This is comparable to the situation in countries like Canada, Australia, Germany, and Finland. To routinely measure outcome, a monitoring system was developed and implemented to register the patients' mental health status before and during psychoanalytic treatment in the Netherlands (Zevalkink & Berghout, 2006).

The monitoring system included both the quick assessment of symptoms and the more time-consuming assessment of personality pathology. Although psychoanalytic theory generally deemphasizes the importance of assessing symptoms, their regular assessment is important for two reasons. First, instruments assessing symptoms are commonly used to study the effectiveness of other types of treatment (e.g., Crits-Christoph, Gladis, & Connolly, 2002) and, therefore, allow comparisons with other studies. Second, typical patterns of progress and deterioration in this particular group of patients can be empirically established and related to other results. Perhaps a subgroup of psychoanalytic patients deny symptoms at entry, deteriorate in the middle of treatment, and recover fully to a nonclinical level at the end of treatment (e.g., Sandell et al., 2000). Because of the diversity of mental health problems of patients entering the mental health clinic, four main themes were identified: general symptomatology (measured by the Symptom Checklist-90-Revised [SCL-90-R]; Derogatis, 1983), depression (measured by the Beck Depression Inventory-II [BDI-II]; Beck, Steer, & Brown, 1996), anxiety (measured by the State-Trait Anxiety Inventory [STAI]; Spielberger, 1983), and interpersonal problems (measured by the Inventory of Interpersonal Problems [IIP-64]; Horowitz, Alden, Wiggins, & Pincus, 2000). Personality pathology needs to be monitored as well because psychoanalytic treatment aims to change the structure of patients' personality functioning (Galatzer-Levy, Bachrach, Skolnikoff, & Waldron, 2000). Clarkin (2006) stated that "the essence of personality

pathology consists of difficulties with self-identity and chronic interpersonal dysfunction” (p. 1). To include a broad range of personality (dys)functioning, we focused on two different but complementary instruments: the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Groth-Marnat, 1997) and the Rorschach as scored with the Comprehensive System (Rorschach-CS; Groth-Marnat, 1997)¹.

Because relatively low correlations between them have been found, the combined use of Rorschach-CS and MMPI-2 data would increase the ability to predict personality functioning (e.g., Blais, Hilsenroth, Castlebury, Fowler, & Baity, 2001; Groth-Marnat, 1997; Hiller, Rosenthal, Bornstein, Berry, & Brunnell-Neuleib, 1999; Meyer, 1997). The MMPI-2 is widely used, but relatively few research studies have been published on psychoanalytic patients. In the United States, Gordon (2001) used the MMPI with 55 outpatients receiving long-term psychoanalytic psychotherapy. He showed that patients scored within the clinical range on several scales at onset and started to change significantly after 2 years of treatment (Gordon, 2001). The Rorschach has been used as a diagnostic tool and outcome instrument in psychoanalytic treatment for quite some time (e.g., Ganellen, 1996; Grønnerød, 2004). A large number of indexes have been identified and also more molar and less overlapping variables have been constructed (e.g., Blatt & Berman, 1984; Ganellen, 1996), such as Exner’s (2003) six special indexes. A Finnish study on the effectiveness of ambulatory psychoanalytic treatment included the Rorschach-CS. For instance, they found that patients entering psychoanalysis scored significantly higher on the suicide constellation index (S-CON) compared with patients entering psychoanalytic psychotherapy (Knekt & Lindfors, 2004). Weiner and Exner (1991) studied North American patients in long-term dynamically oriented psychotherapy at the onset of treatment. With regard to the special indexes, they found that 32% of their patients had an elevated coping deficit index score (CDI>3) and 60% had an elevated depression index score (DEPI>4).

A review of results on the assessment of symptoms for psychoanalytic patients at onset of treatment showed that some studies only included patients entering psychoanalysis (PA) and other studies only patients entering psychoanalytic psychotherapy (PP). In two German studies, PP patients had clinically elevated scores as measured with the SCL-90-R and IIP-D (Brockmann, Schlüter, Brodbeck, & Eckert, 2002; Leichsenring et al., 2005). Results from the Stockholm Outcome of Psychotherapy and Psychoanalysis Project (STOPP; Blomberg et al., 2001; Sandell et al., 2000) showed that both PA and PP patients were quite vulnerable and often highly distressed at onset. Mean scores on general psychopathology (SCL-90-R) were above the clinical cutoff score and not significantly different between groups (Blomberg et al., 2001). Initial results of a Finnish study showed that both PP and PA patients had clinically elevated scores on general symptomatology (SCL-90-R), depression (BDI), and interpersonal problems (IIP) at onset of treatment, but no significant differences between the two patients groups were found on these tests (Knekt & Lindfors, 2004). In the United States, Vaughan et al. (2000) reported similar findings using the same three screening instruments. In addition, they found that patients starting long-term psychodynamic therapy, including psychoanalysis, had clinically elevated scores on the STAI.

The current study was based on an intention-to-treat model. This means that the study did not investigate whether these patients actually did receive the treatment to which they were assigned. Based on previous findings, we expected PA patients to differ from PP patients in severity of psychopathological symptoms (i.e., higher mean scores on our assessment instruments) and to display more avoidance in interpersonal situations. The data were analyzed in two ways. First, global univariate analyses provided a rough picture of the variables that seemed best in characterizing the differences between the two groups. These results were then compared with those reported in the published literature, where the emphasis has been on the group means as such. Second, it must be kept in mind that the PA-PP classification represents a decision making process of the therapists themselves. This decision may take account of the results of the monitoring instruments as well as other variables not quantified with instruments. A predictive discriminant analysis was performed to determine the degree to which the patients could be classified into the treatment groups, given the instrument data that were collected.

¹ A third instrument was the Adult Attachment Interview developed by Main and Goldwyn (1998). Although the instrument is part of the routine outcome monitoring, these interviews have not been scored because of the costs of transcription and coding.

METHOD

Participants

The total sample consisted of 170 participants (127 [75%] female, 43 [25%] male) who applied for psychoanalytic treatment between June 2002 and November 2004 at a community mental health clinic specializing in long-term ambulatory psychoanalytic treatment. Fifty-four patients were assigned to PA and 116 patients to PP. The administration of the screening questionnaires started before that of the MMPI-2 and Rorschach so that, of the total sample of 170 patients, we had MMPI-2 data for 93 patients and Rorschach data for 113 patients.

Procedure

Patients applied for treatment through self-referral, referral by their general practitioner or other medical specialist, or referral by another mental health care provider. At the end of their first interview, patients completed four self-report questionnaires, three on the computer (SCL-90-R, BDI-II, and STAI) and one using a paper-and-pencil test (IIP-64). About 33% of these patients entered a second assessment period aimed at establishing suitability for long-term psychotherapy. During the second assessment, patients underwent three meetings with a therapist over a period of about 4 weeks while a psychodiagnostic assistant carried out an additional comprehensive personality assessment using a computerized version of the MMPI-2 and the Rorschach. The administration of the Rorschach followed the procedures developed by Exner (2003). After the data collection, the therapist met with two independent therapists in a staff meeting, and together they formulated a decision about the preferred treatment of choice: (a) PA, (b) PP, or (c) treatment elsewhere (e.g., cognitive-behavioral therapy, residential treatment).

Measures

Symptom questionnaires. The SCL-90-R measures symptoms in nine major areas of the patient's psychological, somatic, and interpersonal functioning. The 90 items are scored on a 4-point Likert scale (Derogatis, 1983). In the Netherlands, norms ($N = 2,368$) and translations were developed by Arrindell and Ettema (2003). The 21-item BDI-II measures depressive symptoms, scored on a 4-point Likert scale (Beck et al., 1996). In the Netherlands, Van der Does (2002) translated the BDI-II and developed norm scores ($N = 505$). The 40-item STAI assesses state and trait anxiety, scored on a 4-point Likert scale (Spielberger, 1983). State anxiety reflects a momentary anxiety, and trait anxiety refers to a general tendency to respond with anxiety to perceived threats in the environment. The STAI was published in the Netherlands as the Zelfbeoordelings Vragenlijst (Van der Ploeg, 2000). The t scores for the STAI are based on a normative sample from the Netherlands ($N = 387$). The IIP consists of 64 items, scored on a 5-point Likert scale, that assess perceived interpersonal difficulties on eight subscales (Horowitz et al., 2000). The IIP-64 was translated into Dutch, and its psychometric qualities were investigated in clinical and nonclinical samples. The t scores for the IIP-64 are based on a normative sample from the United States ($N = 800$).

Personality assessment. The MMPI-2, a 567-item self-report questionnaire, aims to quantitatively measure an individual's level of emotional adjustment and attitude toward test taking, resulting in clusters of personality variables (Groth-Marnat, 1997). For the present study, we used eight clinical scales. Scales 5 and 0 are not considered clinical scales (Nieberding et al., 2003; Terlidou et al., 2004). The relatively new PSY-5 scales were also included: Aggressiveness, Psychoticism, Disconstraint, Negative Emotionality/Neuroticism, and Introversion/Low Positive Emotionality (Harkness & McNulty, 2006). Derksen, de Mey, and Sloore (1996) translated the MMPI-2 and developed norms ($N = 1,244$) for use in the Netherlands. The Rorschach is useful for predicting and evaluating outcome (Viglione, 1999). It assesses clients' personality structure, with particular emphasis on understanding how they respond to and organize their environment. In this way, it can also be considered a measure of perception and association (Weiner, 1998). It consists of a set of 10 bilaterally symmetrical inkblots on sturdy cards. Two test psychologists with extensive training and experience in the CS scored the Rorschach (Exner, 2001, 2003). Based on age and gender-differentiated norms of clinical and nonclinical individuals, the CS produces dichotomized scores on six special indexes: perceptual thinking (PTI; to assess problems in information processing, reality

testing, and thinking), depression, coping deficit, suicide potential, hypervigilance (HVI), and obsessive style. Separately, we investigated differences on emotional coping style (EB): ambivalent (varied use of external and internal resources), extratensive (mostly use external resources for gratification of basic needs), introversive (mostly use inner life for satisfaction of important needs), and avoidant (tend to minimize the importance of the stimulus field; Exner, 2003). Norm scores were derived from Exner (2001). For research purposes, a standard procedure is to remove Rorschach protocols of patients with fewer than 14 responses (Exner, 2001). In this line, we excluded the results of two patients from further statistical analyses.

RESULTS

Comparing PA and PP Patients on Symptoms and Personality Assessment

All test scores were examined for their approximation to a normal distribution using Kolmogorov-Smirnov statistics. Results showed that there were no indications for nonnormality, so parametric tests could be used for further analyses. First, in line with other studies, univariate analyses were used to compare the average scores between PA and PP patients. Analyses of variance (ANOVAs) with the four screening instruments showed significant differences between the two patient groups (PA-PP) on the IIP-64 mean item score but not on the SCL-90-R Global Severity Index (GSI) score, BDI-II total score, and STAI-Trait score (Table 1). Further investigation of the IIP subscales showed that four of the eight contributed to this difference: Compared with PP patients, PA patients scored significantly higher on the subscales Cold ($M = 10.8$ vs. 8.3), $F(1, 161) = 5.50$, $p < .05$; Socially Avoidant ($M = 12.9$ vs. 10.3), $F(1, 161) = 6.01$, $p < .05$; Nonassertive ($M = 17.6$ vs. 14.3), $F(1, 161) = 9.30$, $p < .01$; and Accommodating ($M = 15.9$ vs. 13.8), $F(1, 161) = 3.91$, $p < .05$.

Table 1. Comparing PA-patients and PP-patients on four routine monitoring outcome questionnaires

	PA-patients	PP-patients	ANOVA
	($n = 54$)	($n = 116$)	
	M (SD)	M (SD)	F
SCL-90-R GSI score	0.95 (0.49)	0.89 (0.53)	n.s.
BDI-II Total score	17.2 (9.10)	16.3 (9.11)	n.s.
IIP-64 Mean item score	1.48 (0.48)	1.31 (0.46)	4.91 *
STAI Trait score	52.0 (10.0)	50.3 (11.0)	n.s.

* $p < 0.05$.

Results with the two personality instruments were as follows. For the MMPI-2 clinical scales, ANOVAs showed no significant differences between the two treatment groups. However, two of the PSY-5 dimensions differed significantly, as shown in Table 2, with PA patients scoring significantly lower on Aggressiveness and Psychoticism compared with PP patients. This means that PA patients reported lower levels of offensive and instrumental aggression and less disconnection from reality compared with PP patients. For the Rorschach, we examined six special indexes and four emotional coping style variables. Pearson chi-square tests first showed that one of the six Rorschach special indexes significantly differed between the two patient groups: Significantly more PP patients had a clinically elevated score on the PTI (>2) compared with PA patients (23% vs. 7%, respectively), $\chi^2(1, N = 111) = 4.401$, $p < .05$. With regard to emotional coping style, we expected PA patients to have a more avoidant coping style and, therefore, tested a directional difference. We indeed found that significantly more PA patients were identified as avoidant compared with PP patients (15% vs. 4%, respectively), $\chi^2(1, N = 111) = 3.716$, $p < .05$. No significant differences were found for the other three coping styles. The mean number of responses on the Rorschach did not differ significantly between PA and PP patients.

Table 2. Differences between PA- and PP-patients on the PSY-5 (MMPI-2)

MMPI-2 PSY-5	PA-patients (<i>n</i> = 36)		PP-patients (<i>n</i> = 56)		ANOVA <i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Aggressiveness	43.6	8.94	48.9	11.83	5.31 *
Psychoticism	49.3	8.33	53.6	10.96	4.12 *
Disconstraint	51.9	8.07	53.2	9.42	n.s.
Negative Emotionality	58.7	11.84	59.0	12.11	n.s.
Introversion	60.4	12.60	57.9	10.90	n.s.

**p* < .05.

Comparing Psychoanalytic Patient Samples

Our results were compared with psychoanalytic patient data in other studies to investigate potential sample differences. With regard to the SCL-90, Knekt and Lindfors (2004) reported significantly higher SCL-90 GSI scores compared with our sample for both their Finnish PP patients (mean GSI = 1.27, *SD* = 0.55), $t(241) = 5.53$, $p < .001$, and their PA patients (mean GSI = 1.34, *SD* = 0.52), $t(83) = 3.75$, $p < .001$. The American population of Vaughan et al. (2000) had a significantly higher mean GSI of 2.1 (*SD* = 0.61) on the SCL-90-R compared with the combined PA and PP groups, $t(26) = 8.96$, $p < .001$. However, our PP patients were comparable to both German samples (Brockmann et al., 2002; Leichsenring et al., 2005) and the late-before group of the Swedish STOPP study (Blomberg et al., 2001; Sandell et al., 2000) on the SCL-90-R. In sum, patients in the Netherlands reported lower levels of general psychopathology than Finnish and North American patients but were comparable to German and Swedish patients.

With regard to interpersonal problems, PP patients in both German studies reported significantly more interpersonal problems—Leichsenring et al., 2005: $M = 1.88$, *SD* = 0.36, $t(74) = 7.67$, $p < .001$; Brockmann et al., 2002: $M = 1.69$, *SD* = 0.43, $t(50) = 4.32$, $p < .001$ —than our PP patients. The North American patient population of Vaughan et al. (2000) had a mean IIP item score of 2.0 (*SD* = 0.5), which was significantly higher compared with our patient sample, $t(27) = 5.78$, $p < .001$. Our PA and PP patients did not differ significantly from the Finnish PA and PP patients of Knekt and Lindfors (2004) on the IIP. In sum, patients in the Netherlands had lower levels of interpersonal problems compared with German and North American patients but similar levels as Finnish patients. With regard to depressive pathology (BDI), our PA and PP patients were comparable to the Finnish and the American samples. Compared with North American patients, no significant differences were reported on anxiety problems (STAI).

With regard to pretreatment MMPI-2 scores, Gordon (2001) reported that his patients had mean *t* scores within the clinical range on three clinical scales (2, 4, and 7). In our patient group, *t* scores were within the clinical range on Scales 4 and 7 as well but not on Scale 2. No comparable reports were found on the new PSY-5. Comparing results for the Rorschach, we discovered that Knekt and Lindfors (2004) only investigated three special indexes (S-CON, DEPI, and HVI) and used different cutoff values to identify positive scores. After recalculation, we found that significantly more of our PP patients had a clinically elevated score on the S-CON (>6) compared with the Finnish PP patients (24.3% vs. 7.8%; 6% for S-CON > 7), $\chi^2(1, N = 198) = 10.43$, $p = .001$. Furthermore, significantly more Finnish PA patients had a clinically elevated score on the depression index (DEPI > 5) compared with PA patients in the Netherlands (41.5% vs. 17.1%; 54% for DEPI > 4), $\chi^2(1, N = 82) = 5.89$, $p = .015$. The North American PP patients of Weiner and Exner (1991) did not differ significantly from our PP patients with regard to the special indexes CDI and DEPI.

Classification Effectiveness of Instruments

Finally, to evaluate the degree to which patients could be classified correctly into the two treatment groups, we focused our attention on a predictive discriminant analysis strategy (Huberty, 1994; Sherry, 2006). We first did an exploratory check on which variables to include, following a descriptive discriminant analysis strategy. The subscales of the symptoms questionnaires were used instead of the total scores to find more detailed profiles. Conventional variable selection criteria based on statistical significance do not guarantee an optimal classification solution (Hand, 1981; Huberty, 1984). We, therefore, relaxed the significance cutoff points to .10 for inclusion and .20 for exclusion and then

performed both a stepwise forward and a backward elimination procedure. The backward elimination procedure was the more comprehensive, where the statistical selection criteria included the IIP-64 subscales Cold and Nonassertive and the SCL-90-R subscale Interpersonal Sensitivity in the model.

We then shifted to a predictive discriminant analysis strategy, which emphasizes the classification performance of the discriminant model (Sherry, 2006). Variables were added individually to the model (Hair, Black, Babin, Anderson, & Tatham, 2006), and the resulting classification table was examined to determine whether that variable improved the classification. The inclusion of the IIP-64 Vindictive, Socially Inhibited, and Intrusive subscales and the PSY-5 Aggressiveness scale of the MMPI all improved the classification performance. None of the Rorschach indexes improved the discriminant classification. The resulting discriminant function with these seven selected variables resulted in an overall correct classification of 71%, with 81% and 65% correct classification of the PA patients and the PP patients, respectively. Table 3 summarizes the relevant statistics for the discriminant function. Despite the fact that the discriminant function accounted for only a small percentage of the total variance between the two groups (14%) and that the group centroids were close together, Wilks's $\lambda = .859$, $\chi^2(7, N = 86) = 12.2$, $p = .09$, the classification results were reasonable. Conventionally, the discriminant function can be interpreted in two ways (Hair et al., 2006; Sherry, 2006). The standardized canonical discriminant function coefficients indicate the weight of the unique contribution of each variable in calculating the discriminant function score, with Interpersonal Sensitivity (SCL-90-IN), Vindictive (IIP-64-BC), and Cold (IIP-64-DE) contributing mostly to the discriminant function. The structure matrix coefficients reflect the pooled group correlations between the variables and the discriminant score. These imply that the meaning of the discriminant function classification can be understood primarily in terms of the negative interpersonal (SCL-90-IN, IIP-64-BC, IIP-64-NO) and aggressive (MMPI-PSY-5-Aggr) measures. The other subscales have a lower correlation with the discriminant score. This means that, on average, PP patients were characterized by high scores on these variables, whereas the PA patients were characterized more by lower scores on these variables.

Table 3. Group means and Statistics of discriminant function analysis predicting correct classifications to Psychoanalysis (PA) and Psychoanalytic Psychotherapy (PP) based on selected variables

<i>Variables</i>	Treatment groups		Structure coefficient	Standardized coefficient
	PA	PP		
	<i>M (SD)</i>	<i>M (SD)</i>		
Interpersonal sensitivity (SCL-90-IN)	18.09 (5.09)	21.70 (7.31)	.66	.67
Vindictive (IIP-64-BC)	6.63 (4.91)	8.72 (4.49)	.55	.65
Cold (IIP-64-DE)	10.12 (6.36)	9.05 (6.94)	-.19	-.48
Socially avoidant (IIP-64-FG)	12.84 (6.74)	11.43 (6.65)	-.26	-.28
Nonassertive (IIP-64-HI)	16.44 (5.92)	15.54 (6.78)	-.17	-.08
Intrusive (IIP-64-NO)	8.44 (5.87)	10.17 (5.76)	.36	-.16
Aggressiveness (MMPI-PSY-5-Aggr)	5.06 (2.26)	6.06 (3.07)	.43	.20
<i>Discriminant statistics</i>				
Group centroids	-.52	.31		
Eigenvalue	.164			
Canonical correlation	.38			
Explained variance (%)	14%			
Wilks' Lambda	.859			
Chi-square	12.2			
<i>p</i> -value	.09			

DISCUSSION

The present study examined differences in mental health characteristics across treatments and across studies for patients in two types of long-term ambulatory psychotherapies: PA and PP. The results for three of the six instruments (IIP-64, MMPI-2, and Rorschach-CS) seem to strengthen the hypothesis that therapists might make use of available research evidence and more often assign avoidant patients

to a higher intensity treatment (e.g., Blatt & Shahar, 2004; Fonagy et al., 1996; Holmes, 2001; Horowitz et al., 1993). With regard to the IIP, patients assigned to psychoanalysis were found to be more socially avoidant, cold, nonassertive, and accommodating than PP patients. These significant differences had not been found in two other studies comparing PA and PP patients (Knekt & Lindfors, 2004; Vaughan et al., 2000). Nonsignificant results in the feasibility study of Vaughan et al. can easily be explained by its small sample size (nine PA patients, 15 PP patients) and low recruitment rate in the PA group, where only 27% agreed to participate (vs. 83% in the PP group). Why no significant differences were found in the Knekt and Lindfors study is a more complicated issue, partly because we found that the level of interpersonal problems for our PA and PP patients was comparable to that for their patients. Closer inspection of the data showed that the standard deviations of their PA and PP samples were somewhat larger than those of our sample of PA and PP patients (0.58 vs. 0.48 and 0.50 vs. 0.46, respectively), making it harder to find significant group differences. More research is clearly needed.

For the MMPI, two of the relatively new MMPI-2 PSY-5 scales differed significantly between PA and PP patients. These scales were added to the MMPI-2 by Harkness and McNulty (2006) to measure structural personality characteristics. Interestingly, patients entering psychoanalysis scored lower on offensive and instrumental aggression (Aggressiveness) and beliefs disconnected from reality (Psychoticism) compared with PP patients. The results on the Psychoticism scale resembled and validated those on the Rorschach PTI and are discussed later. A high score on Aggressiveness describes persons who may enjoy intimidating others and may use aggression as a tool to accomplish goals (Harkness & McNulty, 2006). Theoretically, this might be in contrast to an avoiding and cold interpersonal style. Whether the level and type of aggressiveness resemble those of patients preoccupied with attachment issues or patients with borderline symptoms needs to be further examined. For instance, in case of preoccupied patients, Blatt and Shahar (2004) have shown that they indeed have higher improvement rates in a lower intensity treatment such as psychoanalytic psychotherapy compared with psychoanalysis. However, in the case of borderline symptoms, a mentalization-based intensive outpatient treatment might be a better option (Bateman & Fonagy, 2006, p. 43).

The Rorschach results showed that PA and PP patients differed on two variables: the PTI and the avoidant emotional coping style. The PTI indicates that a person experiences problems in information processing, reality testing, or thinking. Conceptually, it might be related to the MMPI-2 PSY-5 scale of Psychoticism, although the present study did not find a significant correlation between the two constructs. The PTI is a revision of what has been called the Schizophrenia Index (Exner, 2003). We found that PA patients had fewer perceptual thinking problems than PP patients. These findings might relate to the Psychoanalytic Peer Review guidelines that state that analyzability includes “adequate ability to communicate through speech; accessible fantasy life [and] adequate capacity for introspection, including the ability to alternately experience and observe” (American Psychiatric Association, 1976, p. 50). On these grounds, PP patients might have been considered less analyzable (i.e., less suitable for psychoanalysis). In line with the IIP findings, more PA patients were found to fall into the group characterized by an avoidant emotional coping style compared with PP patients. The Rorschach assesses this style at a much less conscious level compared with the self-report IIP.

A predictive discriminant analysis was performed to determine the degree to which the patients could be classified correctly into the treatment groups, thereby modeling the therapists’ decision-making process. The distribution of the variables indicated a great deal of overlap in the regions defining the PA and PP patients. Whereas there was a region of the variable space that uniquely defined the PP patients, the region defining the PA patients was an island within this larger region. To elaborate, the PP patients seemed to be characterized by a higher degree of aggressiveness, as indicated by the relevant IIP subscale scores and the MMPI PSY-5 scale. When the Rorschach variables were included, this improved the PA classification only at the cost of a corresponding loss of accuracy in the classification of the PP patients. When all else was equal, the scores on the Rorschach variables determined whether the patient was placed in either the PA category or the PP category. This implies that decision making based on the results of the instruments might involve a trade-off between clinical severity indicated by the Rorschach and the degree of amenability to type of treatment, such as low aggressiveness and a more avoidant style, as indicated by the other scales. Using a discriminant

analysis procedure to examine the decision-making process of the therapists has its own shortcomings. Primarily, it was limited to only the quantified variables that forced a solution to the best linear combination of those variables. The decision process used by therapists is probably based neither on a linear-additive procedure nor solely on these variables. These shortcomings notwithstanding, the results did show the existence of a separate classification dimension as well as a relatively large gray area of overlap between PA and PP patients.

Mostly, nonsignificant findings between both patient groups on the clinical indicators of the six instruments outnumbered the differences. Before treatment, psychoanalytic patients reported similar levels of general psychopathology, depression, anxiety, and personality problems. Patients in the Netherlands had similar levels of mental health problems as psychoanalytic patients in most other studies, although not always in similar health areas. Several explanations for this lack of differences were considered. First, it is possible that the instruments were not sensitive enough to detect more relevant differences between PA and PP patients. By design, symptom questionnaires mostly detect whether a patient is in the clinical range or not (i.e., the possibility of a ceiling effect is, therefore, considerable). However, results with the personality instruments were mostly comparable and, therefore, did not support the lack of sensitivity assumption. Second, the group of PP patients might consist of patients with more extreme scores, both lower and higher, as suggested by Doidge et al. (2002). In that case, the use of group results (group average) in PP patients might be misleading, and two PP groups should be distinguished. Further investigation of the test scores showed that there was no reason to assume that variances were not equal between the two patient groups. Based on these results, it might be concluded that future effectiveness studies do not need to control for the majority of the investigated mental health characteristics when analyzing the outcome of treatment but that interpersonal differences (e.g., aggressiveness and avoidance) should be taken into account.

Several limitations of the present study should be noted. First, this study used an intention-to-treat model and, therefore, is not generalizable to a model aimed to predict whether patients actually enter treatment. Second, we did not compare findings with patients in other types of treatment. Our main goal was a comparison between both types of expensive psychotherapy treatment, because it had not been done in a relatively large sample. However, the present study makes it possible for other researchers to compare the results with those of other treatments. Third, no results were available on outcome of treatment. In future studies, we will try to determine whether the assignment to treatment was actually effective and helpful. Finally, although the IIP-64 and Rorschach EB-style data support the assumption that more avoidant patients are assigned to psychoanalysis, the major confirmation has to be provided by the gold standard of attachment representations: the Adult Attachment Interview. Because of the costly and time-consuming administration procedures, these data were not available for the current data set.

Nevertheless, therapists did seem to make distinctions among patients in a theoretical and empirically plausible manner that was made visible by the six instruments. Whether these distinctions will be related to treatment outcome (e.g., Blatt & Shahar, 2004; Fonagy et al., 1996) is a matter of further research. In spite of the limitations, the results support earlier findings (e.g., Doidge, Simons, Gillies, & Ruskin, 1994) that patients applying for psychoanalytic treatment have high and comparable rates of mental health problems.

REFERENCES

- American Psychiatric Association. (1976). *Manual of Psychiatric Peer Review*. Washington, DC: American Psychiatric Association.
- Arrindell, W. A., & Ettema, J. H. M. (2003). *Symptom Checklist: Handleiding bij een multidimensionele psychopathologie-indicator*. Lisse: Swets Test Publisher.
- Bateman, A., & Fonagy, P. (2006). *Mentalization-based treatment for Borderline Personality Disorder: A practical guide*. Oxford: Oxford University Press.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Blais, M. A., Hilsenroth, M. J., Castlebury, F., Fowler, J. C., & Baity, M. R. (2001). Predicting DSM-IV cluster B personality disorder criteria from MMPI-2 and Rorschach data: A test of incremental validity. *Journal of Personality Assessment*, 76(1), 150-168.
- Blatt, S. J., & Berman, W. H. Jr. (1984). A methodology for the use of the Rorschach in clinical research. *Journal*

- of *Personality Assessment*, 48(3), 226-239.
- Blatt, S. J., & Shahar, G. (2004). Psychoanalysis -- With whom, for what, and how? Comparisons with psychotherapy. *Journal of the American Psychoanalytic Association*, 52(2), 393-448.
- Blomberg, J., Lazar, A., & Sandell, R. (2001). Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis study. *Psychotherapy Research*, 11(4), 361-382.
- Brandl, Y., Bruns, G., Gerlach, A., Hau, S., Janssen, P. L., Kächele, H., Leichsenring, F., Leuzinger-Bohleber, M., Mertens, W., Rudolf, G., Schlösser, A.-M., Springer, A., Stuhr, U., & Windaus, E. (2004). Psychoanalytische therapie: Eine stellungnahme für die wissenschaftliche Öffentlichkeit und für den wissenschaftlichen beirat Psychotherapie. *Forum Der Psychoanalyse*, 20, 13-125.
- Brockmann, J., Schlüter, T., Brodbeck, D., & Eckert, J. (2002). Die effekte psychoanalytisch orientierter und verhaltenstherapeutischer langzeittherapien. *Psychotherapeut*, 47, 347-355.
- Clarkin, J. F. (2006). Conceptualization and treatment of personality disorders. *Psychotherapy Research*, 16(1), 1-11.
- Crits-Christoph, P., Gladis, M., & Connely, M. B. (2002). Outcome measurement patients receiving psychosocial treatments. In W.W. Ishak, T. Burt, & L.I. Sederer (Eds.), *Outcome measurement in psychiatry: A critical review* (pp. 121-138). Washington: American Psychiatric Publishing.
- Derksen, J. L., Meij, H. R. A. de, & Sloore, H. (1997). *MMPI-2: Handleiding bij afname, scoring en interpretatie*. Nijmegen: Pen Test Publisher.
- Derogatis, L. R. (1983). *Administration, scoring and procedures manual*. Towson, MD: Clinical Psychometric Research.
- Does, A. J. W. van der. (2002). *BDI-II-NL: Handleiding Beck Depression Inventory-II, Nederlandse vertaling en bewerking*. Lisse: Swets Test Publisher.
- Doidge, N. (1997). Empirical evidence for the efficacy of psychoanalytic psychotherapies and psychoanalysis: An overview. *Psychoanalytical Inquiry, Supplement*, 102-150.
- Doidge, N., Simon, B., Brauer, L., Grant, D. C., First, M., Brunshaw, J., Lancee, W. J., Stevens, A., Oldham, J. M., & Moscher, P. (2002). Psychoanalytic patients in the U.S., Canada, and Australia: I. DSM-III-R disorders, indications, previous treatment, medications, and length of treatment. *Journal of the American Psychoanalytic Association*, 50(2), 575-614.
- Doidge, N., Simon, B., Gillies, L. A., & Ruskin, R. (1994). Characteristics of psychoanalytic patients under a nationalized health plan: DSM-II-R diagnoses, previous treatment, and childhood trauma. *American Journal of Psychiatry*, 151(4), 586-590.
- Erle, J. B., & Goldberg, D. A. (2003). The course of 253 analyses from selection to outcome. *Journal of the American Psychoanalytic Association*, 51(1), 257-294.
- Exner, J. E. (2001). *A Rorschach workbook for the Comprehensive System*. Asheville, NC: Rorschach Workshops.
- Exner, J. E. (2003). *The Rorschach: A comprehensive system* (4th ed., Vol. I). Hoboken, NJ: John Wiley & Sons.
- Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., Target, M., & Gerber, A. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology*, 64(1), 22-31.
- Fonagy, P., Roth, A., & Higgitt, A. (2005). Psychodynamic psychotherapies: Evidence-based practice and clinical wisdom. *Bulletin of the Menninger Clinic*, 69(1), 1-58.
- Galatzer-Levy, R. M., Bachrach, H., Skolnikoff, A., & Waldron, S. (2000). *Does psychoanalysis work?* New Haven: Yale University Press.
- Ganellen, R. J. (1996). Comparing the diagnostic efficiency of the MMPI, MCMI-II, and Rorschach: A review. *Journal of Personality Assessment*, 67(2), 219-243.
- Gordon, R. M. (2001). MMPI/MMPI-2 Changes in long-term psychoanalytic psychotherapy. *Issues in Psychoanalytic Psychotherapy*, 23, 59-79.
- Grønnerød, C. (2004). Rorschach assessment of changes following psychotherapy: A meta-analytic review. *Journal of Personality Assessment*, 83(3), 256-276.
- Groth-Marnat, G. (1997). *Handbook of psychological assessment*. Hoboken, NJ: John Wiley & Sons.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., and Tatham, R.L. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River, N.J.: Prentice Hall.
- Hand, D.J. (1981). *Discrimination and classification*. New York: Wiley & Sons.
- Harkness, A. R., & McNulty, J. L. (2006). An overview of personality: The MMPI-2 Personality Psychopathology Five Scales. In James N. Butcher (Ed.), *MMPI-2: A practitioner's guide* (pp. 73-97). Washington, DC: American Psychological Association.
- Health Council of the Netherlands. (2001). *The efficiency of long-term psychotherapy*. The Hague: Health Council of the Netherlands, 2001/8E.

- Hiller, J.B., Rosenthal, R., Bornstein, R.F., Berry, D.T.R., & Brunnell-Neuleib, S. (1999). A comparative meta-analysis of Rorschach and MMPI validity. *Psychological Assessment, 11*, 278-296.
- Holmes, J. (2001). *The search for the secure base: Attachment theory and psychotherapy*. Hove: Brunner-Routledge.
- Horowitz, L. M., Aldern, L. E., Wiggins, J. S., & Pincus, A. L. (2000). *Inventory of Interpersonal Problems: Manual*. New York: The Psychological Corporation Harcourt.
- Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology, 61*, 549-560.
- Huberty, C.J. (1984). Issues in the use and interpretation of discriminant analysis. *Psychological Bulletin, 95*, 156-171.
- Huberty, C.J. (1994). *Applied discriminant analysis*. New York: Wiley and Sons.
- Knekt, P., & Lindfors, O. (2004). *A randomized trial of the effect of four forms of psychotherapy on depressive and anxiety disorders: Design, methods, and results on the effectiveness of short-term psychodynamisc psychotherapy and solution-focused therapy during a one-year follow-up*. Helsinki: Edita.
- Leichsenring, F., Biskup, J., Kreische, R., & Staats, H. (2005). The Göttingen study of psychoanalytic therapy: First results. *The International Journal of Psycho-Analysis, 86*, 433-455.
- Luborsky, L. (1984). *Principles of psychoanalytic psychotherapy: A manual for supportive-expressive treatment*. New York: Basic Books.
- Main, M., & Goldwyn, R. (1998). Adult attachment scoring and classification systems. U. U.C. Berkeley.
- Meyer, G. J. (1997). On the integration of personality assessment methods: The Rorschach and MMPI. *Journal of Personality Assessment, 68*(2), 297-330.
- Ploeg, H. M. van der. (2000). *Handleiding bij de Zelf BeoordelingsVragenlijst: Een Nederlandstalige bewerking van de Spielberger State-Trait Anxiety Inventory*. Lisse: Swets Test Publisher.
- Roth, A., & Fonagy, P. (1996). *What works for whom? A critical review of psychotherapy research* (pp. 3-56/358-381). New York: The Guilford Press.
- Sandell, R., Blomberg, J., Lazar, A., Carlsson, J., Broberg, J., & Schubert, J. (2000). Varieties of long-term outcome among patients in psychoanalysis and long-term psychotherapy. *International Journal of Psychoanalysis, 81*, 921-942.
- Scheidt, C. E., Burger, T., Strukely, S., Hartmann, A., Fritzsche, K., & Wirsching, M. (2003). Treatment selection in private practice psychodynamic psychotherapy: a naturalistic prospective longitudinal study. *Psychotherapy Research, 13*, 293-305.
- Sherry, A. (2006). Discriminant analysis in counseling psychology research. *The Counseling Psychologist, 34*, 661-683.
- Spielberger, C. D. (1983). *Manual for the Stait-Trait Inventory (STAI-form Y)*. Palo Alto, CA: Consulting Psychologists Press.
- Vaughan, S. C., Marshall, R. D., MacKinnon, R. A., Vaughan, R., Mellman, L., & Roose, S. P. (2000). Can we do psychoanalytic outcome research? A feasibility study. *International Journal of Psychoanalysis, 81*, 513-527.
- Viglione, D. J. (1999). A review of recent research addressing the utility of the Rorschach. *Psychological Assessment, 11*(3), 251-265.
- Weiner, I. B. (1998). *Principles of Rorschach interpretation*. Mahwah, New York: Lawrence Erlbaum.
- Weiner, I. B., & Exner, J. E. (1991). Rorschach changes in long-term and short-term psychotherapy. *Journal of Personality Assessment, 56*(3), 453-465.
- Zevalkink, J., & Berghout, C. C. (2006). Expanding the evidence base for the (cost)effectiveness of long-term psychoanalytic treatment. *Journal of the Psychoanalytic Association, 54*, 1313-1319.

**EFFECTIVENESS OF LONG-
TERM PSYCHOANALYTIC
TREATMENT**

CHAPTER 4

Effectiveness of long-term psychoanalytic treatment: Measuring personality functioning and symptomatic distress in a multiple-cohort design

Berghout, C.C., Zevalkink, J., & de Jong, J.T.V.M. (under review, Augustus 2009).
Effectiveness of long-term psychoanalytic treatment: Measuring personality functioning and symptomatic distress in a multiple-cohort design. *Psychotherapy Research*.

ABSTRACT

The effectiveness of long-term psychoanalytic treatment was studied with patients in four cohorts ($N = 231$) using symptom measures (SCL-90, BDI-II, STAI) and personality assessment instruments (IIP-64, MMPI-2). Long-term psychoanalytic treatment was highly effective in reducing general distress ($d = 1.19 - 1.27$) and moderately effective in improving personality functioning ($d = 0.52 - 0.79$). These effects became apparent at treatment termination and at two-year follow-up. Effect sizes for psychoanalysis and psychoanalytic psychotherapy were fairly comparable, with a slight advantage for psychoanalysis. In general, we found that the effect of psychoanalytic treatment in reducing symptoms and improving personality functioning was significantly larger compared to the average control group effect. Gender moderated treatment outcome, in that women had better treatment outcome with regard to disadaptation and disorganization compared to men, in particular after psychoanalysis. Although the cohorts were comparable on pre-treatment variables, caution is necessary with regard to making causal inferences.

INTRODUCTION

Both psychoanalytic psychotherapy and psychoanalysis are particular forms of long-term ambulatory psychotherapy. Questions about the effectiveness of both forms of long-term treatment have been justly raised because convincing research on its outcome has been lacking (e.g., Doidge, 1997; Fonagy, Roth, & Higgitt, 2005; Health Council of the Netherlands, 2001). The long duration and complexity of the treatments give rise to specific methodological, practical, and ethical issues in this type of research (Fonagy, 2002; Sandell, Blomberg, & Lazar, 1997; Seligman, 1995). After a review of evidence from both efficacy and effectiveness studies Gabbard, Gunderson, and Fonagy (2002, p. 505) concluded that: “preliminary evidence suggests that psychoanalysis appears to be consistently helpful to patients with milder disorders and somewhat helpful to those with more severe disturbances”. A recent meta-analysis by Leichsenring and Rabung (2008) gave a thorough overview of outcome studies for long-term psychodynamic psychotherapy (LTPP, average treatment duration = 94.8 weeks). Of the 23 studies included in the meta-analysis, the majority focused solely on the effectiveness of psychoanalytic psychotherapy while very few studies also included a psychoanalysis group. Moreover, in the studies where the effectiveness of psychoanalysis was investigated the sample sizes were generally rather small. Leichsenring and Rabung (2008) reported significantly higher outcomes in overall effectiveness, target problems, and personality functioning compared to shorter forms of psychotherapy. LTPP yielded large and stable effect sizes in the treatment of patients with personality disorders, multiple mental disorders, and chronic mental disorders (range 0.78 – 1.98). They did not find significant correlations of LTPP outcome with specific patient characteristics (e.g., age, gender, diagnostic group), therapist variables (e.g., years of clinical experience) or treatment duration. Results from the multiple-cohort study of Sandell et al. (2000) and Blomberg, Lazar, and Sandell (2001) showed that patients in psychoanalysis and psychoanalytic psychotherapy had similar outcome at treatment termination, but differed at follow-up with patients who had received psychoanalysis to further improve with regard to symptom distress. Furthermore, they found that patients with female therapists had significantly better treatment outcomes than patients with male therapists, irrespective of patient gender and treatment type (Sandell et al., 2000). Although considerable evidence about the effectiveness of psychoanalytic psychotherapy is available, more research is needed with regard to psychoanalysis and potential moderators or predictors of outcome in long-term psychoanalytic treatment.

Long-term psychoanalytic treatment primarily aims for structural change in personality functioning, and often considers a decrease in the level of symptoms and complaints a logical side effect of the intervention (Blatt & Auerbach, 2003; Gabbard, 2005; Galatzer-Levy, Bachrach, Skolnikoff, & Waldron, 2000). Chronic interpersonal difficulties and problems with self-identity are two major areas of personality dysfunctioning (Clarkin, 2006; Livesley, 2001). Changing the individual's dysfunctional internal working models (of self and others) is the focus of many psychotherapeutic interventions, whether based on theories of object relations, cognition, attachment, or otherwise (e.g., Blatt, 1995; Gurtman, 1996; Holmes, 2001). Clinical characteristics of dysfunctional internal working models are chronic immaturity in judgments of emotional relationships, difficulties in the commitment to intimate relations and work, and disturbances in sexual and love life (Clarkin, 2006). A recent study showed that complex emotional problems, chronic depressive symptoms, interpersonal difficulties, and other personality problems were distinctive of patients assigned to long-term psychoanalytic treatment (Zevalkink & Berghout, 2008). Because improved personality functioning is a major goal, research on the effectiveness of long-term psychotherapeutic treatments should pay particular attention to personality assessment. Often, even in long-term treatment, the effect of treatment on personality functioning is assessed mainly with short questionnaires (for a review see: de Maat, de Jonghe, Schoevers, & Dekker, 2009). Because of the complexity and diversity of psychopathology in this particular patient population it is wise to use multiple instruments to measure treatment outcome (Hill & Lambert, 2004). Also, differences between psychoanalysis and psychoanalytic psychotherapy might be expected. For instance, Grande et al. (2006) found that treatment type moderated outcome, in that patients who received psychoanalysis improved more with respect to interpersonal problems than patients who received psychoanalytic psychotherapy. In the present study, we investigate whether long-term psychoanalytic treatment is

effective in improving personality functioning, using both screening questionnaires and instruments aimed to measure structural personality functioning.

Personality functioning can be defined in several ways depending on the theoretical framework (Livesley, 2001; Stone, 1993). For this study, we choose a pragmatic route and report the results of two widely used instruments aimed to assess personality functioning. The first instrument is the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943). The original version of the MMPI did not appear to be useful as an outcome measure (e.g., Smith & Glass, 1977; Hollon & Mandell, 1979). It is therefore no surprise that the revised version (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) was not popular in outcome research (Gordon, 2001). However, a study by Gordon showed that the MMPI-2 was sensitive in detecting structural change during and after long-term psychoanalytic psychotherapy. Repeated measurements showed that scores on MMPI-scales did not change quickly (< 2 years), but in the long run (> 3 years) the scores on all but one clinical scale significantly improved. Gordon (2001) concluded that the MMPI-2 is a useful outcome measure for long-term treatments, but not for short-term treatments. As a second instrument, we used the Inventory of Interpersonal Problems (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000). Previous research into psychoanalytic treatment has often treated this short questionnaire as a personality measure (for a review: de Maat et al., 2009). Interpersonal problems are among the most frequent complaints that patients bring into psychotherapy (e.g., Haase et al., 2008; Horowitz, 2004; Monsen, Odland, Faugli, Daae, & Eilertsen, 1995). Interpersonal problems can be defined as inadequate or inappropriate interpersonal communication consisting of rigid, constricted, and/or extreme patterns of interpersonal behaviors (Kiesler as cited in Livesley, 2001). The literature reveals that some types of interpersonal problems improve more readily than others. For example, problems related to a dependent personality style (nonassertive) were more likely to improve in a short dynamic psychotherapy than problems related to antisocial (cold, vindictive) behavior (Horowitz, Rosenberg, & Bartholomew, 1993).

Although the above-mentioned studies give support for the overall effectiveness of long-term psychoanalytic treatment, few studies have examined patients in psychoanalysis and they also have seldom included the MMPI-2 to assess personality functioning. The present study investigates the effectiveness of long-term psychoanalytic psychotherapy and psychoanalysis with a multiple-cohort design and multiple methods for measuring symptomatic distress and personality functioning. We first compared four cohorts of patients in different stages of psychoanalytic treatment (pre, during, post and follow-up) on each of the separate instruments or scales. Next, we compared pre–post and pre–follow-up effect sizes separately for patients in psychoanalysis and psychoanalytic psychotherapy. We then performed factor analysis in order to reduce the number of outcome variables and calculated effect sizes of these outcome factors. These effect sizes were compared to the average control group effect as reported by Leichsenring and Rabung (2006) in a review of 26 psychotherapy studies. Finally, we investigated potential predictors of treatment outcome such as socio-demographic characteristics, treatment duration, and pre-treatment diagnostic classifications.

METHOD

Sample

The total sample consisted of 231 participants from four mental health care organizations (Nederlands Psychoanalytisch Instituut, De Gelderse Roos, Mediant, Parnassia/Psy-Q) with 93 persons in psychoanalysis (PA) and 138 persons in psychoanalytic psychotherapy (PP). In this study we used a quasi-experimental, cross-sectional design with four cohorts differing in phase of treatment (pre, during, post, follow-up) in order to obtain information about the effects of long-term treatments within a relatively short period of time. Cohort studies provide the best available evidence when randomized controlled trials (RCTs) are not feasible (de Maat, Dekker, Schoevers, & de Jonghe, 2007). The four cohorts were representative samples of patients who followed a naturalistic route through the mental health clinic to ensure high external validity and generalizability of the findings (Leichsenring, 2004; Seligman, 1995; for a more extensive description of the methodology, cf. Zevalkink & Berghout, 2006). Cohort 1 (PA: $n = 25$; PP: $n = 39$) consisted of patients who were about to start long-term psychoanalytic treatment; cohort 2 (PA: $n = 15$; PP: $n = 34$) of patients who were one year in treatment; cohort 3 (PA: $n = 31$; PP: $n = 36$) consisted of participants who had just finished long-term

psychoanalytic treatment (approximately 3 months after treatment termination); and participants in cohort 4 (PA: $n = 22$; PP: $n = 29$) had already finished their treatment two years ago (follow-up). Chi-square analyses and ANOVAs revealed no significant pre-treatment differences between patients in PA and patients in PP for sociodemographic and diagnostic variables (age, treatment history, living situation, cultural background, educational level, employment status, DSM-IV diagnosis), except for gender distribution with more women in PP compared to PA (see Table 1).

Table 1. Pre-treatment Characteristics of Participants in Psychoanalysis (PA) and Psychoanalytic Psychotherapy (PP)

	PA	PP	
Age, years: $M(SD)$	33.0 (7.7)	32.6 (8.1)	
Gender			
Female	61%	80%	**
Received previous treatment	80%	74%	
Education level			
Middle	22%	26%	
Higher	78%	74%	
Western cultural background	91%	93%	
Living with partner	47%	42%	
Living with children	23%	19%	
Employed	83%	76%	
DSM-IV diagnoses			
Axis I diagnosis	99%	100%	
Axis II diagnosis	73%	73%	
GAF: $M(SD)$	64.6 (7.3)	62.7 (8.0)	

Note. $n_{PA} = 93$, $n_{PP} = 138$.

** $p < .01$.

The comparability of the four cohorts was investigated in two ways. First, in the total sample we examined pretreatment differences between cohorts with regard to sociodemographic patient characteristics, treatment assignment, and psychiatric diagnoses in order to be able to control for potential confounding pre-treatment differences (Bickman & Rog, 1998). Second, in a random subsample we investigated whether the four cohorts had experienced similar processes with regard to treatment assignment over time and mental health clinic with the aid of three independent clinicians who retrospectively assessed the pre-treatment GAF and treatment assignment (PP versus PA) from patient files in which all information regarding cohort status, mental health organization, pre-treatment psychiatric classification, and treatment assignment was removed and edited in a similar format. In the total sample, chi-square analyses and ANOVAs revealed no significant differences ($p < .05$) between the four cohorts on pre-treatment sociodemographic patient characteristics (gender, treatment history, living situation, cultural background, educational level, employment status), except for age at intake. Subjects in cohort 3 were younger at the start of treatment compared to subjects in the other cohorts, $F(3, 230) = 3.68$, $p < .05$. There were no significant differences across cohorts regarding the PA/PP distribution. Chi-square analyses on the frequencies of pre-treatment DSM-IV-R Axis I diagnoses did not reveal significant differences between the four cohorts. Almost all patients were diagnosed with at least one Axis I disorder. Most frequent diagnoses before treatment were mood disorders (47%), in particular dysthymic disorder (30%). Frequencies of Axis II diagnoses were comparable across cohorts except for the category 'no personality disorder' that was more often assigned to patients in cohort 3 and 4, $\chi^2(3, N = 229) = 16.86$, $p < .01$. Further, pre-treatment GAF scores of participants in cohort 4 were significantly higher compared to the other three cohorts, $F(3, 226) = 6.72$, $p < .001$. In recent years, it has become customary to estimate the GAF score lower in light of the threat of budget cuts (see also Doidge et al., 2002). An additional study in the subsample ($n = 58$) confirmed that it was a temporally influenced structural adjustment of the GAF score instead of a selection bias. Furthermore, the results from this subsample showed that clinical decision making did not change significantly over time (cohorts) nor differed across the four mental health organizations after the

treatment assignment was redone by experienced clinicians in 25% of the sample. In the statistical analyses reported below, we used age, presence of Axis II disorder, and GAF score as covariates.

Treatments

Both psychoanalytic psychotherapy and psychoanalysis are open-ended long-term psychotherapeutic treatments, defined as consisting of at least 25 sessions or lasting more than one year. These psychoanalytic treatments have been described in textbooks (e.g., Gabbard, 2005, 2009; Greenson, 1967; Person, Cooper, & Gabbard, 2005; Wallerstein, 1995). Efforts have been made to manualize psychoanalytic treatment, but so far this work has been complicated by the relative long duration of the treatment and the complexity of the technique. In general, psychoanalytic treatments share some common theoretical assumptions and intend to influence the working of unconscious processes by either focusing on conflicts, object relations, the self, and/ or interactional processes (Gabbard, 2005). These long-term psychoanalytic treatments are covered by national health insurance in the Netherlands with a per session contribution of €15 for the patient. Psychoanalysis (PA) differs from psychoanalytic psychotherapy (PP) in that patients in psychoanalysis receive three or more sessions per week lying on the couch, while patients in psychoanalytic psychotherapy sit face-to-face and the frequency typically is one or two times a week. Treatment assignment is based on therapeutic judgments about patients' ego strength, affect tolerance, capacity for reflection and insight, but also on practical considerations such as distance to the treatment facility, patient motivation and availability of therapists. The average length of treatment was 6.5 years for PA ($SD = 2.7$ yrs.) and 3.9 years for PP ($SD = 2.5$ yrs.). As could be expected, these treatment durations differed significantly, $F(1, 117) = 29.0, p < .001$. All therapists ($N = 94$) in the project were licensed clinicians (psychiatrists/ psychotherapists or psychologists/ psychotherapists) and member of one of the Netherlands psychoanalytic societies. Exactly 50% of the therapists ($n = 47$) had only one patient participating in the project. The mean age of the therapists was 53.5 years ($SD = 7.8$), and the average amount of therapeutic experience was 24.0 years ($SD = 9.5$).

Measures

In line with methodological recommendations, we used multiple data collection methods to enhance validity (Bickman & Rog, 1998; Hill & Lambert, 2004). For this project, three symptom questionnaires (SCL-90-R, BDI-II, STAI) and two personality instruments (MMPI-2, IIP-64) were selected.

Symptom questionnaires. The Symptom Checklist – 90 – Revised (SCL-90-R) measures symptoms in nine major areas of the patient's psychological, somatic, and interpersonal functioning. The 90 items are scored on a 5-point Likert scale (Derogatis, 1983). In the Netherlands, norms and translations were developed by Arrindell and Ettema (2003). The 21-item Beck Depression Inventory-II (BDI-II) measures depressive symptoms, scored on a 4-point Likert scale (Beck, Steer, & Brown, 1996). In the Netherlands, Van der Does (2002) translated the BDI-II and developed norm scores. The 40-item State-Trait Anxiety Inventory (STAI) assesses state and trait anxiety, scored on a 4-point Likert scale (Spielberger, 1983). State anxiety reflects a momentary anxiety, and trait anxiety refers to a general tendency to respond with anxiety to perceived threats in the environment. The STAI was published in the Netherlands and norm scores were developed by Van der Ploeg (2000). For each of the questionnaires we only used the total or overall sum scores.

Personality assessment. The Inventory of Interpersonal Problems – 64 (IIP-64) consists of 64 items, scored on a 5-point Likert scale, that assess perceived interpersonal difficulties on eight subscales (Horowitz et al., 2000). Norms of the Dutch version of the IIP-64 were developed by Zevalkink, Katzko, Berghout, and Riksen-Walraven (2008). The Minnesota Multiphasic Personality Inventory – 2 (MMPI-2, Butcher et al., 1989), a 567-item self-report questionnaire, aims to quantitatively measure an individual's level of emotional adjustment and attitude toward test taking, resulting in clusters of personality variables (Groth-Marnat, 1997). In concordance with other research on the MMPI-2 we did not use scale 5-Masculinity-Femininity (Mf), because this scale is usually not considered as a clinical scale that measures psychopathology (e.g., Nieberding et al., 2003; Terlidou et al., 2004). The nine clinical scales were: 1-Hypochondriasis; 2-Depression; 3-Hysteria; 4-Psychopathic deviate; 6-Paranoia; 7-Psychasthenia; 8-Schizophrenia; 9-Mania; and 0-Social introversion. Besides these nine scales, we also examined the relatively new PSY-5 scales: Aggressiveness, Psychoticism, Disconstraint, Negative Emotionality, and Introversion (Harkness &

McNulty, 2006). Derksen, de Mey, Sloore, and Hellenbosch (2006) translated the MMPI-2 and developed norm scores for use in the Netherlands. In accordance with MMPI-2 research protocol (Derksen et al., 2006) we checked for invalid profiles (VRIN or TRIN > 80). We identified two patients who had a TRIN > 80, who were consequently excluded from further MMPI-2 analyses. Pearson correlation analyses between the personality instruments and the symptom questionnaires revealed that correlations coefficients were between .01 and .64, with the highest correlation between the MMPI-2 Depression scale and the STAI Trait anxiety score. Correlation coefficients between the IIP-64 and the MMPI-2 were between .02 and .57, with the highest correlation between the IIP-64 total score and the MMPI-2 Social Introversion scale.

Procedure

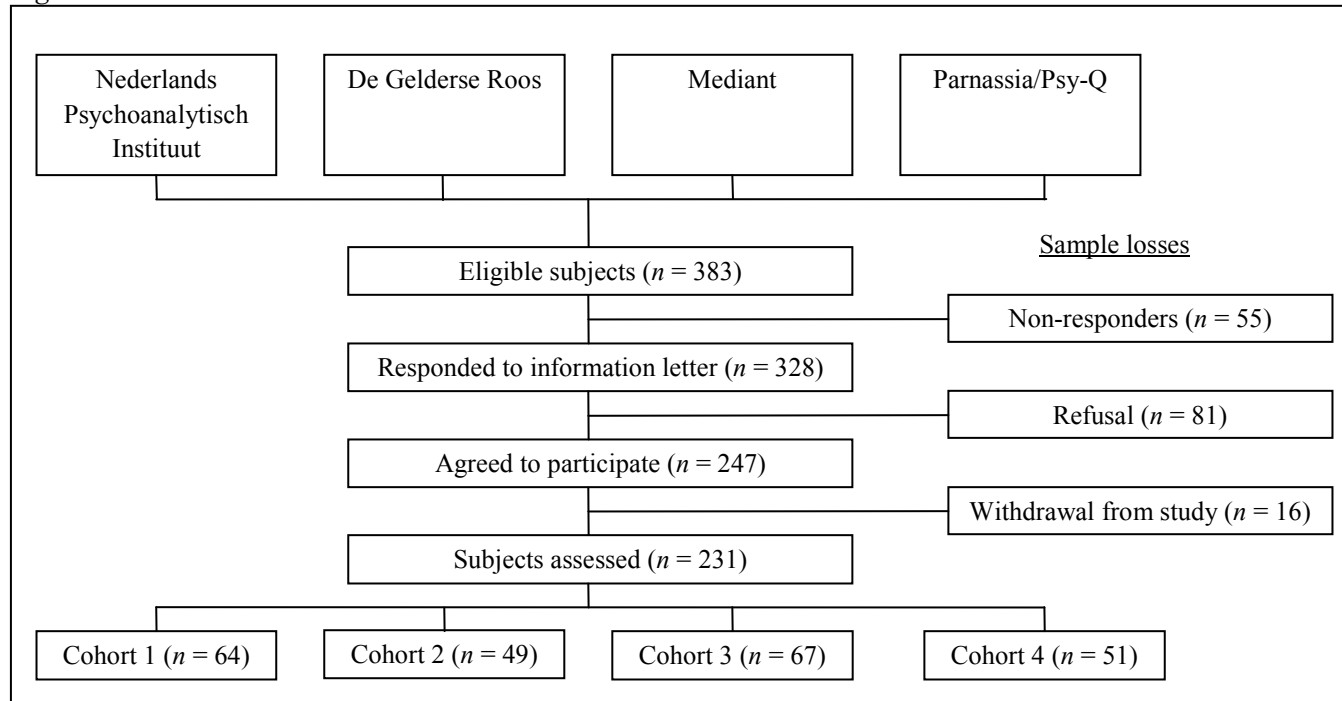
Inclusion criteria for participation were a minimum age of 18 years, having mastery of the Dutch language, assignment to long-term psychoanalytic treatment (> 25 sessions or > 1 year, with a minimum frequency of once a week). Exclusion criteria were the presence of (acute) psychotic symptoms. All patients who met the inclusion criteria were approached via mail. In total we approached 383 persons, of whom 247 (65%) accepted, 81 (21%) declined, and 55 (14%) never responded. The response rate in cohort 4 differed significantly from that in the other cohorts, which was due to a higher percentage of non-responders, $\chi^2(6, N = 383) = 13.02, p < .05$. In this group, home addresses and telephone numbers appeared no longer up-to-date. A flow chart is shown in Figure 1. Of the 247 persons who agreed to participate and signed the informed consent, 16 eventually did not participate in the study due to various reasons (withdrawal from the study, never started the psychoanalytic treatment). The 16 drop-outs did not differ significantly on pre-treatment sociodemographic and diagnostic characteristics (gender, age, treatment history, living situation, cultural background, educational level, employment status, DSM-IV Axis I, II, and V diagnoses) from the 231 participants.

When subjects returned a positive informed consent, they were phoned to make an appointment for the personality assessment (MMPI-2). Within two weeks, they received the questionnaires by regular mail, including a stamped addressed envelope. Data gathering was done in the period of January 2004 to June 2007. The personality assessments were conducted by clinicians or research assistants trained in psychodiagnostics. All subjects could indicate whether or not they liked to receive written personal feedback about their health status, to which 99% reacted positively. DSM-IV diagnoses were based on clinical judgment and assessed during a consensus meeting of at least one psychiatrist, one or two experienced psychotherapists and a test-psychologist at the start of treatment. During the consensus meeting, input consisted of written reports of each of the previous meetings (average four) between clinicians (average two) and patient, results of questionnaires, and other psychodiagnostic material. This method approaches the LEAD standard as proposed by Spitzer (1983).

Data analyses

After replacing missing values (4.8%) by the mean group average of the corresponding cohort, we performed univariate ANCOVAs to investigate general differences between patients in each cohort on the raw data from all outcome measures and corrected for age, presence of DSM-IV Axis II disorder, and GAF score. To provide standardized estimations of effect sizes, we used Cohen's *d*. When Cohen's *d* exceeds 0.20, 0.50 and 0.80, it represents small, moderate and large effect sizes respectively. Because we used multiple instruments that consist of several subscales we combined these scales into composite scores or factors. This facilitates data examination and improves power of the statistical analyses (Hill & Lambert, 2004). To reduce the number of outcome variables, we performed factor analysis (Principal Components Analysis) to identify the specific areas in which improvement was achieved. To investigate the effectiveness of the psychoanalytic treatment in relation to no treatment, we compared psychoanalytic treatment outcome with the average control group effect as reported in a review by Leichsenring and Rabung (2006). These researchers systematically studied the changes that occurred in psychiatric patients (26 studies, $N = 740$) who did not receive long-term psychotherapeutic treatment (untreated control groups and treatments as usual) and found a mean effect size of 0.12 (95% confidence interval [CI] = 0.05 – 0.28). The effects occurring in the control conditions were independent of the duration of the wait or TAU condition

Figure 1. Patient Flow Chart



(Leichsenring & Rabung, 2006). The prevalence of psychiatric diagnoses reported in this review was similar to that of the patients in the current study sample. Finally, as explorative analyses we performed multivariate path analyses to investigate which variables were the best predictors of treatment outcome. For this purpose, we used General Linear Modeling (GLM) which allows for simultaneous linear transformations or linear combinations of *multiple* dependent variables. With GLM one can analyze both categorical (e.g., gender) and continuous (e.g., age) predictor variables. For the categorical variables, we used sigma-restricted parameterization which facilitates interpretation of the regression coefficient associated with the predictor variable (Cardinal & Aitken, 2006). The analyses were done on participants who had already finished their treatments (cohorts 3 and 4). In the GLM, full Bonferroni correction was used to adjust the alpha level.

RESULTS

ANCOVAs and effect sizes

Univariate ANCOVAs on the raw data of the symptom questionnaires showed significant differences between the cohorts on all total scores after correcting for the following covariates: pre-treatment age, presence of DSM-IV Axis II disorder, and GAF score (Table 2). Patients before and during treatment (cohort 1 and 2) had significantly higher scores compared to participants at the end of treatment or two years later (cohort 3 and 4). Large effect sizes were found comparing the two groups after treatment to the group of patients before treatment. Patients who were one year in treatment did not notably differ from those before treatment.

Univariate ANCOVAs on the personality instruments also revealed significant differences between the cohorts. The IIP-64 showed a similar pattern to that of the symptom questionnaires described above. The MMPI-2 provided significant results for five of the nine clinical scales (Depression [scale 2], Psychopathic deviate [scale 4], Psychasthenia [scale 7], Schizophrenia [scale 8], Social introversion [scale 0]) and two of the five PSY-5 scales (Negative emotionality, Introversion) with scores being higher before treatment compared to after treatment. The results of the clinical scales showed that the presence and depth of depressive pathology (scale 2) had decreased significantly after long-term psychoanalytic treatment, as well as the level of social maladjustment and feelings of alienation (scale 4 and 8), and the level of (social) anxiety and self-doubt (scale 7 and 0). The differences between cohorts were always in the predicted direction, i.e. improved personality functioning after treatment (Table 2). The effect sizes for the IIP and the five MMPI-2 clinical scales were moderate to large. Effect sizes for patients one year in treatment differed from those before treatment across the range of negative to non-existent, with the exception of Psychopathic deviate for which a small effect size was found.

For the comparison of effect sizes for psychoanalysis and psychoanalytic psychotherapy separately, we focused on the scales with significant cohort differences in the total sample. Table 3 shows that effect sizes ranged from moderate to large, with the exception of introversion for which small effect sizes were found after psychoanalytic psychotherapy at follow-up. For the three symptom questionnaires, the average effect size for psychoanalysis was 1.19 at end of treatment and 1.25 at follow-up. For psychoanalytic psychotherapy it was 1.15 and 1.11 respectively. For the eight personality scales, we found an average effect size for psychoanalysis of 0.70 after treatment and 0.66 at follow-up. For psychoanalytic psychotherapy it was 0.69 and 0.48 respectively.

Outcome factors

We performed factor analyses (Principal Components Analysis with varimax rotation) on the variables that showed significant differences between the cohorts. For standardization purposes we transformed the scores on the questionnaires to *T*-scores. These *T*-scores were calculated using the means and standard deviations from the non-clinical reference groups of the different questionnaires. The factor analyses were done on the total population as well as on different subgroups within the total sample and the determination of the number of extracted factors was based on Eigenvalues (> 1). This consistently resulted in a stable 3-factor solution (with a total explained variance of about 76%). We identified one general distress factor and two personality factors. Factor scores were computed by taking the unweighted average of the variables that define each factor. Internal reliability estimates (coefficient alpha) for the three factors were satisfactory: .88, .89, and .81 respectively.

Table 2. Means and Standard Deviations of the Scores on the Symptom Questionnaires and Personality Instruments, ANCOVAs and Effect Sizes

	Cohort				Comparison				
	1	2	3	4	ANCOVA		Effect size		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>	Post-hoc	1 – 2	1 – 3	1 – 4
SCL-90-R GSI ^a	0.74 (0.37)	0.73 (0.46)	0.36 (0.37)	0.40 (0.27)	11.7 ***	1, 2 > 3, 4	0.03	1.04	1.04
BDI-II Total ^a	15.8 (8.1)	14.5 (10.7)	7.1 (8.6)	6.8 (6.5)	13.3 ***	1, 2 > 3, 4	0.14	1.05	1.21
STAI Trait ^a	49.0 (9.3)	48.5 (10.5)	37.4 (8.3)	38.1 (8.1)	23.3 ***	1, 2 > 3, 4	0.05	1.33	1.25
IIP-64 Total score ^a	91.3 (30.3)	95.0 (30.5)	61.7 (34.8)	66.8 (34.5)	10.8 ***	1, 2 > 3, 4	-0.12	0.91	0.76
MMPI-2 scale ^b									
1 Hypochondriasis	51.0 (10.1)	54.6 (11.8)	51.5 (8.9)	50.0 (10.7)	1.8		-0.33	-0.06	0.09
2 Depression	59.7 (10.1)	62.2 (14.9)	52.1 (10.7)	53.0 (11.0)	7.5 ***	1, 2 > 3, 4	-0.20	0.73	0.64
3 Hysteria	56.8 (11.0)	59.5 (12.3)	55.3 (9.6)	55.3 (11.5)	1.7		-0.24	0.14	0.13
4 Psychopathic deviate	66.4 (10.8)	62.0 (9.5)	60.4 (8.4)	59.5 (11.0)	5.4 **	1 > 2, 3, 4	0.42	0.62	0.63
6 Paranoia	58.6 (9.5)	60.6 (10.1)	57.7 (8.1)	57.8 (9.9)	1.1		-0.20	0.10	0.08
7 Psychasthenia	64.6 (10.1)	65.2 (13.1)	56.7 (8.0)	57.4 (10.7)	6.0 **	1, 2 > 3, 4	-0.06	0.87	0.70
8 Schizophrenia	60.8 (10.2)	63.0 (11.4)	55.8 (8.8)	56.7 (8.9)	3.8 *	1 > 3 2 > 3, 4	-0.20	0.53	0.43
9 Mania	51.0 (11.2)	50.2 (9.5)	49.2 (9.7)	48.8 (9.5)	0.5		0.08	0.18	0.21
0 Social introversion	54.6 (10.2)	56.5 (13.2)	48.0 (11.1)	50.1 (11.7)	3.7 *	1 > 3 2 > 3, 4	-0.17	0.62	0.41
PSY-5 Aggressiveness	44.7 (8.9)	45.6 (7.1)	47.2 (7.6)	46.0 (8.2)	0.7		-0.10	-0.30	-0.15
PSY-5 Psychoticism	51.5 (11.2)	49.2 (8.1)	47.0 (7.9)	48.9 (8.7)	2.1		0.23	0.46	0.25
PSY-5 Disconstraint	52.7 (10.1)	51.0 (7.1)	52.1 (9.1)	53.3 (10.6)	0.8		0.18	0.06	-0.06
PSY-5 Negative emotionality	56.3 (8.8)	55.2 (9.0)	50.1 (8.8)	52.0 (10.5)	4.4 **	1 > 3, 4 2 > 3	0.13	0.71	0.45
PSY-5 Introversion	58.3 (11.3)	61.1 (15.5)	53.6 (11.0)	54.6 (11.4)	2.7 *	2 > 3, 4	-0.22	0.42	0.32

Note. Cohort 1 = Pre-treatment; Cohort 2 = 1 year during treatment; Cohort 3 = Post-treatment; Cohort 4 = Follow-up 2 years after treatment. We corrected for the following covariates: pre-treatment age, presence of DSM-IV Axis II disorder, and GAF score.

^a $n_{\text{cohort1}} = 64$, $n_{\text{cohort2}} = 49$, $n_{\text{cohort3}} = 67$, $n_{\text{cohort4}} = 51$.

^b $n_{\text{cohort1}} = 64$, $n_{\text{cohort2}} = 49$, $n_{\text{cohort3}} = 66$, $n_{\text{cohort4}} = 50$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3. Effect sizes (pre–post and pre–follow-up) for Psychoanalysis and Psychoanalytic Psychotherapy

	Psychoanalysis		Psychoanalytic psychotherapy	
	pre – post	pre – follow-up	pre – post	pre – follow-up
	<i>d</i>	<i>d</i>	<i>d</i>	<i>d</i>
SCL-90-R GSI ^a	1.39	1.25	0.86	0.91
BDI-II Total ^a	1.16	1.06	0.95	1.31
STAI Trait ^a	1.03	1.44	1.63	1.10
IIP-64 Total score ^a	0.88	1.04	0.93	0.55
MMPI-2 scale ^b				
2 Depression	0.58	0.73	0.90	0.57
4 Psychopathic deviate	0.68	0.40	0.58	0.92
7 Psychasthenia	1.09	0.89	0.71	0.58
8 Schizophrenia	0.71	0.38	0.37	0.53
0 Social introversion	0.59	0.66	0.70	0.19
PSY-5 Negative emotionality	0.51	0.54	0.92	0.38
PSY-5 Introversion	0.52	0.63	0.41	0.10

^a PA: $n_{pre} = 25$, $n_{post} = 31$, $n_{follow-up} = 22$; PP: $n_{pre} = 39$, $n_{post} = 36$, $n_{follow-up} = 29$.

^b PA: $n_{pre} = 25$, $n_{post} = 31$, $n_{follow-up} = 22$; PP: $n_{pre} = 39$, $n_{post} = 35$, $n_{follow-up} = 28$.

Factor 1 ‘*General distress*’ is an aggregate measure for symptoms, complaints and general discontent (SCL-90-R GSI, BDI-II total, STAI Trait, IIP-64 total and MMPI-2 PSY-5 scale Negative emotionality). Factor 2 ‘*Introversion*’ reflects problems related to inhibition, depression and social avoidance (MMPI-2 clinical scales 2, 0 and PSY-5 scale Introversion). Factor 3 ‘*Disadaptation and disorganization*’ reflects disadaptation to society, feelings of estrangement, anxiety and disorganized mental states (MMPI-2 clinical scales 4, 7 and 8). We performed ANCOVAs (with correction for pre-treatment age, presence of DSM-IV Axis II disorder, and GAF score) and calculated the effect sizes for these aggregate factors (see Table 4). We found large effect sizes on the general distress factor (95% C.I. pre- vs. post-treatment = 0.89 – 1.64, and 95% C.I. pre-treatment vs. follow-up = 0.78 – 1.58), and moderate to large effect sizes on the two personality factors (Introversion: 95% C.I. pre- vs. post-treatment = 0.30 – 1.01, and 95% C.I. pre-treatment vs. follow-up = 0.14 – 0.89; Disadaptation and disorganization: 95% C.I. pre- vs. post-treatment = 0.43 – 1.14, and 95% C.I. pre-treatment vs. follow-up = 0.32 – 1.08).

Comparisons with average control group effect

In light of a lack of a study-own control group, we have made a comparison with the mean effect size reported by Leichsenring and Rabung (2006) of patients in the control condition ($N = 740$) of 26 studies into the effectiveness of psychoanalytic treatment. They reported an average effect for not being treated, on a waiting list or receiving TAU of $d = 0.12$ (95% CI = 0.05 – 0.28). We compared this effect with that of effects found in our study on General distress, Introversion, and Disadaptation and disorganization at treatment termination. Table 4 shows that the effect of these three factors was significantly greater than the average control group effect at treatment termination and follow-up, with the exception of Introversion. At follow-up, the confidence interval of the effect on Introversion appeared to overlap with that of the average control group effect. This means that the effect of treatment on Introversion did not differ from that of the average control group two years after the end of treatment.

Predictors of treatment outcomes

We used the General Linear Model procedure (GLM) to test the relationships between eleven predictor variables and three outcome factors. The eleven predictors consisted of seven socio-demographic characteristics (gender, age, previous treatment, living with partner, living with children, educational level, employment status), two diagnostic variables (personality disorders, GAF), and two treatment characteristics (duration of treatment, treatment type). Cultural background was not included

in the GLM analysis because its distribution was extremely skewed; almost all patients had a western cultural background. Table 5 shows the parameter estimates of the predictor variables on the outcome factors. In terms of interpreting the partial eta squares for the multivariate analysis, Cohen (1988) characterized $\eta^2 = .02$ as small, $\eta^2 = .13$ as medium, and $\eta^2 = .26$ as a large effect size.

The alpha level was adjusted to .0015 ($\alpha = .05 / 33$). We found one statistically significant effect. Female patients had better treatment outcome with regard to Disadaptation and disorganization compared to male patients. The magnitude of this effect was in the small-to-medium range and the observed power was .53. Post-hoc ANOVAs showed that there was no significant difference on the factor score *before* treatment between men and women, $F(1, 63) = 1.07, p = .31$, but *after* treatment the difference was highly significant, $F(1, 115) = 14.47, p < .001$. Further analyses revealed that this moderating effect was particular for patients who had received psychoanalysis. Post-hoc ANOVAs showed that within the PA-group women had significantly better treatment outcome compared to men on Disadaptation and disorganization, $F(1, 52) = 16.00, p < .001$. In the PP-group we found no significant differences in outcome between men and women.

DISCUSSION

The present study supported previous findings that long-term psychoanalytic treatment was effective in reducing symptomatic distress and added some new findings in that it was also moderately effective in improving personality functioning, as found with both the MMPI-2 and the IIP-64. Our effect sizes were comparable to the findings from recent meta-analyses (Leichsenring & Rabung, 2008; de Maat et al., 2009). Effect sizes for psychoanalysis and psychoanalytic psychotherapy were fairly comparable, with a slight advantage for psychoanalysis on the separate instruments. The effect of psychoanalytic treatment in reducing symptoms and improving personality functioning was significantly larger compared to the average control group effect as reported by Leichsenring and Rabung (2006). Exploratory analysis revealed that gender moderated treatment outcome, with women having a better treatment outcome with regard to disadaptation and disorganization compared to men, in particular after psychoanalysis.

Psychoanalytically trained psychotherapists do not generally regard symptom improvement as the most important goal of long-term psychoanalytic treatment. However, the effect sizes we found on all of the symptom measures need not be underestimated. Although we did not make direct comparisons with short-term treatments, the level of symptom improvement we found was comparable to that generally reported in the literature for short-term treatments specifically aimed at symptom reduction for less distressed patient populations (see review: de Maat et al., 2009). More importantly, after a two-year follow-up period patients functioned at a non-clinical level. This follow-up effect is not commonly found after short-term treatments (de Maat, Dekker, Schoevers, & de Jonghe, 2006). In line with other outcome studies of long-term psychoanalytic treatment, this study found moderate effect sizes for personality changes. In addition to other studies, we not only used a short questionnaire like the IIP-64 to assess personality functioning, but we added a comprehensive personality assessment instrument (MMPI-2). We consider this a major merit of our study. Several scales of the MMPI-2 were sensitive in picking up differences between the cohorts. We found large effect sizes on the MMPI-2 clinical scales for Depression (scale 2), Psychopathic deviate (scale 4), Psychasthenia (scale 7), Schizophrenia (scale 8) and Social introversion (scale 0). This means that the presence and depth of depression (scale 2), the level of social maladjustment and feelings of alienation (scale 4 and 8), and the high levels of (social) anxiety and self-doubt (scale 7 and 0) that characterize patients who apply for psychoanalytic treatment were effectively reduced after long-term treatment, and remained stable in the long term. For the remaining four MMPI-2 clinical scales effect sizes were considerably smaller or absent. One explanation for this could be that we found that patients were already functioning relatively well in these areas before treatment, which automatically limits the potential magnitude of the effect sizes. Another explanation could be that these aspects of personality functioning were relatively stable and therefore less suitable to monitor change. Our results are in line with the findings of Gordon (2001), who also showed large treatment effects on most MMPI-variables, but not on all scales.

Table 4. Means and Standard Deviations of the Outcome Factors, ANCOVAs and Effect Sizes

Factor	Cohort				Comparison				
	1	2	3	4	ANCOVA		Effect size		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>	Post-hoc	1 – 2	1 – 3	1 – 4
1. General distress	60.9 (8.0)	60.3 (9.9)	50.4 (8.5)	51.4 (7.9)	18.5 ***	1, 2 > 3, 4	0.07	1.27	1.19
2. Introversion	57.5 (9.2)	60.0 (13.3)	51.2 (9.9)	52.6 (10.0)	5.5 **	1 > 3 2 > 3, 4	-0.22	0.66	0.52
3. Disadaptation and disorganization	63.9 (8.7)	63.4 (9.8)	57.6 (7.1)	57.9 (8.4)	5.9 **	1, 2 > 3, 4	0.06	0.79	0.71

Note. Cohort 1 = Pre-treatment; Cohort 2 = 1 year during treatment; Cohort 3 = Post-treatment; Cohort 4 = Follow-up 2 years after treatment. $n_{\text{cohort1}} = 64$, $n_{\text{cohort2}} = 49$, $n_{\text{cohort3}} = 66$, $n_{\text{cohort4}} = 50$. We corrected for the following covariates: pre-treatment age, presence of DSM-IV Axis II disorder, and GAF score.

** $p < .01$, *** $p < .001$.

Table 5. Parameter Estimates of the Predictor Variables on the Outcome Factors

Parameter	General distress				Introversion				Disadaptation and disorganization			
	B	S.E.	<i>t</i>	Partial η^2	B	S.E.	<i>t</i>	Partial η^2	B	S.E.	<i>t</i>	Partial η^2
(Intercept)	62.58	8.82			50.06	10.75			66.50	8.05		
Gender	0.09	0.99	0.09	.00	1.30	1.21	1.07	.02	3.06	0.91	3.37 *	.13
Age (pre-treatment)	-0.01	0.14	-0.04	.00	0.34	0.17	1.98	.05	0.10	0.13	0.75	.01
Previous treatment	0.53	1.12	0.48	.00	-0.34	1.36	-0.25	.00	0.76	1.02	0.74	.01
Living with partner	-0.43	1.04	-0.41	.00	-0.36	1.27	-0.29	.00	-0.20	0.95	-0.21	.00
Living with children	0.43	1.40	0.31	.00	-0.35	1.70	-0.21	.00	0.17	1.27	0.13	.00
Educational level	-0.99	1.26	-0.79	.01	-1.19	1.54	-0.77	.01	-0.12	1.15	-0.10	.00
Employment status	1.00	1.25	0.80	.01	0.11	1.53	0.08	.00	1.04	1.14	0.90	.01
Personality disorder	1.42	0.90	1.58	.03	1.27	1.10	1.16	.02	1.06	0.82	1.29	.02
GAF (pre-treatment)	-0.19	0.11	-1.76	.04	-0.10	0.13	-0.75	.01	-0.17	0.10	-1.75	.04
Duration treatment	0.00	0.03	0.04	.00	-0.04	0.04	-0.96	.01	-0.01	0.03	-0.33	.00
Treatment type	-0.90	0.99	-0.91	.01	-0.87	1.20	-0.73	.01	-0.59	0.90	-0.66	.01

Note. $n = 87$ with complete data.

* $p < .05$ (Bonferroni adjusted).

An interesting finding of this study was that the effect sizes of psychoanalysis and psychoanalytic psychotherapy were in the same range for the three factors, with the exception of the effect size at follow-up for personality problems after psychoanalytic psychotherapy which was lower compared to the effect size two years after psychoanalysis. The data seem to suggest that there was no significant difference between the effect of psychoanalysis and psychoanalytic psychotherapy. Although no significant difference in the level of mental health problems and patient characteristics was found before treatment, there are indications that we might be dealing with two different groups of patients. First of all, in this naturalistic study the therapists (and patients) decided when to finish the treatment. In the psychoanalysis group, this was significantly later than for patients in psychoanalytic psychotherapy. This might mean that the therapist decision might be based on having reached a satisfactory clinical effect that might be similar in kind but needed a longer period to achieve due to the type of problems of these patients. Secondly, the interpersonal problems of patients in psychoanalysis did not decrease significantly after the first two years of treatment, whereas more significant changes were found after two years of psychoanalytic psychotherapy (Berghout, Zevalkink, Katzko, & de Jong, 2009). We have not matched the patients in the two treatment groups on personality traits, chronicity of personality problems, motivation or other important indication criteria. If we had, we could have made better comparisons between the psychoanalysis and psychoanalytic psychotherapy groups. For future research we encourage comparative studies to control for differences in patient populations by matching patients on relevant variables or, even better, to use a randomized design if this is practically possible.

The use of the PSY-5 scales is relatively new in outcome research and resulted in some interesting findings. The PSY-5 scales are intended to model the domain of disordered personality (Friedman, Lewak, Nichols, & Webb, 2001). Our factor analyses revealed that the PSY-5 scale for Negative emotionality clustered within the '*general distress*' factor. Furthermore, the mean pre-treatment level of distress on this PSY-5 variable was relatively low. Perhaps this scale is less useful as an outcome measure for psychoanalytic treatment, or less of a personality variable as originally conceived. Our results did provide support for the utility of the PSY-5 Introversion scale as a valuable outcome measure. We have found a significant decrease in Introversion at the end of treatment and at the two-year follow-up, compared to levels before treatment. Interestingly, in a study by Vendrig, Derksen, and de Mey (2000) on chronic-pain treatment, the PSY-5 scales were not used as outcome measures but rather as predictors of treatment outcome. Their results showed the PSY-5 Introversion scale to be a useful outcome predictor. Interestingly, in our attempt to reduce information by building factors of different aspects of therapeutic outcome – as also intended by the PSY-5 scales – we found that the IIP-64 and the MMPI-2 PSY-5 scale Negative emotionality clustered within the other screening questionnaires into the so-called general distress factor. It appears that the underlying personality issues of interpersonal distress and overly focusing on negative aspects also make a person report high levels of symptoms and complaints.

The findings from the outcome factors suggest that long-term psychoanalytic treatment was especially effective in improving patients' abilities to interact, and their adjustment to society. The biggest improvements were found in the interpersonal realm, as people became less introverted/avoidant and better able to deal with all kinds of social situations. This suggests that psychoanalytic treatments are successful in changing dysfunctional representations of the self and other, and reducing patients' chronic interpersonal difficulties – the essence of personality pathology (Clarkin, 2006). These findings are also in line with results of Monsen et al. (1995) who found marked changes in the quality of interpersonal relations and a better capacity to establish and maintain intimate relationships after long-term psychodynamic psychotherapy.

The use of multiple cohorts has provided us with two major findings related to the pattern of improvement. The first finding was that after one year of treatment the level of symptoms and personality problems was roughly comparable to that before treatment. Small (or even negative) effect sizes were found for most comparisons between the pre-treatment cohort and the during-treatment cohort. In contrast to often found symptom decreases within the first year of (short-term) psychotherapy (Howard, Kopta, Krause, & Orlinsky, 1986; Kopta, Howard, Lowry, & Beutler, 1994), the current study has shown that in this particular patient population the level of symptoms and personality problems did not decrease that rapidly. This particular finding, in addition to the fact that 77% of the patients had already tried a previous (short-term) treatment, might justify a longer

treatment process for this particular group of patients. Patients assigned to psychoanalytic treatment appeared to have complex emotional and personality problems, which was in line with previous findings in a different sample (Zevalkink & Berghout, 2008). Perhaps the small decrease in symptoms and personality problems after one year of treatment is because patients in psychoanalytic treatment follow a different (and slower) pattern of change compared to those in short-term therapies. The second finding is that treatment results were sustained at a two-year follow-up. Other studies have provided strong indications that the results of short-term therapies are more short-lived (de Maat et al., 2006; Seligman, 1995). In contrast, in our study we found indications that the effects of long-term psychoanalytic treatment persist for a longer period of time after treatment termination. An explanation might be found in the fact that it reduces the vulnerability to become psychologically distressed when facing challenges after treatment in a way that protects from relapse. Several other psychoanalytic follow-up/outcome studies have been published on the long-term effects of psychoanalysis (e.g., Kantrowitz, Paolitto, Sashin, Solomon, & Katz, 1986; Kantrowitz, Katz, Paolitto, Sashin, & Solomon, 1987a; 1987b). These studies showed significant improvements in several areas of personality functioning (e.g., quality of object relations, affect modulation, reality testing) at a one-year follow-up after psychoanalysis. Our study confirms that long-term psychoanalytic treatment is helpful in decreasing symptoms and personality problems, and that these psychological changes last at least for two years after treatment termination.

Exploratory analyses revealed that gender was a predictor of treatment outcome with respect to one of our outcome factors: the post-treatment level of disadaptation and disorganization was significantly lower for females compared to male patients. In particular, psychoanalysis was more effective for women than for men, even though we found similar levels of this pathology at the start of treatment. Interestingly, proportionately more males had been in psychoanalysis compared to psychoanalytic psychotherapy (39% vs. 20%). It appears that clinical levels of disadaptation, feelings of estrangement, anxiety and disorganized mental states (MMPI-2 clinical scales 4, 7 and 8) in males might be a contraindication for psychoanalysis, whereas men with these problems were effectively treated with psychoanalytic psychotherapy. Although these findings might be relevant for treatment assignment, they still need to be replicated while also investigating potential mechanisms for differential reaction to treatment. It might be that women are more motivated to change and more likely to benefit from a more intensive treatment like psychoanalysis (e.g., Cottone, Drucker, & Javier, 2002). Another reason might be that males and females show different drop-out patterns during treatment even though they did not differ before treatment. Furthermore, therapist characteristics might play a relevant role as a moderator of treatment effects. More research is needed to find out whether this finding might be explained by a different reaction of women to treatment setting, by certain treatment characteristics, or whether it is a statistical artifact. Furthermore, we should be careful in interpreting differential effects, because the patients in the two treatment groups were not randomized or systematically matched.

The present study has several methodological limitations. First of all, with a cross-sectional multiple-cohort design it is not possible to draw causal inferences, because of the lack of longitudinal data. Individual changes in patients over time were not tested, only differences between patients on a group level (e.g., Galatzer-Levy et al., 2000). Therefore, we have to be careful in drawing conclusions about treatment effectiveness from the presented data. However, the study did provide strong indications for the effectiveness of such a long-term treatment in a relatively short period of time and might inspire other researchers to consider a prospective design in a long-term research project. Secondly, no data of actual comparison groups were collected, because long-term treatments do not lend themselves easily to be tested in a RCT. This lack of control was dealt with by using reported data about the average control group effect as a reference point (Leichsenring & Rabung, 2006). A third limitation is that in a multiple-cohort design a potential form of confounding involves differences in background characteristics and level of pre-treatment psychopathology between the cohorts, so that the comparability of the cohorts might be limited (Cogan & Porcerelli, 2005). One cannot be absolutely sure that the patients enrolled in the various cohorts were equivalent in terms of baseline psychopathology and background characteristics. It could be that patients with more psychopathology might be more apt to drop out of treatment, and in selecting subjects for the two post-treatment samples (cohort 3 and 4) we may have included more subjects who were relatively higher functioning at the start of treatment compared to the other two cohorts. Despite these critiques, the results of our

comparison of the four cohorts on pre-treatment DSM-IV-R diagnoses, socio-demographic characteristics and clinical decision-making showed no significant differences on most variables, thus providing a strong check for the comparability of the four cohorts. Moreover, in our statistical analyses of treatment effectiveness we corrected for those pre-treatment variables that did show significant differences between the cohorts. Hence, it is less likely that we are dealing with a sampling bias. Another limitation concerns the representativeness of our patient samples. The constellation of patients in the various cohorts may, on account of self-selection effects (e.g., drop-outs, non-attainability of patients), be influenced by unknown factors which go undetected in cohort comparisons. Also, it is very well possible that we already had a selective sample before the treatment started (e.g., as demonstrated in the level of education). We therefore have to keep in mind that this sample is not representative of psychotherapy patients in general. Another limitation of the study is that no structured interviews were used to diagnose patients. This could possibly have resulted in an underestimation of the prevalence of DSM-IV disorders. A final limitation of the study is the lack of manualization of the treatments and monitoring of adherence. The psychoanalytically schooled and registered therapists participated in frequent case meetings and often received training and supervision for years if not acting as supervisor. This may help to buffer for the lack of manualization and adherence issues. Also, we did not test nested models even though 47 of our therapists treated 3.9 patients on average. Furthermore, it might be that treatment assignment produced different groups of patients even though this was not visible in the instruments. Future studies would benefit from including therapist characteristics, treatment assignment procedures, and treatment adherence measures into the research design.

Although the present study has some limitations, this study can also be seen as unique with regard to the multiple-cohort design and the measures we used to assess the treatment outcome. The major merits of this study were the large sample size, the high external validity, the inclusion of large group of patients who received psychoanalysis and the comprehensive assessment battery. Long-term psychoanalytic treatment appeared to be effective in reducing symptomatic distress and improving personality functioning for patients with chronic symptoms of depression and personality pathology. These treatment effects were not yet visible after one year of treatment, but more so at the end of treatment and at two-year follow-up. Our preliminary findings regarding the interaction between patient gender and type of treatment on treatment outcome may also have clinical implications, although more research is clearly needed. The presence and depth of depression, the level of social maladjustment and feelings of alienation, and the level of (social) anxiety and self-doubt were substantially and consistently reduced after long-term psychoanalytic treatment.

REFERENCES

- Arrindell, W. A., & Ettema, J. H. M. (2003). *Symptom Checklist: Handleiding bij een multidimensionele psychopathologie-indicator* [Symptom Checklist: Manual of the multidimensional indicator of psychopathology]. Lisse: Swets Test Publisher.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Berghout, C.C., Zevalkink, J., Katzko, M. W., & de Jong, J. (2009). *Changes in symptoms and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis*. Manuscript submitted for publication.
- Bickman, L., & Rog, D. J. (1998). *Handbook of applied social research methods*. Thousand Oaks: Sage Publications.
- Blatt, S. J. (1995). Representational structures in psychopathology. In D. Cicchetti & S. Toth (Eds.), *Rochester Symposium on Developmental Psychopathology, Volume VI: Emotion, Cognition, Representation* (pp. 1-33). Rochester, NY: University of Rochester Press.
- Blatt, S. J., & Auerbach, J. S. (2003). Psychodynamic measures of therapeutic change. *Psychoanalytic Inquiry*, 23, 268-307.
- Blomberg, J., Lazar, A., & Sandell, R. (2001). Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis study. *Psychotherapy Research*, 11, 361-382.
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *The Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis, MN: University of Minnesota Press.

- Cardinal, R. N., & Aitken, M. R. F. (2006). *ANOVA for the behavioural sciences researcher*. Mahwah, NJ.: Lawrence Erlbaum Associates, Inc.
- Clarkin, J. F. (2006). Conceptualization and treatment of personality disorders. *Psychotherapy Research, 16*, 1-11.
- Cogan, R., & Porcerelli, J. H. (2005). Clinician reports of personality pathology of patients beginning and patients ending psychoanalysis. *Psychology and Psychotherapy: Theory, Research and Practice, 78*, 235-248.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.
- Cottone, J. G., Drucker, P., & Javier, R. A. (2002). Gender differences in psychotherapy dyads: changes in psychological symptoms and responsiveness to treatment during 3 months of therapy. *Psychotherapy: Theory, Research, Practice, Training, 39*, 297-308.
- Derksen, J. J. L., Mey, H. R. A. de, Sloore, H., & Hellenbosch, G. (2006). *MMPI-2: Handleiding voor afname, scoring en interpretatie* [MMPI-2: Manual for administration, scoring and interpretation]. Nijmegen: Pen Psychodiagnostics.
- Derogatis, L. R. (1983). *SCL-90-R: Administration, scoring and procedures manual II*. Townson, MD: Clinical Psychometric Research.
- Doidge, N. (1997). Empirical evidence for the efficacy of psychoanalytic psychotherapies and psychoanalysis: An overview. *Psychoanalytic Inquiry, Supplement*, 102-150.
- Doidge, N., Simon, B., Brauer, L., Grant, D. C., First, M., Brunshaw, J., et al. (2002). Psychoanalytic patients in the U.S., Canada, and Australia: 1. DSM-III-R disorders, indications, previous treatment, medications, and length of treatment. *Journal of the American Psychoanalytic Association, 50*, 575-614.
- Fonagy, P. (2002). *An open door review of outcome studies in psychoanalysis* (2nd ed.). London: International Psychoanalytic Association.
- Fonagy, P., Roth, A., & Higgitt, A. (2005). Psychodynamic psychotherapies: Evidence-based practice and clinical wisdom. *Bulletin of the Menninger Clinic, 69*, 1-58.
- Friedman, A. F., Lewak, R., Nichols, D. S., & Webb, J. T. (2001). *Psychological assessment with the MMPI-2*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.
- Gabbard, G. O. (2005). *Psychodynamic psychiatry in clinical practice* (4th ed.). Washington, DC: American Psychiatric Press, Inc.
- Gabbard, G. O. (2009). Techniques of psychodynamic psychotherapy. In G. O. Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments* (pp. 43-67). Washington, DC: American Psychiatric Publishing, Inc.
- Gabbard, G. O., Gunderson, J. G., & Fonagy, P. (2002). The place of psychoanalytic treatments within psychiatry. *Archives of General Psychiatry, 59*, 505-510.
- Galatzer-Levy, R. M., Bachrach, H., Skolnikoff, A., & Waldron Jr., S. (2000). *Does psychoanalysis work?* New Haven & London: Yale University Press.
- Gordon, R. M. (2001). MMPI/MMPI-2 Changes in long-term psychoanalytic psychotherapy. *Issues in Psychoanalytic Psychotherapy, 23*, 59-79.
- Grande, T., Dilg, R., Jakobsen, T., Keller, W., Krawietz, B., Langer, M., et al. (2006). Differential effects of two forms of psychoanalytic therapy: Results of the Heidelberg-Berlin study. *Psychotherapy Research, 16*, 470-485.
- Greenson, R. R. (1967). *The technique and practice of psychoanalysis*. New York: International Universities Press.
- Groth-Marnat, G. (1997). *Handbook of psychological assessment*. Hoboken, NJ: John Wiley & Sons.
- Gurtman, M. B. (1996). Interpersonal problems and the psychotherapy context: the construct validity of the Inventory of Interpersonal Problems. *Psychological Assessment, 83*, 241-255.
- Haase, M., Frommer, J., Franke, G. H., Hoffmann, T., Schulze-Muetzel, J., Jäger, S., et al. (2008). From symptom relief to interpersonal change: Treatment outcome and effectiveness in inpatient psychotherapy. *Psychotherapy Research, 18*, 615-624.
- Harkness, A. R., & McNulty, J. L. (2006). An overview of personality: The MMPI-2 Personality Psychopathology Five Scales. In J. N. Butcher (Ed.), *MMPI-2: A practitioner's guide* (pp. 73-97). Washington, DC: American Psychological Association.
- Hathaway, S., & McKinley, J. C. (1943). *The Minnesota Multiphasic Personality Inventory*. Minneapolis, MN: University of Minnesota Press.
- Health Council of the Netherlands (2001). *The efficiency of long-term psychotherapy*. The Hague: Health Council of the Netherlands.
- Hill, C. E., & Lambert, M. J. (2004). Methodological issues in studying psychotherapy processes and outcomes. In M. J. Lambert (Ed.), *Bergin and Garfield's Handbook of psychotherapy and behavior change* (5th ed.). New York: John Wiley & Sons, Inc.
- Hollon, S., & Mandell, M. (1979). Use of the MMPI in the evaluation of treatment effects. In J. N. Butcher

- (Ed.), *New Developments in the use of the MMPI* (pp. 241-302). Minneapolis: University of Minnesota Press.
- Holmes, J. (2001). *The search for the secure base: Attachment theory and psychotherapy*. Hove: Brunner-Routledge.
- Horowitz, L. M. (2004). *Interpersonal foundations of psychopathology*. Washington: American Psychoanalytic Association.
- Horowitz, L. M., Alden, L. E., Wiggins, J. S., & Pincus, A. L. (2000). *Inventory of Interpersonal Problems: Manual*. New York: The Psychological Corporation Harcourt.
- Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology, 61*, 549-560.
- Howard, K. I., Kopta, S. M., Krause, M. S., & Orlinsky, D. E. (1986). The dose-effect relationship in psychotherapy. *American Psychologist, 41*, 159-164.
- Kantrowitz, J. L., Katz, A. L., Paolitto, F., Sashin, J., & Solomon, L. (1987a). Changes in the level and quality of object relations in psychoanalysis: Followup of a longitudinal, prospective study. *Journal of the American Psychoanalytic Association, 35*, 23-46.
- Kantrowitz, J. L., Katz, A. L., Paolitto, F., Sashin, J., & Solomon, L. (1987b). The role of reality testing in psychoanalysis: Followup of 22 cases. *Journal of the American Psychoanalytic Association, 35*, 367-385.
- Kantrowitz, J. L., Paolitto, F., Sashin, J., Solomon, L., & Katz, A. L. (1986). Affect availability, tolerance, complexity, and modulation in psychoanalysis: followup of a longitudinal, prospective study. *Journal of the American Psychoanalytic Association, 34*, 529-559.
- Kopta, S. M., Howard, K. I., Lowry, J. L., & Beutler, L. E. (1994). Patterns of symptomatic recovery in psychotherapy. *Journal of Consulting and Clinical Psychology, 62*, 1009-1016.
- Leichsenring, F. (2004). Randomized controlled versus naturalistic studies: A new research agenda. *Bulletin of the Menninger Clinic, 68*, 137-151.
- Leichsenring, F., & Rabung, S. (2006). Change norms: A complementary approach to the issue of control groups in psychotherapy outcome research. *Psychotherapy Research, 16*, 594-605.
- Leichsenring, F., & Rabung, S. (2008). Effectiveness of long-term psychodynamic psychotherapy: A meta-analysis. *Journal of the American Medical Association, 300*, 1551-1565.
- Livesley, W. J. (2001). Conceptual and taxonomic issues. In W. J. Livesley (Ed.), *Handbook of personality disorders: Theory, research, and treatment* (pp. 3-38). New York: The Guilford Press.
- Maat, S. de, Dekker, J., Schoevers, R., & Jonghe, F. de (2006). Relative efficacy of psychotherapy and pharmacotherapy in the treatment of depression: A meta-analysis. *Psychotherapy Research, 16*, 562-572.
- Maat, S. de, Dekker, J., Schoevers, R., & Jonghe, F. de (2007). The effectiveness of long-term psychotherapy: Methodological research issues. *Psychotherapy Research, 17*, 59-65.
- Maat, S. de, Jonghe, F. de, Schoevers, R., & Dekker, J. (2009). The effectiveness of long-term psychoanalytic therapy: A systematic review of empirical studies. *Harvard Review of Psychiatry, 17*, 1-23.
- Monsen, J., Odland, T., Faugli, A., Daae, E., & Eilertsen, D.E. (1995). Personality disorders and psychosocial changes after intensive psychotherapy: A prospective follow-up study of an outpatient psychotherapy project, 5 years after end of treatment. *Scandinavian Journal of Psychology, 36*, 256-268.
- Nieberding, R. J., Gacono, B. B., Pirie, M., Bannatyne, L. A., Viglione, D. J., Cooper, B., et al. (2003). MMPI-2 based classification of forensic psychiatric outpatients: An exploratory cluster analytic study. *Journal of Clinical Psychology, 59*, 907-920.
- Person, E. S., Cooper, A. M., & Gabbard, G. O. (Eds.). (2005). *Textbook of psychoanalysis*. Washington, DC: American Psychiatric Press, Inc.
- Sandell, R., Blomberg, J., & Lazar, A. (1997). When reality doesn't fit the blueprint: Doing research on psychoanalysis and long-term psychotherapy in a public health service program. *Psychotherapy Research, 7*, 333-344.
- Sandell, R., Blomberg, J., Lazar, A., Carlsson, J., Broberg, J., & Schubert, J. (2000). Varieties of long-term outcome among patients in psychoanalysis and long-term psychotherapy. *International Journal of Psychoanalysis, 81*, 921-942.
- Seligman, M. E. P. (1995). The effectiveness of psychotherapy: The Consumer Reports Study. *American Psychologist, 50*, 965-974.
- Smith, M. L., & Glass, G. V. (1977). Meta-analysis of psychotherapy outcome studies. *American Psychologist, 32*, 752-760.
- Spielberger, C. D. (1983). *Manual for the State-Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- Spitzer, R. L. (1983). Psychiatric diagnosis: Are clinicians still necessary? *Comprehensive Psychiatry, 24*, 399-411.

- Stone, M. H. (1993). *Abnormalities of personality: Within and beyond the realm of treatment*. New York: W.W. Norton & Company, Inc.
- Terlidou, C., Moschonas, D., Kakitsis, P., Manthouli, M., Moschona, T., & Tsegos, I.K. (2004). Personality changes after completion of long-term group-analytic psychotherapy. *Group Analysis*, 37, 401-418.
- Van der Does, A. J. W. (2002). *BDI-II-NL: Handleiding Beck Depression Inventory-II, Nederlandse vertaling en bewerking* [BDI-II-NL: Manual Beck Depression Inventory-II, Dutch translation and adaptation]. Lisse: Swets Test Publisher.
- Van der Ploeg, H. M. (2000). *Handleiding bij de Zelf BeoordelingsVragenlijst: Een Nederlandstalige bewerking van de Spielberger State-Trait Anxiety Inventory* [Manual of the State-Trait Anxiety Inventory: A Dutch translation of the Spielberger State-Trait Anxiety Inventory]. Lisse: Swets Test Publisher.
- Vendrig, A. A., Derksen, J. J. L., & Mey, H. R. de (2000). MMPI-2 Personality Psychopathology Five (PSY-5) and prediction of treatment outcome for patients with chronic back pain. *Journal of Personality Assessment*, 74, 423-438.
- Wallerstein, R. S. (1995). *The talking cures: The psychoanalyses and the psychotherapies*. New Haven, CT: Yale University Press.
- Zevalkink, J., & Berghout, C.C. (2006). Expanding the evidence base for the cost-effectiveness of long-term psychoanalytic treatment. *Journal of the American Psychoanalytic Association*, 54, 1313-1319.
- Zevalkink, J., & Berghout, C.C. (2008). Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychotherapy Research*, 18, 316-325.
- Zevalkink, J., Katzko, M., Berghout, C.C., & Riksen-Walraven, J. M. A. (2008). *Inventory of Interpersonal Problems in the Netherlands: Screening and interpreting relational distress in non-clinical and clinical samples*. Manuscript in preparation.

CHAPTER 5

Clinical Significance of Long-Term Psychoanalytic Treatment

Berghout, C.C. & Zevalkink, J. (2009). Clinical Significance of Long-Term Psychoanalytic Treatment. *Bulletin of the Menninger Clinic*, 73, 7-33.

ABSTRACT

The present study evaluated the clinical significance of long-term psychoanalytic treatment in four groups of about 60 patients in different phases of treatment (before, during, after, follow-up) with normative comparisons on four symptom questionnaires (SCL-90, BDI-II, STAI, IIP-64) and two personality assessment instruments (MMPI-2, Rorschach-CS). In each group, the proportion of patients with clinically elevated scores was calculated by comparing their scores with clinical and nonclinical reference groups for each instrument. The authors also calculated a combined percentage of clinically elevated scores based on the six instruments as a conservative estimate of improvement to nonclinical levels after long-term psychoanalytic treatment. Compared to pretreatment levels, the authors found a significant decrease in the percentage of clinical cases after treatment. For the personality assessment, these results became even more evident at follow-up. It appears that long-term psychoanalytic treatment was clinically significant for patients with chronic mental disorders. In the discussion, the authors point out that the evaluation of clinical significance at group level should be followed by an examination of individual changes over a longer period of time.

INTRODUCTION

Nowadays, psychotherapy outcome research does not focus solely on the statistical significance of treatment effects, but also on the clinical significance of the results by comparing test scores to normative samples. Normative comparisons provide evidence for the clinical significance of therapeutic interventions (Kendall & Grove, 1988; Kendall & Norton-Ford, 1982). This approach differs from studying treatment outcome using traditional pre- versus post-treatment group mean comparisons in the sense that normative comparisons focus on whether or not the end-state functioning falls within the normative range on relevant outcome measures (Jacobsen, Follette, & Revenstorf, 1984; Kendall, Marrs-Garcia, Nath, & Sheldrick, 1999). This way, one can determine whether or not the therapeutic change has made a practical, beneficial impact on the patient's life. The assessment of clinical significance represents an important step forward in the evaluation of treatment effects (Kazdin, 1999).

For patients, therapists, and researchers, returning to normal functioning is probably one of the most important aspects of treatment outcome. There are numerous ways to assess clinical significance (e.g., Atkins, Bedics, McGlinchey, & Beauchaine, 2005; Bauer, Lambert, & Nielsen, 2004; Jacobsen, Roberts, Berns, & McGlinchey, 1999; Ogles, Lunnen, & Bonesteel, 2001; Wise, 2004). Outcome studies that assess clinical significance can focus on whether or not test scores of a person fall below or above a certain threshold (usually referred to as *normative comparisons*), and/or focus on the actual amount of change (usually referred to as *reliable change*; Jacobsen & Truax, 1991). In this cross-sectional multicohort study, we used the first method to assess the clinical significance of long-term psychoanalytic treatment.

Normative comparisons tell us how the patient's level of functioning after treatment relates to that of the "functional" population and/or the "dysfunctional" population (Jacobsen et al., 1984; Jacobson & Truax, 1991; Kendall et al., 1999). Assessing reliable change is not possible in a cross-sectional study due to a lack of outcome data on changes *within* individuals on all instruments. The main research question was whether long-term psychoanalytic treatment is effective in returning patients to normal functioning and reducing the number of clinical cases by comparing outcomes with data from normative samples.

Evaluating the clinical significance of two forms of long-term psychoanalytic treatment (psychoanalysis and psychoanalytic psychotherapy) is particularly interesting because of the high intensity of the clinical input provided. In several countries (e.g., Norway, Belgium, Germany, Canada, the Netherlands), governments still provide funding for these two forms of treatment, although research into its effectiveness has only recently become more substantial. Recent meta-analyses point out that psychoanalytic treatment has proven to be an effective treatment for depression (Leichsenring, 2001) and personality disorders (Leichsenring & Leibing, 2003). Previous results from regular clinical practice had already shown that 91% of the patients presented substantial psychopathology, with especially high levels of depressive problems and (anxious) personality pathology at onset of long-term psychoanalytic treatment (Berghout & Zevalkink, 2008).

This was in line with findings from other studies. Patients at onset of psychoanalytic treatment were found to score significantly higher on general symptomatology (SCL-90-R), depression (BDI-II), anxiety (STAI), and interpersonal problems (IIP-64) compared to nonclinical norm groups, although not all patients had clinically elevated scores on all instruments (Finland: Knekt & Lindfors, 2004; Germany: Brockmann, Schlüter, Brodbeck, & Eckert, 2002; Leichsenring, Biskup, Kreische, & Staats, 2005; Pushner, Kraft, & Bauer, 2004; Sweden: Blomberg, Lazar, & Sandell, 2001; Sandell et al., 2000; US: Vaughan et al., 2000). The next question we asked ourselves was whether or not psychoanalytic treatment can reduce this high number of clinical cases.

From the literature, we learned that several research studies reported on improvement rates and reduction in percentage of clinical cases. An early review by Bachrach, Galatzer-Levy, Skolnikoff, and Waldron (1991) found improvement rates between 60% and 90% in returning patients to normal functioning as reported by clinicians. More recently, Leichsenring et al. (2005) reported that about 80% of the patients in psychoanalysis showed clinically significant improvements on symptomatic functioning at the end of treatment and at a 1-year follow-up. Sandell et al. (2000) assessed the proportion of patients that could be identified as "clinical cases" on the basis of three outcome measures in different phases of psychoanalysis and psychoanalytic psychotherapy. For

psychoanalysis, 88% of their patients were clinical cases before treatment, with a substantial reduction to 33% clinical cases 3 years after treatment termination as measured with a composite measure consisting of SCL-90, SAS, and SOCS.

In the psychoanalytic psychotherapy group, there was a more modest decrease in the percentage of clinical cases, from 67% before treatment to 45% three years after treatment termination (Sandell et al., 2000). Grande et al. (2006) also studied the clinical significance of psychoanalysis and psychoanalytic psychotherapy and found significant results after treatment. For general psychopathology (SCL-90-R GSI), they found that 61% of the patients in psychoanalysis and 37% of the patients in psychoanalytic psychotherapy had posttreatment scores within the nonclinical range. With regard to the level of interpersonal problems (IIP-64 total score), 47% of the patients in psychoanalysis and 27% of the patients in psychoanalytic psychotherapy were at nonclinical levels after treatment. At follow-up, results were in the same direction, but no longer statistically significant (Grande et al., 2006). On the basis of these previous findings, we also expected to find a significant reduction in the number of patients with clinically elevated scores after psychoanalytic treatment as compared to our pretreatment group, and in particular better results for psychoanalysis than for psychoanalytic psychotherapy.

We examined the clinical effectiveness of long-term psychoanalytic treatment by investigating the proportion of patients with clinically elevated scores on four symptom measures and two personality assessment instruments in different phases of treatment. Because of the diversity and complexity of patients' problems, it is sensible to use multiple outcome measures for evaluating the clinical significance of treatment (Hill & Lambert, 2004). The six instruments assess different areas of functioning and thus provide a broad perspective on therapy outcome (Kendall et al., 1999). Normative data of functional and dysfunctional populations were available for these instruments and were usually reported in the test manuals of the outcome measures. These data provide reliable estimates of general and/or clinical population parameters.

First, scores on the symptom measures and personality assessment instruments were analyzed separately. After that we calculated a combined index, which provided a conservative estimate of improvement after long-term psychoanalytic treatment based on the six instruments taken together. In the assessment of clinical cases, we followed other researchers who had shown that it is possible to use statistically defined cutoff values and combine different instruments to come to a global assessment of the percentage of clinical cases in a certain patient population (Blomberg et al., 2001; Puschner, Kraft, Kächele, & Kordey, 2007; Rudd et al., 1996; Sandell et al., 2000).

METHOD

Subjects

The total sample consisted of 231 subjects from four mental health care organizations (Nederlands Psychoanalytisch Instituut, De Gelderse Roos, Mediant, Parnassia/Psy-Q). The majority of our sample (73%) were women. The age range of our subjects ranged from 19 to 68 years, with an average age of 36 years ($SD = 8.4$). We found that 77% of all subjects had received previous (psycho-)therapeutic treatment before applying for long-term psychoanalytic treatment. Further, we found that 44% of the subjects were living with a partner, 21% had children, 92% had a Western cultural background, 76% had received higher education, and 79% was unemployed. Most frequently diagnosed *DSM-IV* Axis I disorders were mood disorders (47%), particularly dysthymic disorder (30%). With regard to Axis II diagnoses, we found that the majority of the patients (73%) were diagnosed with a personality disorder.

In this study, we used a cross-sectional design with four different cohorts. These cohorts were representative samples of patients from different phases of treatment. The subjects were not randomly assigned to the cohorts or treatments but followed a naturalistic route through the clinical setting. This ensures high external validity and generalizability of the findings (Leichsenring, 2004; Seligman, 1995; for a more extensive description of the methodology, cf. Zevalkink & Berghout, 2006). The advantage of such a research design is that we can obtain information about the effects of long-term treatments within a relatively short period of time (de Maat, Dekker, Schoevers, & de Jonghe, 2007; Sandell, Blomberg, & Lazar, 1997). By investigating the necessary information on patient characteristics and controlling for potential pretreatment differences, we intended to make the four cohorts as equivalent

as possible regarding baseline characteristics (Bickman & Rog, 1998). The *pretreatment* cohort ($n = 64$) consisted of patients who had just started long-term psychoanalytic treatment; in the *during-treatment* cohort ($n = 49$) patients were 1 year into treatment; the *end-of-treatment* cohort ($n = 67$) consisted of persons who had just finished (approximately 3 months after treatment termination) long-term psychoanalytic treatment; and persons in the *follow-up* cohort ($n = 51$) had already finished their treatment 2 years ago.

Inclusion criteria for participation were a minimum age of 18 years, having mastery of the Dutch language, and assignment for long-term psychoanalytic treatment (>25 sessions or >1 year, with a minimum frequency of once a week). Exclusion criteria were the presence of (acute) psychotic symptoms. In each cohort, about 40% of the patients received psychoanalysis (PA) and 60% received psychoanalytic psychotherapy (PP). There were no significant differences across cohorts regarding the PA/PP distribution. Chi-square analyses and ANOVAs revealed no significant differences between the four cohorts on pretreatment (sociodemographic) patient characteristics (sex, treatment history, living situation, cultural background, educational level, source of income, *DSM-IV* Axis I diagnosis), except for age at intake and *DSM-IV* Axis II diagnosis. Subjects in the end-of-treatment cohort appeared to be somewhat younger at the start of treatment compared to subjects in the other cohorts ($F = 3.68$, $p < .05$, maximum difference of 3.2 years). The frequencies of Axis II diagnoses were roughly comparable across the four cohorts; however, in the pretreatment and during-treatment cohorts, there were significantly more patients with a personality disorder diagnosis at the start of treatment compared to the other two cohorts ($\chi^2 = 16.86$, $p < .01$).

Treatments

Both psychoanalytic psychotherapy and psychoanalysis are open-ended long-term psychotherapeutic treatments, defined as consisting of 25 sessions or more and lasting more than 1 year. These psychoanalytic treatments have been described in textbooks (e.g., Etchegoyen, 1991; Greenson, 1967; Luborsky, 1984; Mitchell & Black, 1995; Pine, 1990, 1998; Wallerstein, 1995). Efforts have been made to manualize psychoanalytic treatment, but so far this work has been complicated by the relative long duration of the treatment and the complexity of the technique. In general, psychoanalytic treatments share some common theoretical assumptions and intend to influence the working of unconscious processes by either focusing on conflicts, object relations, the self, and/or interactional processes (Gabbard, 2005; de Wolf, 2002). Psychoanalysis differs from psychoanalytic psychotherapy in that patients in psychoanalysis receive three or more sessions per week lying on the couch, while patients in psychoanalytic psychotherapy sit face-to-face and the frequency typically is one or two times a week. The average length of treatment was 6.5 years for PA ($SD = 2.7$ yrs.) and 3.9 years for PP ($SD = 2.5$ yrs.). As could be expected, this difference in treatment duration was significant ($F = 29.0$, $p < .001$). All therapists ($N = 94$) in the project are licensed clinicians (psychiatrists/ psychotherapists or psychologists/ psychotherapists) and members of one of the Netherlands psychoanalytic societies.

Measures

In line with methodological recommendations, we used multiple outcome measures and data collection methods to enhance validity (Bickman & Rog, 1998). For this project, four symptom measures (SCL-90-R, BDI-II, STAI, IIP-64) and two personality instruments (MMPI-2 and Rorschach-CS) were selected.

Symptom measures. The SCL-90-R measures symptoms in nine major areas of the patient's psychological, somatic, and interpersonal functioning. The 90 items are scored on a 5-point Likert scale (Derogatis, 1983). In the Netherlands, norms and translations were developed by Arrindell and Ettema (2003). The 21-item BDI-II measures depressive symptoms, scored on a 4-point Likert scale (Beck, Steer, & Brown, 1996). In the Netherlands, van der Does (2002) translated the BDI-II and developed norm scores. The 40-item STAI assesses state and trait anxiety, scored on a 4-point Likert scale (Spielberger, 1983). State anxiety reflects a momentary anxiety, and trait anxiety refers to a general tendency to respond with anxiety to perceived threats in the environment. The STAI was published in the Netherlands and norm scores were developed by van der Ploeg (2000). The IIP consists of 64 items, scored on a 5-point Likert scale, that assess perceived interpersonal difficulties on eight subscales (Horowitz, Alden, Wiggins, & Pincus, 2000). Clinical norm scores were derived from

Horowitz, Strauss, and Kordy (1994). For each of the questionnaires we used only the total or overall sum scores.

Personality assessment. The MMPI-2 (Butcher, Dahlstrom, Graham, Tellegen & Kaemmer, 1989), a 567-item self-report questionnaire, aims to quantitatively measure an individual's level of emotional adjustment and attitude toward test taking, resulting in clusters of personality variables (Groth-Marnat, 1997). In concordance with other research on the MMPI-2, we did not use scale 5-Masculinity-Femininity (Mf), because this scale is usually not considered as a clinical scale that measures psychopathology (e.g., Nieberding et al., 2003; Terlidou et al., 2004). Derksen, de Mey, Sloore, and Hellenbosch (2006) translated the MMPI-2 and developed norms for use in the Netherlands.

The Rorschach inkblot test measures different dimensions of personality functioning and has been used as a diagnostic tool and outcome instrument in psychoanalytic treatment for quite some time (e.g., Ganellen, 1996; Grønnerød, 2004; Viglione, 1999). It assesses clients' personality structure, with particular emphasis on understanding how they respond to and organize their environment. In this way, it can also be considered a measure of perception and association (Weiner, 1998). It consists of a set of 10 bilaterally symmetrical inkblots on sturdy cards. Three psychologists with extensive training and experience in the Comprehensive System (CS) scored the Rorschach (Exner, 2001, 2003). A number of variables were selected that were found to be important in assessing differences as a result of psychotherapeutic treatment.

We selected eight variables of the CS (the six Special Indices, EII-2, AdjD) because those are assumed to be global measures of personality functioning. Based on age and sex-differentiated norms of clinical and nonclinical reference groups, the CS produces aggregate scores on six Special Indices: Perceptual-Thinking (PTI), Depression (DEPI), Coping Deficit (CDI), Suicide Constellation (SCON), Hypervigilance (HVI), and Obsessive Style (OBS). The Ego Impairment Index (EII-2) is a relatively new Rorschach composite and measures psychological impairment and thought disturbance (Viglione, Perry, & Meyer, 2003). The Adjusted D score (AdjD) score gives an indication of whether a person typically has adequate resources to manage problems. Norm scores for the Rorschach-CS were derived from Exner (2001).

Procedure

All patients who met the inclusion criteria were approached via mail. An informed consent with a return envelope was enclosed in the letter as well. In total we approached 383 persons to participate, of which 247 (65%) persons said "Yes," 81 (21%) said "No," and 55 (14%) never responded. Of the 247 persons who agreed to participate, 16 eventually did not participate in the study for varying reasons (e.g., withdrawal from the study, never started the psychoanalytic treatment). Chi-square analyses and ANOVAs showed that these 16 dropouts did not differ significantly ($p < .05$) on pretreatment sociodemographic and diagnostic characteristics from the 231 subjects who actually did participate. When subjects returned a positive informed consent, we telephoned them to make an appointment for the personality assessment (MMPI-2 and Rorschach-CS). At that time, we also sent them the symptom questionnaires by regular mail. They could send these questionnaires back in a stamped envelope. Data gathering was done between January 2004 and June 2007. The personality assessments were done by researchers, psychologists, clinicians and research assistants trained in administering the Rorschach.

Data analyses

We investigated the raw Rorschach data and evaluated whether the Rorschach protocols in all four cohorts were equally complex. After computing z-scores for R (number of responses) and Form% (measure of defensiveness), we computed a summary index of complexity by calculating the average z-scores after reversing the direction of the Form% variable. We found no significant differences in R, Form%, and response complexity. The values indicate that overall we are dealing with high R-low Lambda patients, that is, persons who give rich and elaborate responses. In line with Meyer (1992, 1993), we corrected for the influence of R (number of responses) on the raw scores by dividing all raw scores by R and multiplying by 20.25. The multiplier is the average R in the adult outpatient norm group (Exner, 2001). With raw scores no longer confounded by variations in R, structural data would

be easier to interpret and more suitable for research purposes (Meyer, 1992, 1993). Missing values (4.8%) were replaced by the mean group average of the corresponding cohort.

Next, we calculated the percentages of patients who scored above (or below) a certain cutoff on the different assessment instruments. One of the most often used, and perhaps the least arbitrary, is a cutoff based on information from both functional and dysfunctional populations (cutoff C) that allows precise determination of which population a subject's score belongs in (Jacobsen et al., 1984; Jacobsen & Truax, 1991). According to this definition, a clinically elevated score is defined as a score that is closer to the mean of the clinical population than to the nonclinical population. The formula for the calculation of this cutoff value is as follows:

$$\text{Cut-off} = \frac{(SD_0 \times M_1) + (SD_1 \times M_0)}{(SD_0 + SD_1)}$$

where

- M_0 = mean score in the non-clinical reference group
- SD_0 = standard deviation in the non-clinical reference group
- M_1 = mean score in the clinical reference group
- SD_1 = standard deviation in the clinical reference group

The cutoff values of the four symptom measures and the MMPI-2 scales are shown in Table 1. In the following, we have reported the chi-square analyses of the differences between the pretreatment cohort and the end-of-treatment cohort as well as those between the pretreatment cohort and the follow-up cohort. Raw percentage data are reported for all cohorts. Chi-square analyses revealed no significant differences between the pretreatment cohort and the during-treatment cohort in the number of patients with clinically elevated scores on both the symptom measures and the two personality measures. Therefore, the next results will only show proportions for the during-treatment cohort in the tables. Chi-square analyses revealed no significant differences between PA and PP patients on initial impairment or treatment outcome. Therefore, we report the aggregated results from both patient groups together as one large group.

RESULTS

Symptom measures

Table 2 shows the percentages of patients with clinically elevated scores on the symptom measures in the different phases of treatment. Chi-square analyses revealed significant differences on all four questionnaires between the pretreatment group and the end-of-treatment and follow-up groups in number of patients with clinically elevated scores.

Personality assessment

Table 3 shows the percentages of patients with clinically elevated scores on the MMPI-2 clinical scales in the different phases of treatment. The results show significant decreases in the percentage of patients with clinically elevated scores on several MMPI-2 clinical scales, but not on all scales. Pretreatment versus end-of-treatment comparisons revealed significant differences in the number of patients with elevated scores on the scales for Depression, Hysteria, Psychopathic Deviate, Psychasthenia, and Social Inhibition. And with our pretreatment versus follow-up comparisons we found significant effects on the scales for Depression, Psychopathic Deviate, and Psychasthenia.

Table 4 shows the percentages of patients with clinically elevated scores on the Rorschach scales in the different phases of treatment. We found a significant decrease in the percentage of patients with an elevated score on the Perceptual Thinking Index (PTI). On the other Rorschach scales, we did not find significant decreases in the proportion of patients with clinically elevated scores. Secondary analyses on the potential differential effect of treatment type revealed that the decrease in clinically elevated scores on the PTI was mainly due to patients in psychoanalysis. Post-hoc chi-square analyses revealed significant differences in the number of clinically elevated scores on the PTI between pretreatment and end-of-treatment (24% vs. 3%, $\chi^2 = 5.46$, $p < .05$) and a statistical trend

Table 1. Cut-off Values for the Symptom Measures and the MMPI-2 Clinical Scales

	Symptom measures				MMPI-2 clinical scales								
	SCL-90-R GSI	BDI-II total	STAI trait	IIP-64 total	1-Hs	2-D	3-Hy	4-Pd	6-Pa	7-Pt	8-Sc	9-Ma	0-Si
Cut-off value	0.641	11.34	44.74	81.86	57.3	58.3	58.8	59.9	57.5	58.6	58.3	56.8	54.5

Table 2. Percentage of Patients with Scores above the Clinical Cut-off on the Symptom Measures

Symptom measure	Phase of treatment				Comparison		Comparison	
	Pre	During	End	Follow-up	Pre vs. End	Pre vs. Follow-up	Pre vs. Follow-up	Pre vs. Follow-up
	%	%	%	%	Δ in %	χ^2	Δ in %	χ^2
SCL-90-R GSI score	59	47	12	20	-47	32.3 ***	-39	18.5 ***
BDI-II total score	66	53	13	18	-53	37.5 ***	-48	26.5 ***
STAI trait score	77	51	13	24	-64	52.9 ***	-53	32.0 ***
IIP-64 total score	66	71	30	37	-36	16.8 ***	-29	9.2 **

Note. $N = 231$.

** $p < .01$, *** $p < .001$.

Table 3. Percentage of Patients with Scores above the Clinical Cut-off on the MMPI-2 Clinical Scales and PSY-5 Scales

MMPI-2 scale	Phase of treatment				Comparison		Comparison	
	Pre	During	End	Follow-up	Pre vs. End	Pre vs. Follow-up	Pre vs. Follow-up	Pre vs. Follow-up
	%	%	%	%	Δ in %	χ^2	Δ in %	χ^2
1-Hypochondriasis	25	33	20	20	-5	0.5	-5	0.4
2-Depression	63	57	18	30	-45	26.6 ***	-33	11.9 **
3-Hysteria	44	45	23	30	-21	6.5 *	-14	2.3
4-Psychopathic deviate	73	59	56	46	-17	4.3 *	-27	8.9 **
6-Paranoia	58	71	58	52	0	0.0	-6	0.4
7-Psychasthenia	77	67	39	48	-38	18.4 ***	-29	9.9 **
8-Schizophrenia	53	67	41	40	-12	1.9	-13	1.9
9-Hypomania	28	25	23	20	-5	0.5	-8	1.0
0-Social inhibition	48	49	29	38	-19	5.3 *	-10	1.2

Note. $N = 229$.

* $p < .05$, ** $p < .01$, *** $p < .001$.

between pretreatment and follow-up (24% vs. 5%, $\chi^2 = 3.49$, $p < .10$) in the PA-group, but no significant differences between the cohorts in the PP group.

Combining instruments: Clinical cases across instruments

After investigating the percentage of clinical cases for each instrument separately, we combined the test scores from the four symptom measures and calculated the percentages of patients who scored within the clinical range on at least two symptom measures. In comparison to the pretreatment cohort, results showed a significant reduction in the number of patients with clinically elevated scores on at least two symptom measures at the end of treatment (75% vs. 18%) and at follow-up (75% vs. 26%) (see Table 5). With regard to the MMPI-2, we found a significant reduction in the number of patients who had clinically elevated scores on at least two MMPI-2 clinical scales at treatment termination and at follow-up. On the Rorschach-CS, we found a significant reduction in the percentage of patients with at least two clinically elevated Rorschach indices at follow-up but not at the end of treatment.

Finally, we combined the results from the symptom measures with the personality assessment instruments and we redefined a clinical case as someone who fulfilled at least two of the three following criteria: (1) clinically elevated scores on at least two symptom measures; (2) clinically elevated scores on at least two MMPI-2 clinical scales; and (3) clinically elevated scores on at least two Rorschach indices. Based on this definition, a significant reduction in the percentage of clinical cases after psychoanalytic treatment was found both after treatment (84% vs. 41%) and at follow-up (84% vs. 40%) compared to the percentage of patients before treatment. The still relatively high number of clinical cases after treatment was mainly due to the results of the personality assessments.

Further, we performed exploratory analyses to identify the characteristics of the subjects with the most unfavorable treatment outcome. From the end-of-treatment and follow-up cohorts, we distinguished six subjects with clinically elevated scores on the symptom measures *and* on the MMPI-2 *and* on the Rorschach-CS. Sociodemographic characteristics of this small subgroup did not differ significantly from those with more favorable treatment outcome. Examination of pretreatment *DSM-IV* diagnoses did show that all six subjects (100%) were diagnosed with a personality disorder at the start of treatment, whereas 60% of the patients with a more favorable treatment outcome were diagnosed with a personality disorder at the start of treatment ($\chi^2 = 3.84$, $p < .10$).

DISCUSSION

In this study, we investigated the clinical significance of long-term psychoanalytic treatment by examining the percentage of patients considered to function normally (i.e., at nonclinical levels) in different phases of treatment. The vast majority of patients were identified as clinical cases before treatment on the basis of six instruments measuring both symptoms and personality functioning. After treatment, we found a significant decrease in the number of clinical cases, and these results became even more evident at follow-up for the personality assessment. The results of these normative comparisons signify clinically meaningful improvements in real life.

In particular, our results showed large reductions in the number of patients with clinically elevated scores on the symptom measures, but also significant improvements on the personality measures. These results are in line with other studies on the clinical significance of psychoanalytic treatment (Grande et al., 2006; Leichsenring et al., 2005; Perry, Banon, & Ianni, 1999; Sandell et al., 2000). Thus far, the evaluation of clinical significance in treatment outcome research has mainly emphasized symptom reduction (Kazdin, 1999). The current study can be considered a valuable addition to the literature because of the comprehensive personality assessment of each patient.

The long-term effects of psychoanalytic treatment were particularly apparent on the MMPI-2 scales for Depression, Psychopathic Deviate, and Psychasthenia. This means that the presence and depth of depression, the level of social maladjustment and feelings of alienation, and the level of (social) anxiety and self-doubt were all substantially reduced after long-term psychoanalytic treatment. Furthermore, at 2-year follow-up, we still found significant differences with the pretreatment group on these personality variables. Apparently long-term psychoanalytic treatment is especially effective in returning patients to normal functioning in these areas and sustaining these improvements over a longer period of time. These variables appear to play an important role in treatment monitoring, in the sense that improvements in these areas could be expected after being in psychoanalytic treatment. The

Table 4. Percentage of Patients with Scores above the Clinical Cut-off on the Rorschach Variables

Rorschach variable	Phase of treatment				Comparison		Comparison	
	Pre	During	End	Follow-up	Pre vs. End		Pre vs. Follow-up	
	%	%	%	%	Δ in %	χ^2	Δ in %	χ^2
Perceptual-Thinking (PTI > 2)	16	6	5	4	-11	4.6 *	-12	4.2 *
Depression (DEPI > 5)	19	14	18	26	-1	0.0	+7	0.8
Coping Deficit (CDI > 3)	25	25	21	26	-4	0.3	+1	0.0
Suicide Constellation (S-CON > 7)	11	14	12	20	+1	0.0	+9	1.7
Hypervigilance (HVI Positive)	28	20	25	14	-3	0.1	-14	3.5 †
Obsessive Style (OBS Positive)	0	0	2	2	+2	1.0	+2	1.3
Ego Impairment Index-2 (EII-2 > 0.7)	23	29	25	20	+2	0.1	-3	0.2
Adjusted D score (AdjD < -1 or AdjD > 1)	31	27	28	20	-3	0.1	-11	2.0

Note. $N = 231$.

† $p < .10$, * $p < .05$.

Table 5. Percentage of Patients Identified as Clinical Cases after Combining Instruments

	Phase of treatment				Comparison		Comparison	
	Pre	During	End	Follow-up	Pre vs. End		Pre vs. Follow-up	
	%	%	%	%	Δ in %	χ^2	Δ in %	χ^2
Above cut-off on > 1 symptom measures	75	63	18	26	-57	34.0***	-49	27.9***
Above cut-off on > 1 MMPI clinical scales	89	88	73	70	-16	5.6*	-19	6.5*
Above cut-off on > 1 Rorschach scales	52	39	42	31	-10	1.3	-21	4.7*
'Clinical case'	84	71	41	40	-43	26.1***	-44	24.3***

Note. $N = 229$.

† $p < .10$, ** $p < .01$, *** $p < .001$.

other MMPI-2 variables appear to be more stable and therefore less suitable to monitor change in psychoanalytic treatment.

Overall, we found substantial decreases in the number of patients with clinically elevated scores on all instruments, but the effects on the Rorschach-CS were the smallest. Perhaps this is because the global indices of the Rorschach-CS give us an estimation of our most stable personality traits, and on this level of functioning one would obviously expect the least changes. On an idiosyncratic level, the Rorschach-CS is an invaluable instrument to identify someone's strong as well as weak points and use this information for thorough clinical decision making before treatment.

Although several studies have shown that the Rorschach-CS can also be a valuable instrument in monitoring treatment outcome (e.g., Ganellen, 1996; Grønnerød, 2004; Viglione, 1999; Weiner & Exner, 1991), we found that using the global indices of the Rorschach-CS for measuring treatment outcome when comparing groups of patients appeared to be less useful. However, the combined score showed a significant decrease in clinical cases—as measured with the Rorschach—at 2-year follow-up. This might also be interpreted as a postponed sleeper effect of the psychoanalytic treatment on structural personality aspects, such as reduction of distrust in others (HVI) and better reality testing (PTI).

Although we found encouraging results about the clinical significance of psychoanalytic treatment effects, there was still a sizable proportion of patients with clinically elevated scores on our assessment instruments after treatment. For instance, 18% of the patients still had clinically elevated scores on the MMPI-2 Depression scale at the end of treatment, for the BDI-II this percentage was 13%; and on the Depression scale of the Rorschach-CS this percentage was 18%. These results are in line with findings from a review of psychotherapy for depression, which suggested that most treated patients did show progress but were still more depressed than normative samples (Robinson, Berman, & Neimeyer, 1990). As Wise (2004) also pointed out, a complete return to normal functioning might not be realistic for intensive outpatient treatments. It could be that certain patients went through substantial change but at the end of treatment were still not functioning in the normative range.

In the literature, these cases are normally referred to as *improved*, in contrast to *recovered* (Jacobsen & Truax, 1991). However, with our cross-sectional research design we were not able to examine these individual changes. Our exploratory analyses showed that the subjects with the most unfavorable treatment outcome were all diagnosed with a personality disorder at the start of treatment, while in the subgroup of patients with a more favorable treatment outcome, 60% were diagnosed with a personality disorder at the start of treatment. This could mean that the presence of a personality disorder can have a detrimental effect on treatment outcome; however, it does not necessarily mean that *all* patients with a personality disorder will have an unfavorable treatment outcome.

In the research literature there is a growing body of evidence that patients with a personality disorder have worse treatment outcome compared to those without a personality disorder (e.g., Diguier, Barber, & Luborsky, 1993; Newton-Howes, Tyrer, & Johnson, 2006; Reich, 2003; Shea, Widiger, & Klein, 1992). Our exploratory findings are in line with these results, but further research is needed to identify exactly which patient/therapist/treatment characteristics are reliable predictors of an unfavorable treatment outcome, so that the treatment may be contraindicated in the future for certain subgroups or subtypes of patients.

Another noteworthy finding was that the number of clinical cases after 1 year of treatment was comparable to that before treatment. In contrast to often found symptom decreases within the first year of (short-term) psychotherapy (Howard, Kopta, Krause, & Orlinsky, 1986; Kopta, Howard, Lowry, & Beutler, 1994), the current study shows that in this particular patient population the level of symptoms and personality problems does not decrease rapidly, justifying a longer treatment process. Moreover, we found that 77% of the patients had already tried a previous (short-term) treatment, which strengthens our belief that we are dealing with a patient population with chronic symptoms/problems that are perhaps more resistant to change and require a more intensive form of therapy, such as long-term psychoanalytic treatment. It appears that patients in psychoanalytic treatment follow a different (and slower) pattern of change compared to those in short-term therapies, which are primarily focused on symptom reduction. This hypothesis could be further investigated by performing growth curve analyses to study the exact trajectories of symptoms and personality functioning in long-term psychoanalytic treatment.

The definition of clinical significance and the selection of instruments are crucial in this discussion. Because there is a lack of consensus regarding what measures are the most appropriate in assessing the clinical significance of treatment effects, it is recommended that multiple measures be used simultaneously. In this we followed other studies (Blomberg et al., 2001; Derogatis & Lazarus, 1994; Puschner et al., 2007; Rudd et al., 1996; Sandell et al., 2000) and tried to make an even more conservative estimate of the number of clinical cases. Of course, clinical significance also depends on the goals of treatment and the nature of the problems of the patient population (Foster & Mash, 1999; Kazdin, 1999). Because the goals of long-term psychoanalytic treatment are both structural and symptomatic change, we used personality assessment instruments as well as symptom questionnaires.

Another essential issue is the selection of normative data. Tingey, Lambert, Burlingame, and Hansen (1996) pointed out that although identifying normative reference groups is essential in evaluating clinical significance, here too there is a lack of consensus or guidelines for selecting these groups. As an addition to the clinical significance literature, they proposed a four-group distinction (asymptomatic, mildly symptomatic, moderately symptomatic, severely symptomatic) instead of a two-group (clinical and nonclinical) distinction for a more sensitive analysis of clinical significance. However, in practice, most measures only have established norms for a functional and a dysfunctional population and not for groups that are somewhere in between. Tingey et al. (1996) do touch on an important issue however, because the selection of the reference groups determines the cutoffs directly and therefore can significantly influence the results. So in this, we are dependent on the availability, quality, and representativeness of the reference groups that are mentioned in the manuals of the assessment instruments. For the MMPI-2, we used a clinical sample of outpatients patients with relatively mild distress. Consequently, the means of the MMPI-2 scales in the nonclinical and clinical norm groups were located fairly close to each other. This could perhaps explain why we still found a lot of clinically elevated scores on the MMPI-2 scales after treatment, because the cutoff values that distinguish between nonclinical and clinical were relatively low. More research is needed to evaluate alternative cutoff points and their utility in distinguishing between clinical and nonclinical groups.

In multiple-cohort designs a potential form of confounding involves differences in background characteristics and level of pretreatment psychopathology between the cohorts (Cogan & Porcerelli, 2005). One cannot be sure that the patients enrolled in the various cohorts were exactly equivalent in terms of baseline psychopathology and background characteristics. It could be that patients with more psychopathology might be more apt to drop out of treatment and, in selecting subjects for the two posttreatment samples, we may have included more subjects who were relatively higher-functioning at the start of treatment compared to the other two cohorts. This could potentially influence the results of our cohort comparisons. In the present study, we compared the four cohorts on pretreatment *DSM-IV-R* diagnoses and sociodemographic characteristics. We found no significant differences on most variables, thus providing a strong check for the comparability of the four cohorts.

Another issue to keep in mind is that age and treatment effects could have occurred. Age effects are those associated with personal maturation that persons would presumably experience during any period of time (Raudenbush & Chan, 1992). With regard to treatment effects, one could argue that it is impossible to know whether the improvements we found are actually attributable to the treatment given. It is not possible to draw causal inferences from the presented data. We have to be careful in drawing conclusions about the clinical significance of both treatments. A related issue is that in cross-sectional studies, ideas about changes *within* individuals cannot be tested. We are only able to talk about differences between patients on a group level and not of individual changes in patients over time. Therefore, we encourage further studies on the clinical significance of long-term psychoanalytic treatment effects that also investigate reliable changes on an individual level.

Although the present study has certain limitations, we think the results of our study make a valuable contribution to the evidence about the clinical significance of long-term psychoanalytic treatments. The major merits of this study were the large sample size, the high external validity, and the comprehensive personality assessment. A large proportion of patients with chronic symptoms of depression and personality pathology appeared to profit from long-term psychoanalytic treatment. These effects were not yet visible after 1 year of treatment, but more so at the end of treatment and at 2-year follow-up. Psychoanalytic treatment has made a practical, beneficial, and clinically relevant impact on the patients' lives, given our findings that the presence and depth of depression, the clinical

level of social maladjustment and feelings of alienation, and the clinical level of (social) anxiety and self-doubt were all substantially reduced after long-term psychoanalytic treatment.

REFERENCES

- Arrindell, W.A., & Ettema, J.H.M. (2003). *Symptom Checklist: Handleiding bij een multidimensionele psychopathologie-indicator* [Symptom Checklist: Manual of the multidimensional indicator of psychopathology]. Lisse: Swets Test Publisher.
- Atkins, D.C., Bedics, J.D., McGlinchey, J.B., & Beauchaine, T.P. (2005). Assessing clinical significance: Does it matter which method we use? *Journal of Consulting and Clinical Psychology, 73*, 982-989.
- Bachrach, H.M., Galatzer-Levy, R., Skolnikoff, A., & Waldron Jr., S. (1991). On the efficacy of psychoanalysis. *Journal of the American Psychoanalytic Association, 39*, 871-916.
- Bauer, S., Lambert, M.J., & Nielsen, S.L. (2004). Clinical significance methods: A comparison of statistical techniques. *Journal of Personality Assessment, 82*, 60-70.
- Beck, A.T., Steer, R.A., & Brown, G.K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Berghout, C.C., & Zevalkink, J. (2008). Identifying clinical cases among patients assigned to psychoanalytic treatment. *Bulletin of the Menninger Clinic, 72*, 163-178.
- Bickman, L., & Rog, D.J. (1998). *Handbook of applied social research methods*. Thousand Oaks: Sage Publications.
- Blomberg, J., Lazar, A., & Sandell, R. (2001). Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis study. *Psychotherapy Research, 11*, 361-382.
- Brockmann, J., Schlüter, T., Brodbeck, D., & Eckert, J. (2002). Die effekte psychoanalytisch orientierter und verhaltenstherapeutischer langzeitherapien [Effects of psychoanalytically oriented and of behavioral long-term therapies]. *Psychotherapeut, 47*, 347-355.
- Butcher, J.N., Dahlstrom, W.G., Graham, J.R., Tellegen, A., & Kaemmer, B. (1989). *The Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis, MN: University of Minnesota Press.
- Cogan, R., & Porcerelli, J.H. (2005). Clinician reports of personality pathology of patients beginning and patients ending psychoanalysis. *Psychology and Psychotherapy: Theory, Research and Practice, 78*, 235-248.
- Derksen, J.J.L., Mey, H.R.A. de, Sloore, H., & Hellenbosch, G. (2006). *MMPI-2: Handleiding voor afname, scoring en interpretatie* [MMPI-2: Manual for administration, scoring and interpretation]. Nijmegen: Pen Psychodiagnostics.
- Derogatis, L.R. (1983). *SCL-90-R: Administration, scoring and procedures manual II*. Townson, MD: Clinical Psychometric Research.
- Derogatis, L.R., & Lazarus, L. (1994). SCL-90-R, Brief Symptom Inventory, and matching clinical rating scales. In M.E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcome assessment* (pp. 217-248). Hillsdale, NJ: Lawrence Erlbaum.
- Diguer, L., Barber, J.P., & Luborsky, L. (1993). Three concomitants: Personality disorders, psychiatric severity, and outcome of dynamic psychotherapy of major depression. *American Journal of Psychiatry, 150*, 1246-1248.
- Does, A.J.W. van der (2002). *BDI-II-NL: Handleiding Beck Depression Inventory-II, Nederlandse vertaling en bewerking* [BDI-II-NL: Manual Beck Depression Inventory-II, Dutch translation and adaptation]. Lisse: Swets Test Publisher.
- Etchegoyen, R.H. (1991). *Fundamentals of psychoanalytic technique*. London/New York: Karnac Books.
- Exner, J.E. (2001). *A Rorschach workbook for the Comprehensive System*. Asheville, NC: Rorschach Workshops.
- Exner, J.E. (2003). *The Rorschach: A Comprehensive System* (4th ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Foster, S.L., & Mash, E.J. (1999). Assessing social validity in clinical treatment research issues and procedures. *Journal of Consulting and Clinical Psychology, 67*, 308-319.
- Gabbard, G.O. (2005). *Psychodynamic psychiatry in clinical practice. The DSM-IV edition* (3rd ed.). Washington, DC: American Psychiatric Press, Inc.
- Ganellen, R.J. (1996). Comparing the diagnostic efficiency of the MMPI, MCMI-II, and Rorschach: A review. *Journal of Personality Assessment, 67*, 219-243.
- Grande, T., Dilg, R., Jakobsen, T., Keller, W., Krawietz, B., Langer, M., Oberbracht, C., Stehle, S., Stennes, M., & Rudolf, G. (2006). Differential effects of two forms of psychoanalytic therapy: Results of the Heidelberg-Berlin study. *Psychotherapy Research, 16*, 470-485.

- Greenson, R.R. (1967). *The technique and practice of psychoanalysis*. New York: International Universities Press.
- Grønnerød, C. (2004). Rorschach assessment of changes following psychotherapy: A meta-analytic review. *Journal of Personality Assessment, 83*, 256-276.
- Groth-Marnat, G. (1997). *Handbook of psychological assessment*. Hoboken, NJ: John Wiley & Sons.
- Hill, C.E., & Lambert, M.J. (2004). Methodological issues in studying psychotherapy processes and outcomes. In M.J. Lambert (Ed.), *Bergin and Garfield's Handbook of psychotherapy and behavior change* (5th ed., pp. 84-135). New York: John Wiley & Sons, Inc.
- Horowitz, L., Strauss, B., & Kordy, H. (1994). *Das Inventar zur Erfassung interpersoneller Probleme (Deutsche Version)* [Inventory of interpersonal problems (German version)]. Weinheim: Beltz Testverlag.
- Horowitz, L.M., Alden, L.E., Wiggins, J.S., & Pincus, A.L. (2000). *Inventory of Interpersonal Problems: Manual*. New York: The Psychological Corporation Harcourt.
- Howard, K.I., Kopta, S.M., Krause, M.S., & Orlinsky, D.E. (1986). The dose-effect relationship in psychotherapy. *American Psychologist, 41*, 159-164.
- Jacobsen, N.S., Follette, W.C., & Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behavior Therapy, 15*, 336-352.
- Jacobsen, N.S., Roberts, L.J., Berns, S.B., & McGlinchey, J.B. (1999). Methods of defining and determining the clinical significance of treatment effects. Description, application, and alternatives. *Journal of Consulting and Clinical Psychology, 67*, 300-307.
- Jacobsen, N.S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology, 59*, 12-19.
- Kazdin, A.E. (1999). The meanings and measurement of clinical significance. *Journal of Consulting and Clinical Psychology, 67*, 332-339.
- Kendall, P.C., & Grove, W.M. (1988). Normative comparisons in therapy outcome. *Behavioral Assessment, 10*, 147-158.
- Kendall, P.C., Marrs-Garcia, A., Nath, S.R., & Sheldrick, R.C. (1999). Normative comparisons for the evaluation of clinical significance. *Journal of Consulting and Clinical Psychology, 67*, 285-299.
- Kendall, P.C., & Norton-Ford, J.D. (1982). Therapy outcome research methods. In P.C. Kendall & J.N. Butcher (Eds.), *Handbook of research methods in clinical psychology* (pp. 429-460). New York: Wiley.
- Knekt, P., & Lindfors, O. (2004). *A randomized trial of the effect of four forms of psychotherapy on depressive and anxiety disorders: Design, methods, and results on the effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy during a one-year follow-up*. Helsinki: Edita.
- Kopta, S.M., Howard, K.I., Lowry, J.L., & Beutler, L.E. (1994). Patterns of symptomatic recovery in psychotherapy. *Journal of Consulting and Clinical Psychology, 62*, 1009-1016.
- Leichsenring, F. (2001). Comparative effects of short-term psychodynamic therapy and cognitive-behavioral therapy in depression: A meta-analysis. *Clinical Psychology Review, 21*, 401-419.
- Leichsenring, F. (2004). Randomized controlled versus naturalistic studies: A new research agenda. *Bulletin of the Menninger Clinic, 68*, 137-151.
- Leichsenring, F., Biskup, J., Kreische, R., & Staats, H. (2005). The Göttingen study of psychoanalytic therapy: First results. *International Journal of Psychoanalysis, 86*, 433-455.
- Leichsenring, F., & Leibing, E. (2003). The effectiveness of psychodynamic therapy and cognitive behavior therapy in the treatment of personality disorders: A meta-analysis. *American Journal of Psychiatry, 160*, 1223-1232.
- Luborsky, L. (1984). *Principles of psychoanalytic psychotherapy. A manual for supportive-expressive treatment*. New York: Basic Books.
- Maat, S. de, Dekker, J., Schoevers, R., & Jonghe, F. de (2007). The effectiveness of long-term psychotherapy: Methodological research issues. *Psychotherapy Research, 17*, 59-65.
- Meyer, G.J. (1992). Response frequency problems in the Rorschach: Clinical and research implications with suggestions for the future. *Journal of Personality Assessment, 58*, 231-244.
- Meyer, G.J. (1993). The impact of response frequency on the Rorschach constellation indices and on their validity with diagnostic and MMPI-2 criteria. *Journal of Personality Assessment, 60*, 153-180.
- Mitchell, S.A., & Black, M.J. (1995). *Freud and beyond: A history of modern psychoanalytic thought*. New York: Basic Books.
- Newton-Howes, G., Tyrer, P., & Johnson, T. (2006). Personality disorder and the outcome of depression: Meta-analysis of published studies. *British Journal of Psychiatry, 188*, 13-20.
- Nieberding, R.J., Gacono, B.B., Pirie, M., Bannatyne, L.A., Viglione, D.J., Cooper, B., Bodholt, R.H., & Frackowiak, M. (2003). MMPI-2 based classification of forensic psychiatric outpatients: An exploratory cluster analytic study. *Journal of Clinical Psychology, 59*, 907-920.
- Ogles, B.M., Lunnen, K.M., & Bonesteel, K. (2001). Clinical significance: History, application, and current practice. *Clinical Psychology Review, 21*, 421-446.

- Perry, J.C., Banon, E., & Ianni, F. (1999). Effectiveness of psychotherapy for personality disorders. *American Journal of Psychiatry*, *156*, 1312-1321.
- Pine, F. (1990). *Drive, ego, object, and self. A synthesis for clinical work*. New York: Basic Books.
- Pine, F. (1998). *Diversity and Direction in Psychoanalytic Technique*. New Haven, CT: Yale University Press.
- Ploeg, H.M. van der (2000). *Handleiding bij de Zelf BeoordelingsVragenlijst: Een Nederlandstalige bewerking van de Spielberger State-Trait Anxiety Inventory* [Manual of the State-Trait Anxiety Inventory: A Dutch translation of the Spielberger State-Trait Anxiety Inventory]. Lisse: Swets Test Publisher.
- Puschner, B., Kraft, S., & Bauer, S. (2004). Interpersonal problems and outcome in outpatient psychotherapy: Findings from a long-term longitudinal study in Germany. *Journal of Personality Assessment*, *83*, 223-234.
- Puschner, B., Kraft, S., Kächele, H., & Kordy, H. (2007). Course of improvement over 2 years in psychoanalytic and psychodynamic outpatient psychotherapy. *Psychology and Psychotherapy*, *80*, 51-68.
- Raudenbush, S.W., & Chan, W.S. (1992). Growth curve analysis in accelerated longitudinal designs. *Journal of Research in Crime and Delinquency*, *29*, 387-411.
- Reich, J. (2003). The effect of axis II disorders on the outcome of treatment of anxiety and unipolar depressive disorders: A review. *Journal of Personality Disorders*, *17*, 387-405.
- Robinson, L.A., Berman, J.S., & Neimeyer, R.A. (1990). Psychotherapy for the treatment of depression: A comprehensive review of controlled outcome research. *Psychological Bulletin*, *108*, 30-49.
- Rudd, M.D., Rajab, M.H., Orman, D.T., Stulman, D.A., Joiner, T., & Dixon, W. (1996). Effectiveness of an outpatient intervention targeting suicidal young adults: Preliminary results. *Journal of Consulting and Clinical Psychology*, *64*, 179-190.
- Sandell, R., Blomberg, J., & Lazar, A. (1997). When reality doesn't fit the blueprint: doing research on psychoanalysis and long-term psychotherapy in a public health service program. *Psychotherapy Research*, *7*, 333-344.
- Sandell, R., Blomberg, J., Lazar, A., Carlsson, J., Broberg, J., & Schubert, J. (2000). Varieties of long-term outcome among patients in psychoanalysis and long-term psychotherapy. *International Journal of Psychoanalysis*, *81*, 921-942.
- Seligman, M.E.P. (1995). The effectiveness of psychotherapy: The Consumer Reports Study. *American Psychologist*, *50*, 965-974.
- Shea, M.T., Widiger, T.A., & Klein, M.H. (1992). Comorbidity of personality disorders and depression: Implications for treatment. *Journal of Consulting and Clinical Psychology*, *60*, 857-868.
- Spielberger, C.D. (1983). *Manual for the State-Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- Terlidou, C., Moschonas, D., Kakitsis, P., Manthouli, M., Moschona, T., & Tsegos, I.K. (2004). Personality changes after completion of long-term group-analytic psychotherapy. *Group Analysis*, *37*, 401-418.
- Tingey, R.C., Lambert, M.J., Burlingame, G.M., & Hansen, N.B. (1996). Assessing clinical significance: Proposed extensions to method. *Psychotherapy Research*, *6*, 109-123.
- Vaughan, S.C., Marshall, R.D., MacKinnon, R.A., Vaughan, R., Mellman, L., & Roose, S.P. (2000). Can we do psychoanalytic outcome research? A feasibility study. *International Journal of Psychoanalysis*, *81*, 513-527.
- Viglione, D.J. (1999). A review of recent research addressing the utility of the Rorschach. *Psychological Assessment*, *11*, 251-265.
- Viglione, D.J., Perry, W., & Meyer, G.J. (2003). Refinements in the Rorschach Ego Impairment Index incorporating the Human Representational Variable. *Journal of Personality Assessment*, *81*, 149-156.
- Wallerstein, R.S. (1995). *The talking cures: The psychoanalyses and the psychotherapies*. New Haven, CT: Yale University Press.
- Weiner, I.B. (1998). *Principles of Rorschach interpretation*. Mahwah, NJ: Lawrence Erlbaum.
- Weiner, I.B., & Exner, J.E. (1991). Rorschach changes in long-term and short-term psychotherapy. *Journal of Personality Assessment*, *56*, 453-465.
- Wise, E.A. (2004). Methods for analyzing psychotherapy outcomes: A review of clinical significance, reliable change, and recommendations for future directions. *Journal of Personality Assessment*, *82*, 50-59.
- Wolf, M.H.M. de. (2002). *Inleiding in de psychoanalytische psychotherapie: Ontwikkeling, psychopathologie, diagnostiek en behandelvormen* [Introduction to psychoanalytic psychotherapy: Development, psychopathology, diagnostics and treatment modalities]. Bussum: Coutinho.
- Zevalkink, J. & Berghout, C.C. (2006). Expanding the evidence base for the costeffectiveness of long-term psychoanalytic treatment. *Journal of the American Psychoanalytic Association*, *54*, 1313-1319.

LONGITUDINAL MEASUREMENTS

CHAPTER 6

Changes in symptoms and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis

Berghout, C.C., Zevalkink, J., Katzko, M.W., & de Jong, J.T.V.M. (accepted, November 2009). Changes in symptoms and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis. *Psychology and Psychotherapy: Theory Research and Practice*.

ABSTRACT

Objectives. Longitudinal measurements can provide important information regarding varieties in developmental trajectories of patients in long-term treatment. The present study investigated changes in general symptoms, depression, anxiety, and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy (PP) and psychoanalysis (PA). It was expected that interpersonal problems diminish more slowly compared to symptomatic dysfunctioning.

Design. To obtain information about changes over a longer period within a relatively short period of time, an accelerated longitudinal design with five consecutive measurement points across two cohorts of patients was used.

Methods. Changes on the SCL-90-R, BDI-II, STAI, and IIP-64 were investigated during the first two years of long-term psychoanalytic psychotherapy ($n = 73$) and psychoanalysis ($n = 40$). Linear regression analysis was performed to model the courses of improvement.

Results. After two years of treatment patients in both groups still presented moderate to high levels of symptoms and interpersonal problems compared to non-clinical populations. As expected, interpersonal problems changed less rapidly. PP-patients changed both with regard to symptomatic and interpersonal problems, whereas the only significant change in the PA-group was on one of the symptomatic subscales. Slopes in the PA-group and in the PP-group did not differ significantly from each other, except for the IIP-64 scale Intrusive, with PP-patients showing significantly more improvement than PA-patients. The height of intake values of the outcome variables appeared to predict the speed of symptomatic recovery.

Conclusions. Symptoms and interpersonal problems did not decrease notably within the first two years of psychoanalytic treatment. This confirms the belief that significant change takes time for patients with chronic mental disorders and personality pathology. In regular practice, it is advisable to monitor changes routinely in order to identify fast responders quicker and change the treatment plan accordingly.

INTRODUCTION

In recent years psychoanalytically oriented researchers have invested in outcome studies to provide empirical evidence for the effectiveness of their treatments. This has led to a considerable (and still growing) body of research about the clinical effectiveness of long-term ambulatory psychoanalytic treatment (e.g., Bateman & Fonagy, 2009; Berghout & Zevalkink, 2009; Leichsenring & Rabung, 2008; de Maat, de Jonghe, Schoevers, & Dekker, 2009). Besides studying treatment *outcome*, it is also relevant to study changes in psychiatric and psychological symptoms *during* long-term treatment. The main reason for such a study is that longitudinal measurements provide information regarding varieties in developmental trajectories of patients in long-term treatment that might help clinical decision making and provide feedback to the therapist about the patient's progress or deterioration at both a group and individual level (Anstey & Hofer, 2004; Miller, Duncan, Brown, Sorrell, & Chalk, 2006). A meta-analysis by Lambert and colleagues (2003) showed that monitoring patient treatment responses and providing feedback to the therapists significantly improved psychotherapy outcome compared to providing no information about the patient's progress during treatment. Especially the recognition of potential treatment failure seemed to improve outcome by decreasing further deterioration and guiding patients back on track again. The fluctuations of patient improvement and deterioration provide independent patient information that may prompt psychotherapists to modify their treatment approach and, for instance, change the treatment intensity or refer the patient to other health care providers (Lambert, 2007; Percevic, Lambert, & Kordy, 2006). Lambert (2007) pointed out that clinical decision making will be more accurate and efficient when therapists can see in a graph whether their patient responds well to treatment and is on track ('green light'), shows slower progress than expected ('yellow flag'), or even has deteriorated ('red flag'). But before making use of such a system, it is necessary to establish how the expected developmental trajectories look like for particular groups of patients in a certain treatment. The areas of improvement and the developmental trajectories of patients entering long-term psychoanalytic treatment might be different from those of patients entering shorter forms of treatment. This requires systematically monitoring changes in psychiatric symptoms – such as anxiety and depressive symptoms – during treatment to identify in what stage of treatment, in which areas of symptomatic functioning, and to what extent improvements are being achieved. Interpersonal problems are among the most frequent complaints brought into psychotherapy by patients (Horowitz, 2004; Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988; Monsen, Odland, Faugli, Daae, & Eilertsen, 1995; Ruiz et al., 2004). Therefore, monitoring the patient's state in the interpersonal domain is also clinically relevant. The phase model of therapeutic change developed by Howard, Lueger, Maling, and Martinovich (1993) states that changes in interpersonal functioning are mostly achieved in later stages of treatment than changes in symptoms. Empirical studies on the effects of psychoanalytic treatment give support to this differential timing in therapeutic effect (e.g., Haase et al., 2008). The literature also reveals that some types of interpersonal problems improve more readily than others. For example, problems related to a dependent personality style (submissiveness, nonassertiveness) are more likely to improve than problems related to antisocial behavior (hostility, dominance) in psychoanalytic treatment (Horowitz, Rosenberg, & Bartholomew, 1993; Huber, Henrich, & Klug, 2007).

Previous studies on improvements *during* long-term psychoanalytic treatments have generated diverse results. Blomberg, Lazar, & Sandell (2001) studied growth/decay curves of symptomatic distress and social relations for patients in psychoanalysis or psychoanalytic psychotherapy. Both groups of patients started treatment at about the same level of symptomatic distress as measured by the Global Severity Index (GSI) of the Symptom Checklist-90-R (SCL-90-R GSI; Derogatis, 1983) and followed similar paths during treatment. The patterns of improvement on social adjustment as measured with the Social Adjustment Scale (SAS; Weissman & Bothwell, 1976) were somewhat different. The psychoanalytic psychotherapy group started off at a significantly higher level (i.e., more social problems) than the psychoanalysis group, and the groups improved at roughly the same moderate rate. However, in both groups there was a remarkable *increase* in social problems in the beginning of treatment, before significant improvement started to happen (Blomberg et al., 2001). In a longitudinal study by Puschner, Kraft, Kächele, and Kordy (2007) the course of symptomatic improvement of patients in psychoanalysis and psychodynamic psychotherapy was tracked over a two year period. In both forms of treatment the course of improvement could be adequately fitted by a

linear model. Symptom distress (SCL-90-R GSI) decreased notably within two years. No significant differences between forms of treatment as to level or pace of symptom improvement were observed. Leichsenring, Biskup, Kreische, and Staats (2005) also studied treatment effects at different time-points, but only for patients in psychoanalytic therapy. They found relatively small effects ($d = 0.38$) after 50 sessions (= approximately 7 months) on the Inventory of Interpersonal Problems-64 (IIP-64; Horowitz, Alden, Wiggins, & Pincus, 2000), and moderate effects ($d = 0.57$) on the SCL-90-R GSI. After 160 sessions (= approximately 24 months) these effects had increased substantially; the effect size on the IIP-64 was moderate ($d = 0.66$), and on the SCL-90-R GSI they found a large effect size ($d = 0.87$) after two years of treatment. Knekt et al. (2008) compared the effectiveness of long-term psychodynamic psychotherapy (up to 3 years) with two forms of short-term therapy (5 to 8 months). They collected data over a 3-year period. All three interventions were associated with significant reductions in anxiety symptoms as measured by the SCL-90-Anxiety scale and the Hamilton Anxiety Rating Scale (HAM-A; Hamilton, 1959) and depressive symptoms as measured by the Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996) and the Hamilton Depression Rating Scale (HAM-D; Hamilton, 1960). Patients who received short-term treatment showed an early response and presented significantly more symptom improvement within the first 12 months of the study period compared to patients in long-term psychotherapy. During the second year of follow-up no significant differences were found between the short-term and long-term therapies. However, in the third year long-term psychotherapy was found to be significantly more effective in reducing anxiety and depressive symptoms than both short-term treatments. Apparently, symptomatic improvement in the long-term psychotherapy group started slowly but increased considerably in the long run. Brockmann, Schlütter, Brodbeck, and Eckert (2002) also followed patients in long-term psychoanalytic psychotherapy in the first years of treatment, with measurement points at intake, 1 year, 2.5 years, and at 3.5 years. After 1 year of treatment they found only small improvements on interpersonal problems (IIP-64) and already quite large improvements in general symptoms (SCL-90-R GSI). At 2.5 years and at 3.5 years large effects were achieved for both outcome measures. These results show that response patterns may differ between treatment groups but also within groups with some patients responding faster to treatment than others.

The present study investigated changes in general symptoms, depression, anxiety, and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis. It was predicted that interpersonal problems (as measured with the IIP-64) and psychological symptoms (as measured with the SCL-90-R, BDI-II, STAI) would decrease significantly within the first two years of treatment. Based on results of previous studies it was predicted that interpersonal problems (especially hostility and dominance) diminish more slowly compared to symptomatic dysfunctioning (Brockmann et al., 2002; Horowitz et al., 1993; Huber et al., 2007; Leichsenring et al., 2005). Linear regression analysis was performed for all subscales and total scales of the instruments to model the courses of improvement in both treatment groups. No significant differences in course of improvement between psychoanalysis and psychoanalytic psychotherapy were expected (Blomberg et al., 2001; Puschner et al., 2007). Finally, in line with suggestions by Lambert (2007), subsamples of patients responding either fast or slow to treatment were identified. The current study investigated whether certain pretreatment characteristics might act as predictors of a fast treatment response. No hypotheses about predictors of treatment response were proposed, therefore these analyses were considered to be exploratory.

METHOD

Participants

The total sample consisted of 113 participants from four mental health care organisations in the Netherlands, who received either psychoanalysis (PA; $n = 40$) or psychoanalytic psychotherapy (PP; $n = 73$). Before the study started ethical approval was obtained from a medical ethical committee (METC). This was obligatory for receiving the grant that was provided by the Netherlands government. The study followed the progress of adults who had come into treatment via the usual pathways in each of the mental health settings. At two points in time, participants were approached: before treatment and at one year in treatment. This means that the first cohort (PA: $n = 25$; PP: $n = 39$) consisted of patients who had just started long-term psychoanalytic treatment and the second cohort

(PA: $n = 15$; PP: $n = 34$) consisted of patients who were already one year in treatment. Patients in these two cohorts were assessed three times over a one-year period. The third measurement point in the first cohort overlapped with the first measurement in the second cohort. In this way, there were five consecutive measurement points in the first two years of treatment. This is called an 'accelerated longitudinal design' with two cohorts (Bell, 1953). Such a design allows for estimating a single developmental curve by linking together smaller, overlapping segments of data from different groups to study changes over a longer period within a relatively short period of time (Anderson, 1995; Bell, 1953; Duncan, Duncan, & Hops, 1996; Sandell, Blomberg, & Lazar, 1997).

Inclusion criteria for participation were a minimum age of 18 years, having mastery of the Dutch language, having been assigned to long-term psychoanalytic treatment (> 25 sessions or > 1 year, with a minimum frequency of once a week) by a team of clinicians. Previous research had shown that complex emotional problems, chronic depressive symptoms, interpersonal difficulties, and other personality problems were distinctive of patients assigned to long-term psychoanalytic treatment (Zevalkink & Berghout, 2008). Exclusion criteria were the presence of (acute) psychotic symptoms, because this would heavily influence test administration. There were no significant differences between cohorts regarding the PA/PP distribution. Sociodemographic and psychiatric pretreatment data for participants in both cohorts were available and analysed using chi-square analyses and one-way ANOVAs. This revealed no significant differences between the two cohorts at the start of treatment for the following variables: gender, age, treatment history, living situation, cultural background, educational level, employment status, DSM-IV Axis I, II and V diagnosis. The majority of the sample (71%) consisted of women. The age range of the participants ranged from 19 to 62 years, with an average age of 34 years ($SD = 8.0$), 48% of the participants were living with a partner, 27% had children, 92% had a Dutch cultural background, 75% had received higher education, and 85% had a paid job. Furthermore, 78% of the participants had received previous (psycho)therapeutic treatment. Before treatment, the most frequently diagnosed DSM-IV Axis I disorders were mood disorders (50%), in particular dysthymic disorder (31%), followed by anxiety disorders (12%). With regard to Axis II diagnoses, the majority of the patients (85%) were diagnosed with a personality disorder, in particular personality disorder not otherwise specified (PDNOS; 39%), dependent personality disorder (15%) and avoidant personality disorder (12%).

Statistical modelling of longitudinal studies ideally involves three or more assessments (Anstey & Hofer, 2004). All longitudinal studies suffer from missing data and participant drop-out. One possible methodological problem in longitudinal studies is selective drop-out or attrition. This means that individuals with poorer mental health or less motivation are more likely to discontinue the study (Anstey & Hofer, 2004). Response rates across measurement points were as follows: Cohort 1: $t_0 = 100\%$, $t_1 = 84\%$, $t_2 = 91\%$, and in Cohort 2: $t_0 = 100\%$, $t_1 = 86\%$, $t_2 = 71\%$. No significant differences in initial pathology or sociodemographic characteristics were found between drop-outs and patients who did finish the study.

Treatments

Both psychoanalytic psychotherapy and psychoanalysis are open-ended long-term psychotherapeutic treatments, defined as consisting of 25 sessions or more and lasting more than one year. These psychoanalytic treatments have been described in textbooks (e.g., Gabbard, 2005, 2009; Greenson, 1967; Person, Cooper, & Gabbard, 2005; Wallerstein, 1995). In general, psychoanalytic treatments share some common theoretical assumptions and intend to influence the working of unconscious processes by either focusing on conflicts, object relations, the self, and/or interactional processes. Psychoanalysis differs from psychoanalytic psychotherapy in several ways. Patients in psychoanalysis typically receive three to five sessions per week for a period of several years (4 patients received 3 sessions per week, 25 patients received 4 sessions per week, and 11 patients received 5 sessions per week). The setting of psychoanalysis encourages regression, due to the couch position and the greater neutrality and abstinence of the analyst (Gabbard, 2005; de Wolf, 2002). Patients in psychoanalytic psychotherapy sit face-to-face and the treatment is less frequent with one or two sessions a week (61 patients received 1 session per week, and 12 patients received 2 sessions per week). On average, psychoanalytic psychotherapy has shorter treatment duration than psychoanalysis (3.9 years vs. 6.5 years; Berghout & Zevalkink, 2009). Treatment assignment is based on therapeutic judgments about patients' ego strength, affect tolerance, capacity for reflection and insight, but also on practical

considerations such as distance to the treatment facility, patient motivation and availability of therapists. Both treatment forms are covered by health insurance in the Netherlands. More patients are assigned to psychoanalytic psychotherapy for practical reasons, such as its lower intensity and higher availability. All therapists ($N = 50$) in the project are licensed clinicians (psychiatrists/psychotherapists or psychologists/psychotherapists) and member of one of the Netherlands psychoanalytic societies. On average, the therapists had 22.8 years ($SD = 7.9$) of experience. The mean age of the therapists was 53.1 years ($SD = 7.1$).

Instruments

In this study, the SCL-90-R, BDI-II, STAI, and IIP-64 were used, which are four of the most widely utilized self-report measures to assess therapeutic improvement (Hill & Lambert, 2004). The SCL-90-R measures symptoms in eight major areas of the patient's psychological, somatic, and interpersonal functioning (Phobic Anxiety, Anxiety, Depression, Hostility, Obsessive-Compulsive, Interpersonal Sensitivity, Sleeping Problems, and Somatic Complaints). The 90 items are scored on a 5-point Likert scale ranging from "not at all" to "extremely" (Derogatis, 1983). In the Netherlands, norms and translations were developed by Arrindell and Ettema (2003) who also studied the psychometric properties. Their study showed that the subscales of the SCL-90-R had a good internal consistency, a high stability and possessed discriminant and convergent validity (Arrindell & Ettema, 2003). The 21-item BDI-II measures depressive symptoms, scored on a 4-point Likert scale (Beck et al., 1996). The BDI-II consists of three subscales (Affective, Cognitive, and Somatic). In the Netherlands, Van der Does (2002) translated the BDI-II and developed norm scores. Their research showed that the reliability (internal consistency) of the Dutch version of the BDI-II was high. Also the convergent validity of the BDI-II Total score with other measures of depression appeared to be high (Van der Does, 2002). The 40-item STAI assesses state and trait anxiety, scored on a 4-point Likert scale ranging from "not at all" to "very much so" (Spielberger, 1983). State anxiety reflects a momentary anxiety, and trait anxiety refers to a general tendency to respond with anxiety to perceived threats in the environment. The STAI was published in the Netherlands and norm scores were developed by Van der Ploeg (2000). Psychometric research showed that both scales of the STAI were homogenous, reliable, and correlated highly with other measures of anxiety, supporting the validity of the STAI (Van der Ploeg, 2000). The IIP consists of 64 items, scored on a 5-point Likert scale ranging from "not at all" to "extremely", that assess perceived interpersonal difficulties on eight subscales (Domineering, Vindictive, Cold, Socially Inhibited, Nonassertive, Overly Accommodating, Self-sacrificing, and Intrusive; Horowitz et al., 2000). The internal consistency of the Dutch version of the IIP-64 was investigated in clinical and non-clinical populations (Vanheule, Desmet & Rosseel, 2006; Zevalkink, Katzko, Berghout, & Riksen-Walraven, 2008). All Cronbachs alphas were found to be satisfactory, except for the subscale 'Intrusive' in the Vanheule et al. study.

Procedure

All patients who met the inclusion criteria were approached via regular mail. Participants were given extensive written information about the research project and an informed consent with a return envelope was also enclosed in the letter. When participants returned a positive informed consent, the questionnaires were sent by regular mail. They could send these questionnaires back in a stamped envelope. Data gathering was completed in the period of January 2005 to June 2007.

RESULTS

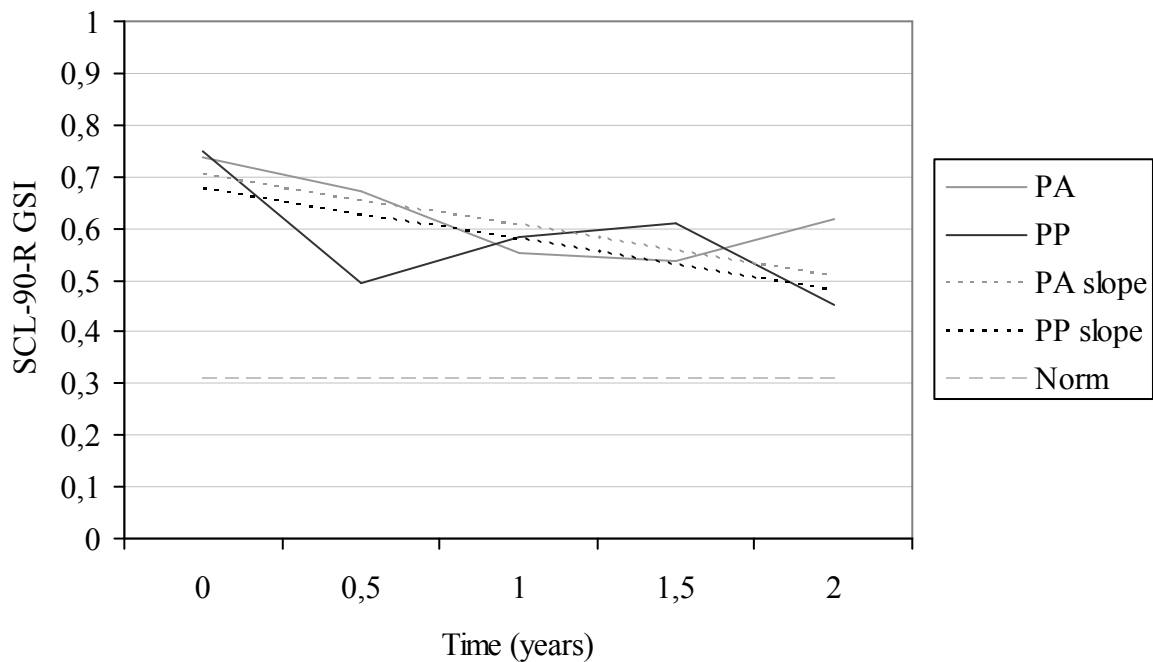
Pretreatment differences

First, pretreatment differences between the two treatment groups were examined within the first cohort. No significant pretreatment differences between PA- and PP-patients were found on any of the subscales of the SCL-90-R, BDI-II, STAI, and IIP-64. In addition, no significant differences between patients in PA and PP were found regarding pretreatment sociodemographic characteristics or clinical diagnoses (DSM-IV), except that there appeared to be relatively more women in PP (80%) than in PA (55%), $\chi^2(1, N = 113) = 7.47, p = 0.006$. Gender did not appear to be significantly related to the scores on the questionnaires on any measurement point (as tested with one-way ANOVAs using an alpha of 0.01), therefore no correction for gender was needed in subsequent analyses.

Patterns and rates of change

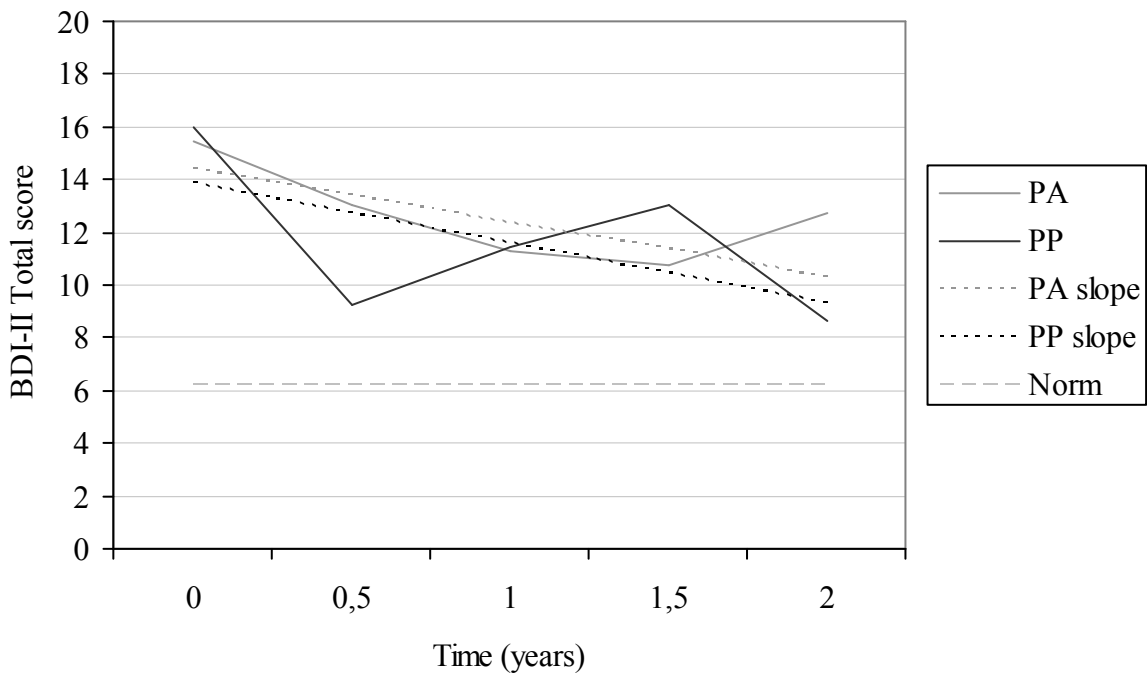
To examine the course of improvement, test scores were averaged across all respondents at the same measurement point and in the same treatment modality. The means were plotted across time as growth curves to visualize the average course of improvement in each of the two treatment groups. Figures 1 through 4 show the average means of the SCL-90-R GSI score, BDI-II total score, STAI Trait score, and IIP-64 total score at each point of measurement, as well as the estimated slopes based on the regression analyses. In order to have a point of reference the means of the non-clinical norm groups were plotted in each figure. As can be seen from the figures, after two years of treatment the mean scores on all four instruments were still above the non-clinical norm.

Figure 1. Average means and estimated slopes of the SCL-90-R GSI in PA and PP



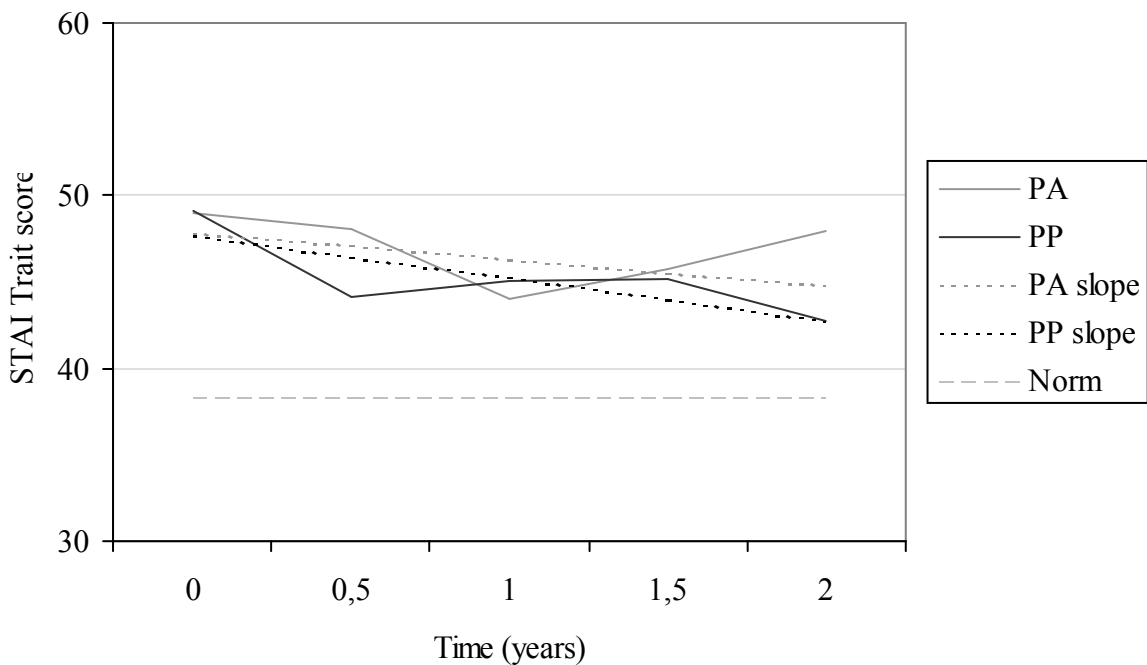
Note. Mean score of the non-clinical norm group for the Symptom Checklist-90-R (SCL-90-R) Global Severity Index (GSI) was derived from Arrindell and Ettema (2003).

Figure 2. Average means and estimated slopes of the BDI-II Total score in PA and PP



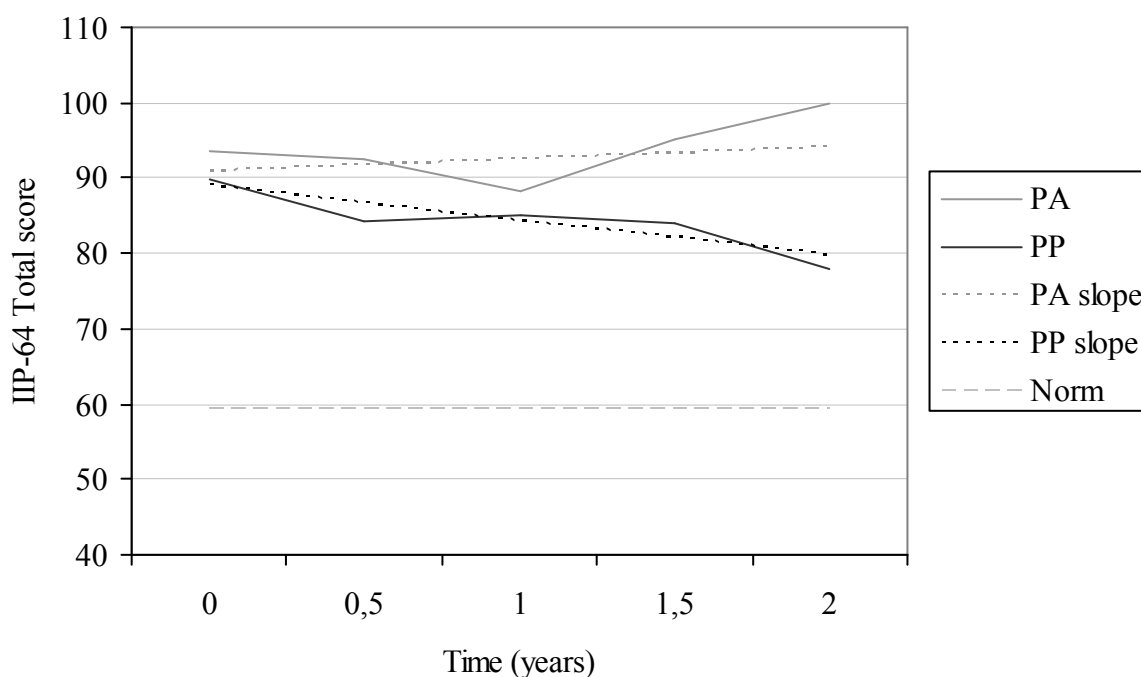
Note. Mean score of the non-clinical norm group for the Beck Depression Inventory-II (BDI-II) Total score was derived from Van der Does (2002).

Figure 3. Average means and estimated slopes of the STAI Trait score in PA and PP



Note. Mean score of the non-clinical norm group for the State-Trait Anxiety Inventory (STAI) Trait score was derived from Van der Ploeg (2000).

Figure 4. Average means and estimated slopes of the IIP-64 Total score in PA and PP



Note. Mean score of the non-clinical norm group for the Inventory of Interpersonal Problems-64 (IIP-64) Total score was derived from Zevalkink, Katzko, Berghout, and Riksen-Walraven (2008).

Linear regression analysis was used to model the symptom courses and to examine patterns and rates of change over the two year period. The measures that were used provide continuous scores, with parametric statistical properties, which allows for analysis of growth curves and rates of change (Anstey & Hofer, 2004). Change rates were estimated in each group by the linear trend (unstandardized b) found when the means were regressed on the time scale. Regression parameters for all subscale scores and total scores are presented in Table 1. In the PA-group a statistically significant improvement was found on the SCL-90-R subscale Interpersonal sensitivity ($b = -2.78, p = 0.021$). In the PP-group statistically significant improvements were found on the SCL-90-R Global Severity Index ($b = -0.10, p = 0.039$) and subscales Depression ($b = -3.93, p = 0.001$) and Hostility ($b = -0.79, p = 0.006$); the BDI-II Total score ($b = -2.29, p = 0.031$) and Cognitive scale ($b = -1.34, p = 0.002$); the STAI Trait anxiety scale ($b = -2.48, p = 0.023$); and the IIP-64 subscales Domineering ($b = -1.35, p = 0.020$) and Intrusive ($b = -1.62, p = 0.004$). Differences in regression coefficients between PA and PP were tested using General Linear Modelling (GLM). The comparisons between the regression coefficients in the PA-group and those in the PP-group showed that most slopes did not differ significantly from each other. The only difference was on the IIP-64 subscale Intrusive, with PP-patients showing significantly more improvement than PA-patients in the first two years of treatment ($F = 5.17, p = 0.024$).

Identifying fast responders

In order to investigate whether predictors of rapid symptom progress could be elicited, patients with complete data sets in the first cohort ($n = 58$) were analyzed. In that subgroup 'fast responders' were identified, i.e. patients whose symptom scores (SCL-90-R GSI) reached non-clinical levels after one year of treatment (≤ 0.31), and were compared with 'slow responders', i.e. patients whose GSI scores were still above the non-clinical norm (> 0.31) at one year of treatment. The number of patients in each subgroup was small, therefore these analyses were exploratory. Chi-square analyses and one-way ANOVAs were used to compare fast responders to slow responders regarding pretreatment test scores and sociodemographic and diagnostic characteristics (gender, age, treatment history, living situation, cultural background, educational level, employment status, DSM-IV diagnoses). Based on the GSI cut-off (0.31) 15 slow-responders and 7 fast responders were identified in the PA group, and 17 slow

Table 1. Regression parameters for psychoanalysis and psychoanalytic psychotherapy and comparison of regression coefficients

Scale	Psychoanalysis (103 observations of 40 patients)					Psychoanalytic psychotherapy (199 observations of 73 patients)					Comparison slopes PA vs. PP	
	Intercept		Slope			Intercept		Slope			<i>F</i>	<i>p</i>
	<i>M</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>M</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>p</i>		
Symptom Checklist-90-R (SCL-90-R)												
Global Severity Index (GSI)	0.70	0.06	-0.10	0.06	.082	0.68	0.05	-0.10	0.05	.039 *	0.00	.995
Phobic Anxiety	1.85	0.35	-0.64	0.34	.059	1.46	0.32	-0.19	0.28	.506	0.93	.335
Anxiety	6.26	0.84	-0.69	0.81	.396	6.11	0.62	-0.94	0.56	.095	0.07	.796
Depression	17.51	1.57	-2.95	1.51	.053	17.49	1.28	-3.93	1.15	.001 **	0.25	.617
Hostility	2.94	0.34	-0.38	0.33	.251	2.93	0.32	-0.79	0.28	.006 **	0.79	.374
Obsessive-Compulsive	8.43	0.92	-0.95	0.89	.289	7.97	0.75	-0.68	0.67	.315	0.06	.811
Interpersonal Sensitivity	13.99	1.23	-2.78	1.19	.021 *	12.34	1.03	-1.78	0.93	.056	0.42	.520
Sleeping Problems	2.01	0.35	0.36	0.34	.284	2.60	0.33	-0.28	0.29	.341	1.82	.179
Somatic Complaints	4.02	0.66	0.61	0.63	.339	4.78	0.70	0.53	0.63	.404	0.01	.936
Beck Depression Inventory-II (BDI-II)												
Total score	14.41	1.38	-2.05	1.30	.119	13.90	1.17	-2.29	1.05	.031 *	0.02	.888
Affective	2.94	0.36	-0.62	0.34	.067	2.50	0.29	-0.45	0.26	.084	0.17	.683
Cognitive	5.40	0.62	-0.95	0.59	.109	5.34	0.47	-1.34	0.43	.002 **	0.28	.595
Somatic	6.07	0.60	-0.47	0.57	.410	6.06	0.56	-0.51	0.51	.320	0.00	.967
State-Trait Anxiety Inventory (STAI)												
State anxiety	42.61	1.66	-0.39	1.58	.806	42.01	1.38	-1.32	1.24	.290	0.20	.652
Trait anxiety	47.87	1.75	-1.55	1.66	.352	47.74	1.22	-2.48	1.08	.023 *	0.23	.630
Inventory of Interpersonal Problems-64 (IIP-64)												
Total score	91.01	4.65	1.58	4.45	.724	89.08	3.97	-4.69	3.59	.194	1.10	.295
Domineering (PA)	7.54	0.70	-0.78	0.67	.250	7.74	0.64	-1.35	0.58	.020 *	0.37	.545
Vindictive (BC)	7.61	0.69	-0.24	0.66	.717	6.30	0.58	-0.38	0.53	.470	0.03	.870
Cold (DE)	9.51	0.95	0.62	0.91	.498	8.19	0.72	-0.57	0.65	.387	1.11	.292
Socially Inhibited (FG)	12.28	1.04	0.58	1.00	.561	12.02	0.84	-0.83	0.76	.280	1.20	.274
Nonassertive (HI)	16.13	0.97	0.08	0.93	.930	15.25	0.83	0.58	0.75	.438	0.16	.687
Overly Accommodating (JK)	15.24	0.89	0.33	0.85	.702	14.78	0.72	0.30	0.65	.644	0.00	.980
Self-sacrificing (LM)	14.37	0.94	0.43	0.90	.635	15.17	0.80	-0.83	0.72	.255	1.09	.298
Intrusive (NO)	8.33	0.80	0.56	0.76	.469	9.63	0.62	-1.62	0.56	.004 **	5.17	.024 *

* $p < .05$, ** $p < .01$.

Table 2. Intake values of slow responders and fast responders in the first cohort

Predictor (intake value)	Psychoanalysis						Psychoanalytic psychotherapy					
	Slow responders		Fast responders		Slow vs. fast		Slow responders		Fast responders		Slow vs. fast	
	(n = 15)		(n = 7)				(n = 17)		(n = 19)			
	M	SD	M	SD	F	p	M	SD	M	SD	F	p
Symptom Checklist-90-R (SCL-90-R)												
Global Severity Index (GSI)	0.81	0.30	0.50	0.26	5.37	.031*	0.91	0.31	0.56	0.30	11.32	.002 **
Phobic Anxiety	1.93	3.33	1.86	3.34	0.00	.961	1.29	1.45	1.11	2.03	0.10	.752
Anxiety	7.00	7.70	5.29	4.39	0.30	.592	9.35	5.41	4.42	3.34	11.10	.002 **
Depression	19.93	7.95	12.86	7.08	4.03	.058	24.76	10.05	14.26	8.12	12.01	.001 **
Hostility	3.47	2.53	1.86	1.07	2.56	.125	3.65	3.64	2.42	1.90	1.66	.207
Obsessive-Compulsive	9.00	3.46	6.29	4.96	2.23	.151	10.47	4.89	7.00	5.04	4.37	.044 *
Interpersonal Sensitivity	16.33	8.21	8.29	6.40	5.20	.034*	14.82	4.93	10.00	6.68	5.96	.020 *
Sleeping Problems	2.60	2.17	1.71	1.25	1.00	.330	3.65	3.61	2.53	2.67	1.14	.294
Somatic Complaints	4.67	3.66	3.29	2.14	0.85	.368	6.24	4.92	4.58	4.03	1.23	.275
Beck Depression Inventory-II (BDI-II)												
Total score	18.48	8.82	8.86	6.18	6.71	.018*	20.04	6.66	12.21	7.13	11.49	.002 **
Affective	3.72	2.58	1.86	1.57	3.06	.096	3.93	1.57	1.84	1.61	15.58	.000 ***
Cognitive	7.27	4.35	2.71	3.04	6.20	.022*	7.47	3.57	5.05	3.91	3.73	.062
Somatic	7.49	3.47	4.29	3.15	4.30	.051	8.63	4.41	5.32	2.98	7.11	.012 *
State-Trait Anxiety Inventory (STAI)												
State anxiety	47.60	11.24	38.86	6.74	3.58	.073	50.56	11.73	38.84	7.07	13.50	.001 **
Trait anxiety	50.86	10.69	45.71	8.64	1.23	.280	52.70	5.80	45.84	9.13	7.05	.012 *
Inventory of Interpersonal Problems-64 (IIP-64)												
Total score	102.72	24.40	67.86	24.83	9.64	.006**	93.78	30.62	83.53	33.11	0.92	.343
Domineering (PA)	8.62	4.81	6.29	3.59	1.29	.270	9.28	7.36	5.89	3.76	3.12	.086
Vindictive (BC)	10.03	4.68	5.57	3.05	5.24	.033*	8.05	6.43	4.00	3.28	5.84	.021 *
Cold (DE)	12.49	6.38	4.71	3.30	9.09	.007**	9.40	6.34	6.63	5.23	2.06	.161
Socially Inhibited (FG)	13.99	4.46	8.00	5.03	7.96	.011*	13.19	5.00	10.74	6.50	1.59	.216
Nonassertive (HI)	17.22	4.72	14.00	4.28	2.35	.141	14.30	6.32	16.58	6.67	1.10	.302
Overly Accommodating (JK)	16.90	4.32	12.43	5.68	4.19	.054	14.38	6.87	15.58	6.31	0.30	.589
Self-sacrificing (LM)	14.58	4.05	10.57	7.02	2.92	.103	15.05	7.37	15.32	7.49	0.01	.916
Intrusive (NO)	8.90	5.35	6.29	4.46	1.26	.276	10.13	7.59	8.79	3.88	0.46	.503

* $p < .05$, ** $p < .01$, *** $p < .001$.

responders and 19 fast responders in the PP-group. In both treatment groups no significant differences between slow responders and fast responders were found on pretreatment sociodemographic and diagnostic characteristics. However, significant differences were found between the slow responders and fast responders with regard to pretreatment values on the outcome measures (see Table 2). In the PA-group slow responders differed from fast responders in that they had higher pretreatment scores on the SCL-90-R (GSI, Interpersonal sensitivity), BDI (Total score, Cognitive), and IIP-64 (Total score, Vindictive, Cold, and Socially Inhibited). In the PP-group slow responders differed from fast responders in that they had higher pretreatment scores on the SCL-90-R (GSI, Anxiety, Depression, Obsessive-Compulsive, Interpersonal sensitivity), BDI (Total score, Somatic, Affective), IIP-64 (Vindictive), and STAI Trait and State Anxiety. In sum, slow responders in both treatment groups tended to have higher scores on pretreatment symptoms and interpersonal problems as compared to fast responders.

DISCUSSION

The present study investigated changes in symptoms and interpersonal problems in the first two years of long-term psychoanalytic psychotherapy and psychoanalysis. Four main conclusions can be drawn. First of all, the rates of change were much lower than expected because patients in both treatment groups still presented moderate to high levels of symptoms and interpersonal problems after two years of treatment compared to non-clinical populations. Secondly, patients in psychoanalytic psychotherapy improved with regard to both symptomatic and interpersonal problems. In contrast, the only significant improvement in the psychoanalysis group was on one of the symptomatic subscales. This might indicate that perhaps the expectation that interpersonal problems would diminish more slowly was especially true for this particular group of patients. Third, the slopes of change were similar in both treatment groups, with the exception of the IIP-64 scale Intrusive where PP-patients showed significantly more improvement than PA-patients in the first two years of treatment. Fourth, exploratory analyses revealed that interesting differences could be found between patients responding fast to treatment and patients responding slow to treatment. In particular, fast responders in both treatment groups seemed to start with a much lower level of symptoms and interpersonal problems compared to slow responders.

A meta-analytic study into dose-effect relationships in psychotherapy reported that 50% of the patients with chronic distress symptoms showed clinically significant improvement after 16 sessions, whereas characterological recovery was obtained for 50% of the patients after more than 104 sessions (Howard, Kopta, Krause, & Orlinsky, 1986; Kopta, Howard, Lowry, & Beutler, 1994). In studies with patients in psychoanalytic treatment smaller improvement rates were found for interpersonal problems than for (general/depressive/anxiety) symptoms (Blomberg et al., 2001; Brockmann et al., 2002; Haase et al., 2008; Leichsenring et al., 2005). The longitudinal data in the present study confirm that the rates of symptomatic change – as measured with the SCL-90-R-GSI, BDI-II, and STAI-Trait – were larger than those of personality problems (IIP-64). One would indeed expect changes in interpersonal problems to take longer than symptomatic recovery, because the former are more characterological in nature and can be seen as more closely resembling personality traits (Barkham et al., 1996; Howard et al., 1993; Huber et al., 2007). Nevertheless, the present study also showed that these rates of change did not come close to non-clinical scores in this group of patients in psychoanalytic treatment. This finding, in combination with the fact that 78% of the patients had already tried previous (short-term) treatment, might justify substantially more sessions than 104 to obtain 50% of the patients being recovered. A previous study with different patients had shown that patients assigned to psychoanalytic treatment had complex emotional and personality problems (Zevalkink & Berghout, 2008). Furthermore, the improvement rates might not only depend on the nature of the problem (e.g., acute distress vs. characterological issues), but also on other variables, such as therapist variables (e.g., level of experience), the quality of the therapeutic relationship, patient variables (e.g., psychological mindedness) or characteristics of the treatment. Future studies that include longitudinal data gathered using Routine Outcome Monitoring (ROM) will shed more light on the issue (Lambert, 2007).

The present study revealed some differences between rates of change for patients in psychoanalysis versus patients in psychoanalytic psychotherapy. Significant changes in symptomatic distress (SCL-90-R GSI) were found during the first two years of psychoanalytic psychotherapy, but

not in the psychoanalysis group. The findings with regard to psychoanalysis are in contrast those of Blomberg et al. (2001) and Puschner et al. (2007). These studies reported a significant decrease in symptom distress within the first two years of both psychoanalysis and psychoanalytic psychotherapy. A possible and methodological explanation for the discrepant findings is that the present study had a lower number of patients in the psychoanalysis group compared to the number of participants in these two studies. This might be substantiated by the finding that the slopes of change between patients in psychoanalysis and patients in psychoanalytic psychotherapy did not differ significantly from each other. Compared to the hypothetical situation of 'no change' (regression coefficient = 0), several slopes of change in the psychoanalytic psychotherapy group were significantly different. This was not true in the psychoanalysis group. It appears that changes in the psychoanalysis group were neither distinctive from 'no change' nor dissimilar from the slopes of the patients in psychoanalytic psychotherapy. An alternative explanation for the difference between psychoanalysis and psychoanalytic psychotherapy in this study is that it reveals a theoretically justifiable difference between both treatments that is related to the setting and techniques. For instance, in psychoanalysis the use of the couch is intended to encourage regression (Gabbard, 2005; de Wolf, 2002). In psychoanalytic psychotherapy, the face-to-face arrangement might more easily invite the patient to discuss and focus on current symptoms and complaints. Perhaps, the setting does indeed induce slower change in psychoanalysis in symptoms compared to psychoanalytic psychotherapy. The present study has shown that change is only *relatively* slower in the group of patients in psychoanalysis compared to patients in psychoanalytic psychotherapy. A more thorough study is warranted to establish whether the observed differences are a methodological artefact or theoretically relevant.

Another difference is that patients in psychoanalytic psychotherapy showed more interpersonal improvement compared patients in psychoanalysis, who even seemed to deteriorate in the first two years of treatment in this respect. The course of improvement for patients in psychoanalysis might differ from that of patients in psychoanalytic psychotherapy in that interpersonal problems first tend to increase, before they will eventually decrease to non-clinical levels at treatment termination and at follow-up (Berghout & Zevalkink, 2009). A possible explanation is the previously mentioned differences in treatment characteristics. For instance, the couch might encourage even more regression with respect to interpersonal problems than symptomatic functioning for patients in psychoanalysis. An intensive treatment with four to five sessions a week might entice the development of a different kind of relationship with the therapist in psychoanalysis as compared to psychoanalytic psychotherapy with the attachment history of the patient more fully in focus. Alternatively, the relatively low intensity and face-to-face arrangement of psychoanalytic psychotherapy might accelerate the treatment process and reduce the potential iatrogenic effects of treatment through regression.

The improvement rates of the interpersonal problems were also investigated in more detail. Based on previous research, it was expected that problems related to a dependent personality style (submissiveness, nonassertiveness) would improve faster than problems related to antisocial behaviour (hostility, dominance) (Horowitz et al., 1993; Huber et al., 2007). Contrary to expectation, the findings showed that in both treatment groups no significant reductions were found on the subscales for Social Inhibition, Overly Accommodating, and Nonassertiveness after two years of treatment, whereas problems related to antisocial behaviour (Intrusiveness) did decrease significantly in the first two years of psychoanalytic psychotherapy. Perhaps the discrepancy in findings might be explained by two major differences between the present study and the studies of Horowitz et al. (1993) and Huber et al. (2007). First, they reported on pre-post treatment effects, whereas the present study reports on effects in the first two years on long-term psychoanalytic treatment. Second, the studies differed in the duration of treatment: Horowitz et al. (1993) studied the outcome of brief dynamic psychotherapy (up to 20 sessions once per week); Huber et al. (2007) studied the outcome of psychoanalytic psychotherapy with a mean duration of 32 months; and in the present study treatments were much longer (psychoanalytic psychotherapy: 3.9 years, psychoanalysis: 6.5 years; Berghout & Zevalkink, 2009). Only by following the patients in both treatment groups longitudinally for their whole treatment length (plus follow-up period), complete developmental paths of the different types of interpersonal problems will become clear. It might be particularly interesting to study differences in dependency and antisocial pathways across treatments.

While patients in psychoanalysis and psychoanalytic psychotherapy did not appear to differ on the magnitude of symptoms and interpersonal problems at start of treatment, the intake values nonetheless appeared to be important predictors of the trajectory of progress of the treatment. A faster return to normal functioning is more likely among patients with relatively low initial symptom scores. Patients with more symptomatic impairment at intake require longer treatment to achieve similar results. Thus, the level of psychopathology at intake could be a key predictor for the time required to get to non-clinical levels with regard to symptomatic distress. These results are in line with findings from Puschner et al. (2007), who also found that initial symptom distress was the strongest predictor of the speed of symptom improvement.

The current research focused on changes in symptoms and interpersonal problems, which can be seen as common goals in any psychotherapeutic treatment. However, especially in the case of long-term psychoanalytic treatment, therapeutic goals may also include changes on a deeper personality level, such as attachment representation, reality testing or emotion regulation. Therefore, further research is needed to investigate the course of improvement of these elements of personality functioning during and after long-term psychoanalytic treatment.

In accelerated longitudinal designs the results could be confounded when differences between the cohorts regarding background characteristics and/or level of pretreatment psychopathology are present (Cogan & Porcerelli, 2005). Large pretreatment differences between the two patient groups might increase variability in test scores and decrease the reliability of the estimations of the group mean averages. In the present study, the two cohorts were compared on pretreatment DSM-IV-R diagnoses and sociodemographic characteristics. No significant differences were found on any variable, thus providing a strong check for the comparability of the two cohorts. However, piecing together segmented growth curve information from accelerated longitudinal designs can never replace information from truly longitudinal studies conducted over extended periods of time (Willet, Singer, & Martin, 1998). The major limitation of an accelerated longitudinal design is that it limits the inferences one can draw about the effects during a two-year period on individuals, as only within-individual development is measured over a one-year period. Therefore, psychoanalytic researchers are encouraged to also perform true longitudinal studies that investigate individual changes throughout the whole treatment. With the availability of growth curves for a large sample of patients, a single patient's course of treatment might be predicted as soon as intake information is available (Lutz, Lowry, Kopta, Einstein, & Howard, 2001). Another issue to keep in mind is the co-occurrence of age and treatment effects. Age effects are those associated with personal maturation that persons would presumably experience during any period of time (Raudenbush & Chan, 1992). With regard to treatment effects, one could argue that it is impossible to know whether the improvements are actually attributable to the treatment given. Because no control group was included, it is not possible to draw causal inferences from the presented data. Furthermore, results should be interpreted carefully as there is the potential for Type I error in conducting multiple statistical tests. Also, the reliance on self-report measures limits the scope of investigation, as many interesting components of personality functioning can not be captured fully by self-report measures. Another limitation of the study is the lack of manualisation of the treatments and monitoring of adherence. However, the strong and unique psychoanalytic identity of the participating mental health institutes, with its accompanying training and supervision, may help to buffer the lack of manualisation and adherence issues. Every therapist in this study was psychoanalytically trained and/or was under supervision of an experienced psychoanalyst. Future studies would benefit from including treatment adherence measures into the research design as well as other process measures to study the mechanisms of change during psychoanalytic treatment.

On average, patients with chronic mental disorders and personality pathology did not reach non-clinical levels after two years of treatment regarding symptoms and interpersonal problems and appeared to require further intensive long-term treatment in order to achieve significant improvements. Research has shown that after an average of five years of long-term psychoanalytic treatment (psychoanalysis or psychoanalytic psychotherapy) symptoms and interpersonal problems are effectively reduced, although complete remission could not be expected for *all* patients (Berghout & Zevalkink, 2009). The longitudinal data of this study pointed out that not much symptomatic and interpersonal improvement is to be expected in the first two years of psychoanalytic treatment. This appears to hold true especially for patients in psychoanalysis and less for those in psychoanalytic

psychotherapy. Apparently, the patterns of change across time differ for each type of treatment. The present data confirm the belief of therapists that significant change takes time in this particular patient population. In regular practice, it might be advisable to monitor changes routinely in order to identify fast responders quicker and change the treatment plan accordingly.

REFERENCES

- Anderson, E. R. (1995). Accelerating and maximizing information from short-term longitudinal research. In J. M. Gottman (Ed.), *The analysis of change* (pp. 139-163). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Anstey, K. J., & Hofer, S. M. (2004). Longitudinal designs, methods and analysis in psychiatric research. *Australian and New Zealand Journal of Psychiatry, 38*, 93-104.
- Arrindell, W. A., & Ettema, J. H. M. (2003). *Symptom Checklist: Handleiding bij een multidimensionele psychopathologie-indicator* [Symptom Checklist: Manual of the multidimensional indicator of psychopathology]. Lisse: Swets Test Publisher.
- Barkham, M., Rees, A., Stiles, W. B., Shapiro, D. A., Hardy, G. E., & Reynolds, S. (1996). Dose-effect relations in time-limited psychotherapy for depression. *Journal of Consulting and Clinical Psychology, 64*, 927-935.
- Bateman, A., & Fonagy, P. (2009). Randomized controlled trial of outpatient mentalization-based treatment versus structured clinical management for borderline personality disorder. *American Journal of Psychiatry, 166*, 1355-1364.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Bell, R. Q. (1953). Convergence: An accelerated longitudinal approach. *Child Development, 24*, 145-152.
- Berghout, C. C., & Zevalkink, J. (2009). Clinical significance of long-term psychoanalytic treatment. *Bulletin of the Menninger Clinic, 73*, 7-33.
- Blomberg, J., Lazar, A., & Sandell, R. (2001). Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis study. *Psychotherapy Research, 11*, 361-382.
- Brockmann, J., Schlüter, T., Brodbeck, D., & Eckert, J. (2002). Die effekte psychoanalytisch orientierter und verhaltenstherapeutischer langzeitherapien [Effects of psychoanalytically oriented and of behavioral long-term therapies]. *Psychotherapeut, 47*, 347-355.
- Cogan, R., & Porcerelli, J. H. (2005). Clinician reports of personality pathology of patients beginning and patients ending psychoanalysis. *Psychology and Psychotherapy: Theory, Research and Practice, 78*, 235-248.
- Derogatis, L. R. (1983). *SCL-90-R: Administration, scoring and procedures manual II*. Townson, MD: Clinical Psychometric Research.
- Duncan, S. C., Duncan, T. E., & Hops, H. (1996). Analysis of longitudinal data within accelerated longitudinal designs. *Psychological Methods, 1*, 236-248.
- Gabbard, G. O. (2005). *Psychodynamic psychiatry in clinical practice* (4th ed.). Washington, DC: American Psychiatric Press, Inc.
- Gabbard, G. O. (2009). Techniques of psychodynamic psychotherapy. In G. O. Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments* (pp. 43-67). Washington, DC: American Psychiatric Publishing, Inc.
- Greenson, R. R. (1967). *The technique and practice of psychoanalysis*. New York: International Universities Press.
- Haase, M., Frommer, J., Franke, G. H., Hoffmann, T., Schulze-Muetzel, J., Jäger, S., et al. (2008). From symptom relief to interpersonal change: Treatment outcome and effectiveness in inpatient psychotherapy. *Psychotherapy Research, 18*, 615-624.
- Hamilton, M. (1959). The assessment of anxiety states by rating. *British Journal of Medical Psychology, 32*, 50-55.
- Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology, Neurosurgery and Psychiatry, 23*, 56-62.
- Hill, C. E., & Lambert, M. J. (2004). Methodological issues in studying psychotherapy processes and outcomes. In M. J. Lambert (Ed.), *Bergin and Garfield's Handbook of psychotherapy and behavior change* (5th ed., pp. 84-135). New York: John Wiley & Sons, Inc.
- Horowitz, L. M. (2004). *Interpersonal foundations of psychopathology*. Washington: American Psychoanalytic Association.
- Horowitz, L. M., Alden, L. E., Wiggins, J. S., & Pincus, A. L. (2000). *Inventory of Interpersonal Problems: Manual*. New York: The Psychological Corporation Harcourt.
- Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureño, G., & Villaseñor, V. S. (1988). Inventory of

- Interpersonal Problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology*, *56*, 885-892.
- Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology*, *61*, 549-560.
- Howard, K. I., Kopta, S. M., Krause, M. S., & Orlinsky, D. E. (1986). The dose-effect relationship in psychotherapy. *American Psychologist*, *41*, 159-164.
- Howard, K. I., Lueger, R. J., Maling, M. S., & Martinovich, Z. (1993). A phase model of psychotherapy outcome: Causal mediation of change. *Journal of Consulting and Clinical Psychology*, *61*, 678-685.
- Huber, D., Henrich, G., & Klug, G. (2007). The Inventory of Interpersonal Problems (IIP): Sensitivity to change. *Psychotherapy Research*, *17*, 474-481.
- Knekt, P., Lindfors, O., Härkänen, T., Välikoski, M., Virtala, E., Laaksonen, M. A., et al. (2008). Randomized trial on the effectiveness of long- and short-term psychodynamic psychotherapy and solution-focused therapy on psychiatric symptoms during a 3-year follow-up. *Psychological Medicine*, *38*, 689-703.
- Kopta, S. M., Howard, K. I., Lowry, J. L., & Beutler, L. E. (1994). Patterns of symptomatic recovery in psychotherapy. *Journal of Consulting and Clinical Psychology*, *62*, 1009-1016.
- Lambert, M. J. (2007). Presidential address: What we have learned from a decade of research aimed at improving psychotherapy outcome in routine care. *Psychotherapy Research*, *17*, 1-14.
- Lambert, M. J., Whipple, J. L., Hawkins, E. J., Vermeersch, D. A., Nielsen, S. L., & Smart, D. W. (2003). Is it time for clinicians to routinely track patient outcome? A meta-analysis. *Clinical Psychology: Science and Practice*, *10*, 288-301.
- Leichsenring, F., Biskup, J., Kreische, R., & Staats, H. (2005). The Göttingen study of psychoanalytic therapy: First results. *International Journal of Psychoanalysis*, *86*, 433-455.
- Leichsenring, F., & Rabung, S. (2008). Effectiveness of long-term psychodynamic psychotherapy. A meta-analysis. *Journal of the American Medical Association*, *300*, 1551-1565.
- Lutz, W., Lowry, J., Kopta, S. M., Einstein, D. A., & Howard, K. I. (2001). Prediction of dose-response relations based on patient characteristics. *Journal of Clinical Psychology*, *57*, 889-900.
- Maat, S. de, Jonghe, F. de, Schoevers, R., & Dekker, J. (2009). The effectiveness of long-term psychoanalytic therapy: A systematic review of empirical studies. *Harvard Review of Psychiatry*, *17*, 1-23.
- Miller, S. D., Duncan, B. L., Brown, J., Sorrell, R., & Chalk, M. B. (2006). Using formal client feedback to improve retention and outcome: Making ongoing, real-time assessment feasible. *Journal of Brief Therapy*, *5*, 5-22.
- Monsen, J., Odland, T., Faugli, A., Daae, E., & Eilertsen, D. E. (1995). Personality disorders and psychosocial changes after intensive psychotherapy: A prospective follow-up study of an outpatient psychotherapy project, 5 years after end of treatment. *Scandinavian Journal of Psychology*, *36*, 256-268.
- Percevic, R., Lambert, M. J., & Kordy, H. (2006). What is the predictive value of responses to psychotherapy for its future course? Empirical explorations and consequences for outcome monitoring. *Psychotherapy Research*, *16*, 364-373.
- Person, E. S., Cooper, A. M., & Gabbard, G. O. (Eds.). (2005). *Textbook of psychoanalysis*. Washington, DC: American Psychiatric Press, Inc.
- Puschner, B., Kraft, S., Kächele, H., & Kordy, H. (2007). Course of improvement over 2 years in psychoanalytic and psychodynamic outpatient psychotherapy. *Psychology and Psychotherapy*, *80*, 51-68.
- Raudenbush, S. W., & Chan, W. S. (1992). Growth curve analysis in accelerated longitudinal designs. *Journal of Research in Crime and Delinquency*, *29*, 387-411.
- Ruiz, M. A., Pincus, A. L., Borkovec, T. D., Echemendia, R. J., Castonguay, L. G., & Ragusea, S. A. (2004). Validity of the Inventory of Interpersonal Problems for predicting treatment outcome: An investigation with the Pennsylvania Practice Research Network. *Journal of Personality Assessment*, *83*, 213-222.
- Sandell, R., Blomberg, J., & Lazar, A. (1997). When reality doesn't fit the blueprint: doing research on psychoanalysis and long-term psychotherapy in a public health service program. *Psychotherapy Research*, *7*, 333-344.
- Spielberger, C. D. (1983). *Manual for the State-Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.
- Van der Does, A. J. W. (2002). *BDI-II-NL: Handleiding Beck Depression Inventory-II, Nederlandse vertaling en bewerking* [BDI-II-NL: Manual Beck Depression Inventory-II, Dutch translation and adaptation]. Lisse: Swets Test Publisher.
- Van der Ploeg, H. M. (2000). *Handleiding bij de Zelf BeoordelingsVragenlijst: Een Nederlandstalige bewerking van de Spielberger State-Trait Anxiety Inventory* [Manual of the State-Trait Anxiety Inventory: A Dutch translation of the Spielberger State-Trait Anxiety Inventory]. Lisse: Swets Test Publisher.
- Vanheule, S., Desmet, M., & Rosseel, Y. (2006). The factorial structure of the Dutch translation of the Inventory of Interpersonal Problems: A test of the long and short versions. *Psychological Assessment*, *18*, 112-117.

- Wallerstein, R. S. (1995). *The talking cures: The psychoanalyses and the psychotherapies*. New Haven, CT: Yale University Press.
- Weissman, M. M., & Bothwell, S. (1976). Assessment of social adjustment by patient self-report. *Archives of General Psychiatry*, *33*, 1111-1115.
- Willett, J. B., Singer, J. D., & Martin, N. C. (1998). The design and analysis of longitudinal studies of development and psychopathology in context: Statistical models and methodological recommendations. *Development and Psychopathology*, *10*, 395-426.
- Wolf, M. H. M. de (2002). *Inleiding in de psychoanalytische psychotherapie: Ontwikkeling, psychopathologie, diagnostiek en behandelvormen* [Introduction to psychoanalytic psychotherapy: Development, psychopathology, diagnostics and treatment modalities]. Bussum: Coutinho.
- Zevalkink, J. & Berghout C. C. (2008). Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychotherapy Research*, *18*, 316-325.
- Zevalkink, J., Katzko, M. W., Berghout, C. C., & Riksen-Walraven, J. M. A. (2008). *Inventory of Interpersonal Problems in the Netherlands: Screening and interpreting relational distress in non-clinical and clinical samples*. Manuscript in preparation.

**COST-EFFECTIVENESS OF
LONG-TERM PSYCHOANALYTIC
TREATMENT**

CHAPTER 7

The effects of long-term psychoanalytic treatment on health care utilization and work productivity and their associated costs

Berghout, C.C., Zevalkink, J., & Hakkaart-van Roijen, L. (submitted October 2009). The effects of long-term psychoanalytic treatment on health care utilization and work productivity and their associated costs. *Journal of Psychiatric Practice*.

ABSTRACT

Long-term psychoanalytic treatment is perceived as an expensive ambulatory treatment for mental illnesses. However, there are indications that psychoanalytic treatment can result in cost savings in the long term. In this study, we investigated the effect of long-term psychoanalytic treatment on health care utilization and work impairment and also calculated the associated societal costs. We assessed health care utilization and work impairment of patients before, during, and after long-term psychoanalytic treatment ($N = 231$). Our results show that the total difference in costs associated with health care utilization and work impairment between pre- and post-treatment was € 2.444 per person per year. Two years after treatment termination these cost savings had increased to € 3.632 per person per year. This indicates that we can expect decreased medical consumption and higher work productivity right after psychoanalytic treatment, but also that long-term psychoanalytic treatment can generate economical benefits in the long run. However, we can not conclude that *all* invested costs will be earned back eventually. More research is needed on the cost-effectiveness of psychoanalytic treatment.

INTRODUCTION

Despite the considerable and growing body of research about the clinical effectiveness of long-term psychoanalytic treatment (Leichsenring & Rabung 2008; de Maat, de Jonghe, Schoevers, & Dekker 2009), relatively little attention has been paid to economical evaluations, particularly with reference to the broader range of societal effects. If untreated, persons with personality disorders and/or depression often pose a heavy economic burden on the general health care system (Bateman & Fonagy 2003; Bender et al. 2001; Luppá, Heinrich, Angermeyer, König, & Riedel-Heller 2007; Smit, Bohlmeijer, & Cuijpers 2003; Soeteman, Hakkaart-van Roijen, Verheul, & Busschbach 2008). A recent study showed that patients applying for long-term psychoanalytic treatment present substantial levels of chronic depressive symptoms, interpersonal difficulties and personality pathology (Berghout & Zevalkink 2008; Zevalkink & Berghout 2008). Long-term psychoanalytic treatments such as psychoanalysis and psychoanalytic psychotherapy are perceived as expensive ambulatory treatments for mental illnesses, because they often cover a relatively long period of time. These treatments are still covered by national health insurance plans in Canada, Australia and several European countries, including the Netherlands. When psychoanalysis is no longer part of the national health insurance plan, its availability tends to become limited as happened in the United Kingdom. However, when it is still part of the national health insurance plan clinicians are pushed to make decisions about inclusion that in effect constitute rationing (Willock, Balzert, Fayek, & Abraham 1999). In other words, these treatments are available only to patients for whom there are strong indications that they need it. For instance, in The Netherlands professionals follow government approved guidelines for treatment assignment to long-term psychoanalytic treatments (Zevalkink 2004). Here, psychoanalytic treatment is indicated to patients with complex emotional disorders, chronic mood and/or personality pathology and will only be determined after multiple intake sessions, screening questionnaires and a comprehensive personality assessment. Economic considerations encourage policy makers and health insurance companies to only fund evidence-based treatments, which are of minimal burden to patients and that can be provided in the shortest possible period of time. In that regard a study into the costs and effects of psychoanalytic treatment from a societal point of view seems justifiable.

Fortunately, more and more cost-effectiveness data are available regarding these long-term treatments. A recent review suggests that long-term psychoanalytic therapies may result in cost savings in the long term, primarily through reductions in absenteeism from work, but also through reductions in health care utilization (de Maat, Philipszoon, Schoevers, Dekker, & de Jonghe 2007). However, not all studies on cost and benefits of psychoanalytic treatments show similar positive results. For example, Lazar, Sandell, & Grant (2006) found significant improvements in self-rated general health state, but no reductions in terms of absence from work and health care utilization for patients who received long-term psychoanalytic treatment. In contrast, they found that the average number of consultations with psychologists, social workers, and other paramedics increased significantly after psychoanalytic psychotherapy. Results from a prospective, naturalistic longitudinal study on medical utilization in mid- and long-term outpatient psychotherapy by Kraft, Puschner, Lambert, and Kordy (2006) showed an impressive reduction in the number of hospital days (about 80%), and also a substantial reduction in medical health care costs (about 25%) from pre-treatment to two years after the start of treatment. In a retrospective long-term follow-up study by Beutel, Rasting, Stuhr, Rüger, and Leuzinger-Bohleber (2004) work loss and hospitalization days were assessed before, during, and after psychoanalytic treatment. On the basis of health insurance records they found that absenteeism from work declined strongly from pre-treatment to the end of treatment (66% less days of sick leave) and remained fairly stable throughout the 7-year follow-up period. They also found a large reduction in ambulatory medical consultations and of psychotropic medication use. The mean number of hospital days was rather low initially and remained low throughout treatment and follow-up.

In studying the effects of treatment on societal costs, it might be relevant to adopt a broad societal perspective by considering both direct and indirect costs such as medical costs outside the treatment site and costs due to work impairment (Drummond, Sculpher, Torrance, O'Brien, & Stoddart 2005; Krupnick & Pincus 1992; Soeteman et al. 2008). In Germany, health insurance records provide independent data about these costs, including sick leave, hospitalization days, and medical consultations, although it appeared difficult to obtain complete datasets for a large number of patients (Beutel et al. 2004). Their research showed that patients' self-reports were significantly correlated to

the health insurance records. In most other countries, however, patients' self-reports are the only available data source for health costs outside the psychotherapy setting. An advantage of patients' self-reports is that it can include more information and also that it can assess disability for persons who did not have a paid job throughout the assessment period, like students or homemakers, who would otherwise not be included if only data from health insurance records were to be considered.

Most cost related studies in psychotherapy have focused on reductions in health care use and/or reductions in absenteeism from work (e.g., Bateman & Fonagy 2003; Chiles, Lambert, & Hatch 1999; Gabbard, Lazar, Hornberger, & Spiegel 1997; de Maat, et al. 2007). However, there is evidence that not just absenteeism from work, but also reduced productivity *at work* might take up a substantial proportion of indirect costs (Hakkaart-van Roijen & Bouwmans 2007). The aim of this study was to investigate the direct and indirect costs of patients before, during, and after long-term government-sponsored psychoanalytic treatment from a broad societal perspective. In this study we used a quasi-experimental, cross-sectional design with four cohorts of patients in different phases of treatment. These cohorts were representative samples of patients from different phases of treatment who followed a naturalistic route through the mental health clinic to ensure high external validity and generalizability of the findings (Leichsenring 2004; Sandell, Blomberg, & Lazar 1997; Seligman 1995). The advantage of such a research design is that we can obtain information about the effects of long-term treatments within a relatively short period of time. Cohort studies provide the best available evidence when randomized controlled trials (RCTs) are not feasible (Centre of Evidence Based Medicine Oxford 2009). We expected high costs associated with associated with health care utilization and work impairment in the group of patients entering psychoanalytic treatment due to their earlier attempts to receive psychotherapy (Zevalkink & Berghout 2008) and their low quality of life (Berghout, Zevalkink, & Hakkaart-van Roijen 2010), and expected significantly less costs in the group of patients after long-term psychoanalytic treatment.

METHOD

Subjects

The total sample consisted of 231 subjects from four mental health care organisations (Nederlands Psychoanalytisch Instituut, De Gelderse Roos, Mediant, Parnassia/Psy-Q) divided over four cohorts. The pre-treatment cohort ($n = 64$) consisted of patients who just started long-term psychoanalytic treatment, in the during-treatment cohort ($n = 49$) patients were one year in treatment, the post-treatment cohort ($n = 67$) consisted of persons who had just finished (approximately 3 months after) long-term psychoanalytic treatment, and persons in the follow-up cohort ($n = 51$) had already finished their treatment two years ago (follow-up).

Inclusion criteria for participation were a minimum age of 18 years, having mastery of the Dutch language, having received or being assigned to long-term psychoanalytic treatment (> 25 sessions, with a minimum frequency of once a week). Exclusion criteria were the presence of acute psychotic symptoms. In total we had approached 383 persons, of which 247 (65%) persons said "Yes", 81 (21%) said "No", and 55 (14%) never responded. Of the 247 persons who agreed to participate, 16 eventually did not participate in the study due to various reasons (withdrawal from the study, never started the psychoanalytic treatment). No significant demographic differences between responders and early drop-out/non-responders were found. All therapists ($N = 94$) in the project were licensed clinicians (psychiatrists/ psychotherapists or psychologists/psychotherapists) and member of one of the Netherlands psychoanalytic societies. Frequencies of treatment were as follows: 115 patients (50%) had one session per week, 23 patients (10%) were seen twice a week, 4 patients (2%) three times a week, 43 patients (18%) four times a week, and 46 patients (20%) were seen five times per week. Twenty-four subjects (10%) received medication in addition to their psychotherapy.

The majority of our sample (73%) were women. The age range of our subjects ranged from 19 to 68 years, with an average age of 36 years ($SD = 8.4$). We found that 77% of all subject had received previous (psycho)therapeutic treatment before applying for long-term psychoanalytic treatment. Further, we found that 44% of the subjects were living with a partner, 21% had children, 92% had a Dutch cultural background, 76% had received higher education, and 79% was employed. Chi-square analyses revealed no significant differences between the cohorts on pre-treatment sociodemographic patient characteristics (gender, treatment history, living situation, cultural background, educational

level, employment status), except for age at intake. Subjects in the post-treatment cohort were somewhat younger at the start of treatment compared to subjects in the other cohorts. Chi-square analysis on pre-treatment DSM-IV-R Axis I diagnoses did not show significant differences between the cohorts. Most frequently diagnosed across all cohorts were mood disorders (47%), in particular dysthymic disorder (30%). The frequencies of Axis II diagnoses were also roughly comparable across the four cohorts, except for the two cohorts after treatment in which significantly more patients were diagnosed with no personality disorder. Pre-treatment Global Assessment of Functioning (GAF) scores (Axis V) of patients in the follow-up cohort were significantly higher compared to those of patients in the other cohorts. This, however, might be due to the tendency among mental health professionals in recent years to estimate the GAF score lower in light of the threat of budget cuts. An additional study in a random subsample confirmed that it was a temporally influenced structural adjustment of the GAF score instead of a selection bias. In this subsample we investigated whether the four cohorts had experienced similar processes with regard to treatment assignment over time and across mental health clinic. Three experienced clinicians independently and retrospectively assessed the pre-treatment GAF and treatment assignment (PP versus PA) from patient files in which all information regarding cohort status, mental health organization, pre-treatment psychiatric classification, and treatment assignment was removed and edited in a similar format. The results from this additional study showed that clinical decision making did not change significantly over time (cohorts) nor differed across the four mental health organizations, thus providing a strong check for the comparability of the cohorts (data are available on request).

Instruments

Societal costs consist of both treatment costs—as directly assessed at the mental health clinics—and costs associated with health care utilization and work impairment—as measured with a questionnaire.

Treatment costs. The estimation of treatment costs involves two steps: the measurement of the *quantities* of resource use and the assignment of unit costs or *prices* (Drummond et al. 2005). Total quantities of resource use could be calculated for patients who had finished their long-term psychoanalytic treatment. Three resource units were of importance here: the pre-treatment diagnostic assessment, the number of realized sessions, and the number of cancelled sessions for which costs were already made. Data on quantities of resource use were obtained from administrative records kept by the mental health care organizations. At one of the research sites there was no exact session administration before 2001, so for those patients whose treatments started before 2001, the number of sessions was calculated assuming an equal distribution of sessions over time (e.g., 138 sessions in 2001-2003 was extrapolated to 276 sessions for the period 1999-2003).

For the valuation of resource use we did not use existing market prices, because these may not accurately reflect the real costs. Instead, unit costs were based on data of actual personnel costs of all psychotherapists and psychiatrists who delivered psychoanalysis or psychoanalytic psychotherapy in 2006, including material and overhead costs. This calculation led to an average cost per session wereof € 115.22. The costs for the pre-treatment diagnostic assessment were estimated at € 3128.20. These unit costs were then multiplied by the quantities of resource use which resulted in an estimation of the total direct treatment costs. A discount rate of 4% was applied to account for differential timing of costs (Oostenbrink, Bouwmans, Koopmanschap, & Rutten 2004).

Costs associated with health care utilization and work impairment. In line with an earlier study, direct costs were defined as the monetary valuation of the resources used to detect and treat medical problems and indirect costs as the costs associated with productivity loss due to absence from work and reduced efficiency at work (Hakkaart-van Roijen et al. 2004). Direct medical costs and indirect costs were measured with the 'Trimbos and iMTA questionnaire for Costs associated with Psychiatric illness' (TiC-P) developed by Hakkaart-van Roijen, van Straten, Donker, and Tiemens (2002). The TiC-P measures costs of relevant utilization of health care other than the psychoanalytic treatment and indirect costs due to production losses. The price of medication was not considered in the costs analyses because of the relatively low costs associated with it. We used the HLQ approach to estimate costs associated with productivity loss at work (Hakkaart-van Roijen & Bouwmans 2007). With this approach, respondents are asked to estimate the number of additional hours they should have worked to compensate for production losses due to illness and reduced efficiency on working days. For the analysis of long-term absence from work we applied the friction-cost method (Oostenbrink et

al. 2004). This limits the indirect costs of productivity losses to the period it takes to replace someone who becomes disabled. This friction period is estimated at 154 days (Hakkaart-van Roijen & Bouwmans 2007). The recall period of the TiC-P was 4 weeks, so the mean costs were multiplied by 13 to calculate the annual costs. Missing values (4%) were replaced using the group mean imputation method, where the means were calculated per cohort and treatment modality.

Procedure

All patients who met the inclusion criteria (see Subjects) were approached via mail. When subjects returned a positive informed consent, they received a package of questionnaires, including the TiC-P, by regular mail with a stamped addressed envelope. Data gathering was done in the period of January 2004 to June 2007. DSM-IV diagnoses were collected in a consensus meeting of psychiatrists, psychotherapists and test-psychologists at the start of treatment after a comprehensive personality screening.

Data analyses

Statistical comparisons of costs associated with health care utilization and work impairment between the cohorts were done using ANOVAs in SPSS (version 17.0). Pearson correlation was used to investigate the relation between dosage of treatment and indirect cost savings.

RESULTS

Health care utilization

The top part of Table 1 shows the mean direct costs per person per year for patients in psychoanalytic treatment in each of the four cohorts. We found that the pre- vs. post-treatment difference for total direct costs was € 704 per year, which was a difference of 45%. Investigation of the separate categories revealed that the biggest contributor to costs associated with health care utilization was the use of ambulatory mental health care elsewhere. The pre-treatment vs. two-year follow-up difference was € 832 per year, which was a cost difference of 53%.

Work impairment

The bottom part of Table 1 presents the mean annual indirect costs that are associated with productivity loss in each phase of treatment. The data point to several findings. First, the pre- vs. post-treatment difference in indirect costs was € 1.740 per person per year, which was a difference of 44%. Second, the biggest difference in costs associated with work impairment was in the category: absence of work. Third, at follow-up the difference in indirect costs was € 2.800 per person per year, which was a difference of 71% compared to pre-treatment. Fourth, standard deviations were high. This might be explained by the fact that cost data were skewed, which is a common finding in cost-related studies.

Costs of long-term psychoanalytic treatment and indirect cost savings

The average treatment duration was 61 months (= 5.1 years). Total costs of treatment were calculated by adding the costs of the pre-treatment assessment, the realized treatment sessions, and the cancelled treatment sessions. The average total costs of the treatments were estimated at € 64.717. Our results show that—after adding up cost savings due to a less health care utilization and work impairment—the total difference in societal costs between pre- and post-treatment was € 2.444 per person per year. Two years after treatment termination these cost savings had increased to € 3.632 per person per year. We found no significant correlation between dosage of treatment and indirect cost savings.

DISCUSSION

In this study we investigated the effect of long-term psychoanalytic treatment on health care utilization and work impairment. We adopted a broad societal perspective and found a substantial difference (€ 2.444 per person per year) in societal costs between pre- and post-treatment. The total cost savings even increased after a two-year follow-up period (€ 3.632 per person per year). This indicates that we can expect decreased medical consumption and higher work productivity immediately after psychoanalytic treatment and increased economical gains two years after the treatment has ended. The

Table 1. Mean direct and indirect costs per year (in €) of patients in different phases of long-term psychoanalytic treatment

	Phase of treatment				ANOVA
	Pre-treatment	During-treatment	Post-treatment	Follow-up	
Health care utilization	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>
General practitioner	111 (211)	79 (136)	54 (108)	64 (140)	1.62
Ambulatory mental health care — center	655 (2.564)	169 (772)	75 (615)	99 (705)	2.15 †
Ambulatory mental health care — private	594 (1.508)	300 (628)	529 (1.531)	262 (792)	1.01
Company doctor	22 (74)	11 (55)	22 (110)	11 (54)	0.35
Medical specialist	83 (285)	109 (322)	146 (515)	166 (573)	0.42
Physiotherapist	72 (358)	108 (329)	10 (53)	72 (357)	1.14
Social worker	23 (128)	30 (209)	0 (0)	14 (102)	0.61
Alternative health practitioner	10 (80)	26 (184)	10 (79)	50 (283)	0.72
Self-help group	0 (0)	14 (93)	20 (158)	0 (0)	0.70
Total direct medical costs	1.570 (2.875)	846 (1.107)	866 (1.697)	738 (1.485)	2.27 †
Work impairment					
Absence from work	2.435 (5.380)	1.133 (3.256)	1.255 (4.017)	595 (1.986)	2.24 †
Reduced efficiency at work	1.355 (3.211)	1.303 (2.240)	918 (2.616)	500 (1.349)	1.35
Unpaid labour	142 (597)	38 (172)	19 (97)	37 (198)	1.71
Total indirect costs	3.932 (6.637)	2.474 (4.190)	2.192 (6.200)	1.132 (2.363)	2.74 *
Total direct and indirect costs	5.502 (7.746)	3.320 (4.548)	3.058 (6.474)	1.870 (2.878)	3.87 *

Note. $n_{\text{pre-treatment}} = 64$, $n_{\text{during-treatment}} = 49$, $n_{\text{post-treatment}} = 67$, $n_{\text{follow-up}} = 51$.

† $p < .10$, * $p < .05$.

benefits that were observed at treatment termination were maintained at two-year follow-up, suggesting a continuous benefit of psychoanalytic treatment. An explanation for this potential sleeper effect might be that long-term psychoanalytic treatment reduces people's vulnerability to become psychologically distressed when faced with challenges in a way that protects from relapse after treatment.

The results of our study were somewhat less optimistic as those reported in a recent review on the costs and benefits of long-term psychoanalytic treatment (de Maat et al. 2007). Unlike this review, we can not conclude that *all* invested costs will eventually be earned back due to savings in areas like health care utilization and work productivity. Also, we found no significant correlation between dosage of treatment and indirect cost savings. Apparently, costs savings (as a result of reduced health care use and work impairment) do not increase with more investments (increased frequency or longer duration). This would suggest that the costs-savings ratio for high-frequency psychoanalytic treatments is less favorable than that for low-frequency treatments.

We have found that indirect costs represented the major part of the total costs. This is in line with findings from cost-of-illness studies of patients seeking psychotherapy (e.g., Luppá et al. 2007). Improved efficiency at work made a large, although not significant, contribution to the total indirect cost savings. Absence from work appeared to be the biggest contributor to indirect costs savings. Before treatment, patients pose a considerable economic burden on society mainly due to absenteeism from work. After psychoanalytic treatment we found substantially lower costs related to absence from work. This fact becomes even more compelling if we take into account that, according to national health statistics, the mean number of days of sick leave naturally increases with age (van der Linden & de Rijk 2008). The subjects who had already finished their treatment were significantly older at the time of assessment than the subjects before and during treatment ($F = 6.71, p < .001$). Considering this naturalistic course, one would expect higher levels of absenteeism from work in the post-treatment and follow-up groups. Our results show that the opposite was the case.

The present study has some methodological limitations. First, the use of the cross-sectional cohort design limits the strength of our conclusions and mainly shows that the data strongly suggest that psychoanalytic treatment reduces costs associated with health care utilization and work impairment. A longitudinal RCT design can provide more conclusive answers. Relatedly, in multiple-cohort designs a potential form of confounding involves differences in background characteristics and level of pre-treatment psychopathology between the cohorts (Cogan & Porcerelli 2005). One cannot be sure that the patients enrolled in the various cohorts were equivalent in terms of baseline psychopathology and background characteristics. We compared the four cohorts on pre-treatment DSM-IV-R diagnoses, sociodemographic characteristics and clinical decision making and found no significant differences on most variables. This provided support for the comparability of the four cohorts. Longitudinal research is certainly needed for more conclusive evidence. Also, we decided not to consider costs of medication use, because of the immense diversity in medications used and relatively low costs of the medication but we included as much relevant societal costs as possible. Also, we are dealing with imperfect estimates of true overall costs for society. As Lazar et al. (2006) pointed out, remote savings such as reduced health care consumption and increased productivity of the patient's family members, should ideally be included, but are obviously difficult to measure. We encourage future research to also attempt to assess these remote cost savings. Besides the limitations, the major methodological merits of our study were the large sample size and the state-of-the-art assessment of direct and indirect costs.

The present study has shown that costs associated with health care utilization and work impairment were significantly lower after long-term ambulatory psychoanalytic treatment compared to before treatment. Furthermore, these economical gains were again found at two-year follow-up. Of course, long-term psychoanalytic treatment should not only be considered beneficial because it can reduce costs associated with health care utilization and work impairment. The primary goal of psychotherapy is to improve a patient's psychological state with reductions in societal costs as secondary goals (Lazar et al. 2006). We recommend to conduct state-of-the-art cost-effectiveness analyses for future studies.

REFERENCES

1. Leichsenring F, Rabung S. Effectiveness of long-term psychodynamic psychotherapy. A meta-analysis. *JAMA* 2008;300:1551-1565.
2. Maat S de, Jonghe F de, Schoevers R, et al. The effectiveness of long-term psychoanalytic therapy: A systematic review of empirical studies. *Harv Rev Psychiatry* 2009;17:1-23.
3. Bateman A, Fonagy, P. Health service utilization costs for Borderline Personality Disorder patients treated with psychoanalytically oriented partial hospitalization versus general psychiatric care. *Am J Psychiatry* 2003;160:169-171.
4. Bender DS, Dolan RT, Skodol AE, et al. Treatment utilization by patients with personality disorders. *Am J Psychiatry* 2001;158:295-302.
5. Luppá M, Heinrich S, Angermeyer MC, et al. Cost-of-illness studies of depression: A systematic review. *J Affect Disord* 2007;98:29-43.
6. Smit F, Bohlmeijer E, Cuijpers P. *Wetenschappelijke onderbouwing depressiepreventie. Epidemiologie, aangrijpingspunten, huidige praktijk, nieuwe richtingen* [Scientific underpinning for preventing depression. Epidemiology, focal points, current practice and new directions]. Utrecht: Trimbos-instituut; 2003.
7. Soeteman DI, Hakkaart-van Roijen L, Verheul R, et al. The economic burden of personality disorders in mental health care. *J Clin Psychiatry* 2008;69:259-265.
8. Berghout C, Zevalkink J. Identifying clinical cases among patients assigned to psychoanalytic treatment. *Bull Menninger Clin* 2008;72:163-178.
9. Zevalkink J, Berghout C. Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychother Res* 2008;18:316-325.
10. Willock B, Balzert C, Fayek A, et al. National health insurance coverage of psychoanalysis and psychotherapy: An interantional reveiw highlighting some current issues. In: Kaley H, Eagle MN, Wolitzky DL, eds. *Psychoanalytic therapy as health care. Effectiveness and economics in the 21st century*. Hillsdale, NJ: The Analytic Press; 1999:127-160.
11. Zevalkink J. *Indicatie- en behandelingsprotocol voor volwassenen* [Protocol for treatment assignment and treatment progress in adult patients]. Amsterdam: Nederlands Psychoanalytisch Instituut; 2004.
12. Maat S de, Philipszoon F, Schoevers R, et al. Costs and benefits of long-term psychoanalytic therapy: changes in health care use and work impairment. *Harv Rev Psychiatry* 2007;15:289-300.
13. Lazar A, Sandell R, Grant J. Do psychoanalytic treatments have positive effects on health and health care utilization? Further findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis Project (STOPPP). *Psychother Res* 2006;16:51-66.
14. Kraft S, Puschner B, Lambert MJ, et al. Medical utilization and treatment outcome in mid- and long-term outpatient psychotherapy. *Psychother Res* 2006;16:241-249.
15. Beutel ME, Rasting M, Stuhr U, et al. Assessing the impact of psychoanalysis and long-term psychoanalytic therapies on health care utilization and costs. *Psychother Res* 2004;14:146-160.
16. Drummond MF, Sculpher MJ, Torrance GW, et al. *Methods for the economic evaluation of health care programmes* (3rd ed.). New York: Oxford University Press; 2005.
17. Krupnick JL, Pincus HA. The cost-effectiveness of psychotherapy: A plan for research. *Am J Psychiatry* 1992;149:1295-1305.
18. Chiles JA, Lambert MJ, Hatch AL. The impact of psychological interventions on medical cost offset: A meta-analytic review. *Clin Psychol Sc Pract* 1999;6:204-220.
19. Gabbard GO, Lazar SG, Hornberger J, et al. The economic impact of psychotherapy: A review. *Am J Psychiatry* 1997;154:147-155.
20. Hakkaart-van Roijen L, Bouwmans C. *Handleiding Short Form - Health and Labour Questionnaire* [Manual Short Form - Health and Labour Questionnaire]. Rotterdam: Institute for Medical Technology Assessment/Erasmus Universitair Medisch Centrum Rotterdam; 2007.
21. Leichsenring F. Randomized controlled versus naturalistic studies: A new research agenda. *Bull Menninger Clin* 2004;68:137-151.
22. Sandell R, Blomberg J, Lazar A. When reality doesn't fit the blueprint: doing research on psychoanalysis and long-term psychotherapy in a public health service program. *Psychother Res* 1997;7:333-344.
23. Seligman MEP. The effectiveness of psychotherapy: The Consumer Reports Study. *Am Psychol* 1995;50:965-974.
24. Centre of Evidence Based Medicine Oxford. *Levels of Evidence*. Available at: <http://www.cebm.net>. Accessed October 6, 2009.
25. Berghout C, Zevalkink J, Hakkaart-van Roijen L. A cost-utility analysis of psychoanalysis versus psychoanalytic psychotherapy. *Int J Technol Assess Health Care* 2010;26:3-10.
26. Oostenbrink JB, Bouwmans CAM, Koopmanschap MA, et al. *Handleiding voor kostenonderzoek: Methoden en standaardprijzen voor economische evaluaties* [Manual for cost research: Methods and unit-prices

for economic evaluations]. Diemen: College voor zorgverzekeringen; 2004.

27. Hakkaart-van Roijen L, Hoeijenbos MB, Regeer EJ, et al. The societal costs and quality of life of patients suffering from bipolar disorder in the Netherlands. *Acta Psychiatr Scand* 2004;110:383-392.

28. Hakkaart-van Roijen L, Straten A van, Donker M, et al. *Handleiding Trimbos/iMTA questionnaire for costs associated with psychiatric illness (Tic-P)* [Manual Trimbos/iMTA questionnaire for costs associated with psychiatric illness (Tic-P)]. Rotterdam: Erasmus Universiteit; 2002.

29. Linden F van der, Rijk A de. *Ziekteverzuim naar leeftijd en geslacht, 2002-2005* [Absenteeism by age and gender, 2002-2005]. Voorburg/Heerlen: Centraal Bureau voor Statistiek; 2008.

30. Cogan R, Porcerelli JH. Clinician reports of personality pathology of patients beginning and patients ending psychoanalysis. *Psychol Psychother Theor Res Pract* 2005;78:235-248.

CHAPTER 8

A cost-utility analysis of psychoanalysis versus psychoanalytic psychotherapy

Berghout, C.C., Zevalkink, J., & Hakkaart-van Roijen, L. (2010). A cost-utility analysis of psychoanalysis versus psychoanalytic psychotherapy. *International Journal of Technology Assessment in Health Care*, 26, 3-10.

ABSTRACT

Objectives: Despite the considerable and growing body of research about the clinical effectiveness of long-term psychoanalytic treatment, relatively little attention has been paid to economic evaluations, particularly with reference to the broader range of societal effects. In this cost-utility study, we examined the incremental cost-effectiveness ratio (ICER) of psychoanalysis versus psychoanalytic psychotherapy.

Methods: Incremental costs and effects were estimated by means of cross-sectional measurements in a cohort design (psychoanalysis, $n = 78$; psychoanalytic psychotherapy, $n = 104$). Quality-adjusted life-years (QALYs) were estimated for each treatment strategy using the SF-6D. Total costs were calculated from a societal perspective (treatment costs plus other societal costs) and discounted at 4 percent.

Results: Psychoanalysis was more costly than psychoanalytic psychotherapy, but also more effective from a health-related quality of life perspective. The ICER—that is, the extra costs to gain one additional QALY by delivering psychoanalysis instead of psychoanalytic psychotherapy—was estimated at €52,384 per QALY gained.

Conclusions: Our findings show that the cost-utility ratio of psychoanalysis relative to psychoanalytic psychotherapy is within an acceptable range. More research is needed to find out whether cost-utility ratios vary with different types of patients. We also encourage cost-utility analyses comparing psychoanalytic treatment to other forms of (long-term) treatment.

Psychoanalysis is perceived as an expensive ambulatory treatment for mental illnesses. This high intensity treatment is still covered by national health insurance in Canada, Australia, and several European countries, including the Netherlands. Economic considerations encourage policy makers and health insurance companies to only fund evidence-based treatments, which are of minimal burden to patients and that can be provided in the shortest possible period of time. In that light, psychoanalysis is on the brink of extinction if no evidence can be provided of its effectiveness in curing particular groups of patients. Perhaps shorter or less intensive treatments, such as psychoanalytic psychotherapy, are more cost-effective compared with psychoanalysis. Despite the considerable and growing body of research about the clinical effectiveness of long-term psychoanalytic treatment (e.g., Leichsenring and Rabung) (15), relatively little attention has been paid to economic evaluations, particularly with reference to the broader range of societal effects. Although state-of-the-art cost-effectiveness data are still scarce for long-term psychotherapy in the Netherlands, the first studies show promising results (e.g., Bartak et al. and van Asselt et al.) (3;22). In this light, a study into the cost-effectiveness of psychoanalysis might be particularly interesting because this is one of the most expensive ambulatory psychotherapeutic treatments with four to five sessions a week during an average of 4 to 5 years. Long-term psychoanalytic psychotherapy has a lower dosage with one to two sessions a week during an average of 2 to 3 years. A previous study showed that these two psychoanalytic treatments are commonly assigned to patients with serious, but roughly comparable, mental health problems, in particular chronic depression and personality problems (25). Because of the similarity of the mental health problems at the start of treatment, a comparison of the cost-effectiveness between the two long-term psychoanalytic treatments seems reasonable. The general aim of this study is to investigate how the costs and consequences of psychoanalysis relate to those of psychoanalytic psychotherapy.

Cost-utility analysis is generally recommended as the preferred economic evaluation method, especially when the health effects are measured in quality-adjusted life-years (QALYs; 10). The quality adjustment is based on a set of weights, called utilities, which reflects the desirability of the health states. A systematic review on cost-utility analysis studies of depression treatment showed that psychotherapy had lower costs per QALY than (primary physician) usual care (19). In addition, data on cost-effectiveness of psychotherapy for personality disorders suggest that treatment for patients with a high burden of disease may eventually lead to cost-savings (3). In cost-utility analyses, health improvement is commonly measured with instruments that describe and value health-related quality of life over a range of different health states. Such generic instruments can be used to assess the quality of life within a certain clinical setting and relate it to reported health states in other settings without having to gather that information in the project itself. Furthermore, state-of-the-art economic evaluations always include two different types of costs: (i) direct treatment costs and (ii) indirect costs associated with healthcare use and lost productivity related to health problems (21).

The objective of this study was to investigate the estimated cost-effectiveness of psychoanalysis delivered by mental health workers in ambulatory mental health clinics for patients with chronic depression and/or personality problems in comparison with a lower intensity psychoanalytic psychotherapy. Earlier reports have shown that both forms of psychoanalytic treatment were effective with regard to reducing mental health symptoms and personality problems (4; Berghout, Zevalkink, & de Jong, unpublished data, 2009). In this cost-utility study, we examined the incremental cost-effectiveness ratio (ICER) of high-dosage versus lower-dosage psychoanalytic treatment which estimates the additional costs that need to be invested to achieve an extra QALY when choosing psychoanalysis over psychoanalytic psychotherapy.

METHOD

Participants

This multicenter study included 182 subjects from four mental healthcare organizations (Nederlands Psychoanalytisch Instituut, De Gelderse Roos, Mediant, Parnassia/Psy-Q) who received either psychoanalysis (PA; $n = 78$) or psychoanalytic psychotherapy (PP; $n = 104$). In this study, we used a quasi-experimental, cross-sectional design with three different cohorts (20). These cohorts were representative samples of patients from different phases of treatment. The subjects followed a naturalistic route through the clinical setting with treatment assignment performed in teams of experienced therapists who followed professional guidelines for government sponsored long-term

ambulatory psychoanalytic treatment. The *pretreatment cohort* consisted of patients who just started long-term psychoanalytic treatment ($n_{PA} = 25$, $n_{PP} = 39$), the *posttreatment cohort* consisted of persons who had just finished long-term psychoanalytic treatment (approximately 3 months after treatment termination; $n_{PA} = 31$, $n_{PP} = 36$), and persons in the *follow-up cohort* had already finished their treatment 2 years ago ($n_{PA} = 22$, $n_{PP} = 29$). The PA/PP distribution did not significantly differ between cohorts.

The comparability of the patients in the cohorts was investigated in two ways. First, we examined pretreatment differences between cohorts with regard to sociodemographic characteristics (gender, age at intake, treatment history, cultural background, educational level, employment status, and living situation) and psychiatric diagnoses within each treatment group to identify potential confounds (5). For patients in the PA-group Chi-squared analyses and ANOVA revealed no significant differences between the three cohorts on pretreatment sociodemographic patient characteristics. In the PP-group, we found cohort differences regarding age at intake and living situation: subjects in the posttreatment cohort were somewhat younger at the start of treatment compared with subjects in the other two cohorts ($F = 3.39$; $p < .05$), and there were significantly fewer subjects in the posttreatment cohort who lived with a partner ($\chi^2 = 8.37$; $p < .05$).

Psychiatric diagnoses were assessed following the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-R) (2) of which three axes are relevant for research: Axis I (symptoms), Axis II (personality), and Axis IV (general functioning). For DSM-IV-R Axis I, no significant pretreatment differences between cohorts were found. Most frequently diagnosed across all cohorts were mood disorders (44 percent), in particular dysthymic disorder (30 percent) followed by anxiety disorders (13 percent). The frequencies of Axis II diagnoses were roughly comparable across the cohorts, however, in the pretreatment PP-cohort there were significantly more patients with a diagnosis for a personality disorder ($\chi^2 = 9.44$; $p < .01$) compared to the other two cohorts. The majority of the patients (71 percent) was diagnosed with a personality disorder, in particular personality disorder not otherwise specified (29 percent), narcissistic personality disorder (13 percent), dependent personality disorder (12 percent), and avoidant personality disorder (12 percent). On Axis V, the average Global Assessment of Functioning (GAF) score was 64.0 ($SD = 7.9$). Pretreatment GAF scores of patients at follow-up were significantly higher compared with those of patients before and at end of treatment in both treatment groups (PA: $F = 3.77$, $p < .05$; PP: $F = 4.38$, $p < .05$). Maybe it has become customary to estimate the GAF score lower in light of the threat of budget cuts in recent years (see also Doidge et al.) (8).

Second, in a random subsample ($n = 58$), we investigated whether the cohorts had experienced similar processes with regard to treatment assignment over time and mental health clinic with the aid of three independent clinicians who retrospectively assessed the pretreatment GAF and treatment assignment (PP versus PA) from patient files in which all information regarding cohort status, mental health organization, pretreatment psychiatric classification, and treatment assignment was removed and edited in a similar format. No significant GAF differences were found. The results showed that clinical decision making did not change significantly over time (cohorts) nor differed across the four organizations (for details, see Berghout et al., unpublished data, 2009). This supports the hypothesis that a higher GAF in the follow-up might be a temporally influenced structural adjustment of the GAF score instead of a selection bias.

Treatments

Both psychoanalytic psychotherapy and psychoanalysis are open-ended long-term psychotherapeutic treatments, defined as consisting of at least 25 sessions or lasting at least 1 year. These psychoanalytic treatments have been described in textbooks (e.g., 10;11;18). In general, psychoanalytic treatments share some common theoretical assumptions and intend to influence the working of unconscious processes by either focusing on conflicts, object relations, the self, and/or interactional processes (11). Psychoanalysis differs from psychoanalytic psychotherapy in that patients in psychoanalysis receive three or more sessions per week lying on the couch, while patients in psychoanalytic psychotherapy sit face-to-face and the frequency typically is one or two times a week. The average length of treatment was 6.46 years for PA ($SD = 2.68$ yr) and 3.94 years for PP ($SD = 2.50$ yr). As could be expected, this difference in treatment duration was significant ($F = 29.0$; $p < .001$). All therapists ($n = 87$) in the

project were licensed clinicians (psychiatrists/psychotherapists or psychologists/psychotherapists) and a member of one of the Netherlands psychoanalytic societies.

Procedure

Inclusion criteria for participation were a minimum age of 18 years, having mastery of the Dutch language, and having received or being assigned to long-term psychoanalytic treatment (>25 sessions, with a minimum frequency of once a week). Exclusion criteria were the presence of (acute) psychotic symptoms. All participants who met these criteria were approached by means of mail. When subjects returned a positive informed consent, they received a package of questionnaires by regular mail with a stamped return envelope. Data gathering was done in the period of January 2005 to June 2007. The set of questionnaires we used in the first months of the study did not include the SF-36. The number of patients with missing SF-36 data was highest in the pretreatment cohort, because we started relatively early with data collection in this cohort. DSM-IV-R diagnoses were assessed in a consensus meeting of psychiatrists, psychotherapists, and test-psychologists at the start of treatment after a comprehensive personality screening.

Instruments

Health-Related Quality of Life. The Short-Form Health Survey (SF-36) (24) is a generic self-report measure of health-related quality of life. The Dutch version of the SF-36 was used (1), which consists of thirty-six items and generates scores across eight dimensions of physical and mental health. In an extensive validation study, the mean coefficient alpha (internal consistency) of the SF-36 scales across scales and samples was found to be 0.84 (1). From a sample of eleven items of the SF-36, Brazier et al. (6) estimated a preference-based single index measure, resulting in the SF-6D index. The SF-6D index can be regarded as a continuous outcome scored on a 0.29 to 1.00 scale, with 1.00 indicating “full health.” This index introduces preference weights into the scoring of descriptive data to generate health state utility values needed to construct QALYs and conduct cost-utility analyses (6). Missing values (22 percent) were replaced by using the group mean imputation method. QALYs were estimated by calculating the average utility scores (SF-6D index) between the pretreatment and posttreatment measurements as well as the average scores between the posttreatment and follow-up measurements and multiplying it by the time between these measurement points. We assumed that health status changes between two measurement points were gradual over time so that changes in utility scores could be approximated by a straight line (9). Sample sizes were not considered to be too discrepant to consider alternative statistical methods.

Direct Treatment Costs. The estimation of direct treatment costs involves two steps: the measurement of the *quantities* of resource use and the assignment of unit costs or *prices* (9). Total quantities of resource use could be calculated for patients who had finished their long-term psychoanalytic treatment. Three resource units were of importance here: the pretreatment diagnostic assessment, the number of realized sessions, and the number of cancelled sessions for which costs were already made. Data on quantities of resource use were obtained from administrative records kept by the mental healthcare organizations. At one of the research sites, there was no exact session administration before 2001, so for those patients whose treatments started before 2001, the number of sessions was calculated assuming an equal distribution of sessions over time (e.g., 138 sessions in 2001–2003 was extrapolated to 276 sessions for the period 1999–2003).

For the valuation of resource use, unit costs were based on data of actual personnel costs of all psychotherapists and psychiatrists who delivered psychoanalysis or psychoanalytic psychotherapy in 2006, including material and overhead costs. The average session costs were calculated at €115.22, and the costs associated with the whole pretreatment diagnostic assessment (intake sessions, personality assessment, clinical decision making) were calculated at €3,128. These unit costs were then multiplied by the quantities of resource use which resulted in an estimation of the total direct treatment costs. A discount rate of 4 percent was applied to account for differential timing of costs (17).

Other Societal Costs. In addition, direct medical costs and indirect costs were measured with the “Trimbos and iMTA questionnaire for Costs associated with Psychiatric illness” (TiC-P) (13). The TiC-P measures costs of relevant utilization of health care other than the psychoanalytic treatment and indirect costs due to production losses in paid work. We used the Health and Labor Questionnaire

(HLQ) approach to estimate costs associated with productivity loss at work (12). With this approach, respondents are asked to estimate the number of additional hours they should have worked to compensate for production losses due to illness and reduced efficiency on working days. For the analysis of long-term absence from work, we applied the friction-cost method (17). This limits the indirect costs of productivity losses to the period it takes to replace someone who becomes disabled. This friction period is estimated at 154 days (12). Missing values (4 percent) were replaced by using the group mean imputation method. The total societal costs were estimated by calculating the averages between the pretreatment and posttreatment measurements as well as the averages between the posttreatment and follow-up measurements and multiplying it by the time between these measurement points. We assumed that changes in societal costs between two measurement points were gradual over time. A discount rate of 4 percent was applied to account for differential timing of costs (17).

Sensitivity Analyses

The usual approach to handling uncertainty in economic evaluations is to conduct sensitivity analyses (9). Robustness of the results was assessed by using three-way sensitivity analyses. We recalculated ICERs by varying discount rates of treatment costs and other societal costs between 0 percent and 8 percent, by using the lower confidence limit or the upper confidence limit (95 percent confidence interval) of the incremental effects in QALYs, and by using mean imputation or no imputation to deal with missing data.

RESULTS

Pretreatment Assessment

For each treatment group, baseline sociodemographic and diagnostic characteristics of the patients are presented in Table 1. Chi-squared analyses and ANOVA revealed no significant differences between patients in PA and patients in PP on pretreatment sociodemographic or diagnostic characteristics, except for the distribution of gender. There were significantly more women in the PP-group than in the PA-group (80 percent versus 62 percent; $\chi^2 = 7.38$; $p < .01$). Before the start of treatment, patients in PA did not differ significantly from patients in PP with regard to the SF-6D utility score and direct and indirect healthcare utilization.

Table 1. Baseline characteristics of study participants in psychoanalysis (PA) and psychoanalytic psychotherapy (PP)

	PA ($n = 78$)	PP ($n = 104$)	
Age, years: M (SD)	33.2 (7.9)	31.6 (7.9)	
Gender			
Female	62%	80%	**
Received previous treatment	79%	72%	
Education			
Middle	21%	24%	
Higher	79%	76%	
Western cultural background	90%	91%	
Living with partner	48%	44%	
Living with children	22%	18%	
Employed	84%	73%	
DSM-IV-R diagnoses			
Diagnosed with Axis-I disorder	99%	100%	
Diagnosed with Axis-II disorder	72%	69%	
Global Assessment of Functioning: M (SD)	65.0 (7.3)	63.3 (8.3)	

** $p < .01$.

Incremental Cost-Effectiveness Ratio

Table 2 presents the mean SF-6D utility scores for each cohort. A 2 (treatment group) \times 3 (phase of treatment) independent groups analysis of variance was performed to examine main and interaction effects between treatment groups and phase of treatment. We found a significant main effect for phase

of treatment, which means that there were significant differences between the cohorts on the SF-6D index. These differences were in the expected direction, that is, better health status after treatment compared with before treatment. We did not find a main effect for treatment group nor an interaction effect.

Table 2. SF-6D means and standard deviations for a two \times three ANOVA

Treatment group	Phase of treatment					
	Pre-treatment		Post-treatment		Follow-up	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Psychoanalysis (PA)	0.704	(0.05)	0.793	(0.09)	0.757	(0.09)
Psychoanalytic psychotherapy (PP)	0.713	(0.07)	0.767	(0.10)	0.776	(0.09)
Between-Subjects effects						
	<i>df</i>	<i>F</i>	η^2	<i>p</i>		
Phase of treatment	2	12.17 ***	0.12	.000		
Treatment group	1	0.00	0.00	.955		
Phase of treatment \times Treatment group	2	1.20	0.01	.305		
Within group error	176	(0.01)				

Note. Value enclosed in parentheses represents mean square error. PA: $n_{\text{pre-treatment}} = 25$, $n_{\text{post-treatment}} = 31$, $n_{\text{follow-up}} = 22$; PP: $n_{\text{pre-treatment}} = 39$, $n_{\text{post-treatment}} = 36$, $n_{\text{follow-up}} = 29$.

*** $p < .001$.

ANOVA = analysis of variance.

Table 3 presents the average treatment costs and other societal costs as well as the total costs of PA and PP. The total treatment costs for PA and PP were calculated by multiplying the average number of sessions by the basic session cost and adding the costs associated with the whole pretreatment diagnostic assessment (intake sessions, personality assessment, clinical decision making). The average number of sessions (including cancelled sessions) in PA was 971, and the average number of sessions for PP was 180. As expected, psychoanalysis was more expensive than psychoanalytic psychotherapy. Next, we calculated the number of QALYs achieved. Table 3 shows that more QALYs were achieved after PA as compared with PP (6.4 versus 4.5, respectively), but that the average costs per QALY was also higher. The ICER was estimated by dividing the difference in overall costs by the difference in QALYs between PA and PP. Table 3 shows that the extra costs to gain one additional QALY by delivering psychoanalysis instead of psychoanalytic psychotherapy was €52,384.

Table 3. Total costs, QALYs and average costs per QALY for psychoanalysis (PA) and psychoanalytic psychotherapy (PP) and Incremental Cost-Effectiveness Ratio

	PA	PP	Incremental values
Treatment costs (€)	103,507	22,576	
Other societal costs (€)	35,593	15,580	
Total overall costs (treatment + societal; €)	139,100	38,156	100,944
QALYs	6.384	4.457	1.927
Average costs per QALY (€ / QALY)	21,789	8,561	
Incremental Cost-Effectiveness Ratio			52,384

Note. QALYs = Quality Adjusted Life Years. $N_{PA} = 78$, $N_{PP} = 104$.

Sensitivity Analyses

The lower bound estimation of incremental QALYs was estimated at 1.857, and the upper bound estimation of incremental QALYs was estimated at 1.997. Incremental costs at a discount rate of 0 percent were estimated at €114,864, and incremental costs at a discount rate of 8 percent were estimated at €89,540. Table 4 shows the recalculated ICERs across varying discount rates and varying

estimations of QALY differences. We found a small to moderate degree of variation in ICER estimations, supporting the robustness of the results.

Table 4. ICER estimations based on three-way sensitivity analyses

Discount rate	Δ QALYs	Dealing with missing data	ICER estimation
0%	Lower confidence limit	Mean imputation	€61,854/ QALY
0%	Upper confidence limit	Mean imputation	€57,518/ QALY
0%	Lower confidence limit	No imputation	€64,098/ QALY
0%	Upper confidence limit	No imputation	€55,678/ QALY
8%	Lower confidence limit	Mean imputation	€48,217/ QALY
8%	Upper confidence limit	Mean imputation	€44,837/ QALY
8%	Lower confidence limit	No imputation	€49,967/ QALY
8%	Upper confidence limit	No imputation	€43,403/ QALY

Note. ICER = Incremental Cost-Effectiveness Ratio. QALYs = Quality Adjusted Life Years.

DISCUSSION

In this study, we presented a cost-utility analysis to address the relative effectiveness and costs of two forms of long-term ambulatory psychoanalytic treatment using a cross-sectional cohort design. We combined pretreatment, posttreatment, and follow-up estimates of health-related quality of life and costs to provide incremental cost-effectiveness ratios and the average cost per QALY. The results showed that psychoanalysis was more expensive than psychoanalytic psychotherapy, but also more effective in terms of QALYs gained. The ICER of psychoanalysis compared with psychoanalytic psychotherapy showed that the cost of one QALY gained was just over €52,000. Whether or not psychoanalysis provides good value for money compared with psychoanalytic psychotherapy depends on the threshold of the ICER as is acceptable in the society at hand. From the literature, it becomes clear that estimates of this threshold vary from €12,000 to €73,000 per extra QALY in the Netherlands (7). The literature also reveals that estimates of acceptable threshold values tend to increase in patient populations with life-threatening diseases and higher burden of disease. Our results suggest that the cost-utility ratio of psychoanalysis relative to psychoanalytic psychotherapy appears to be within the acceptable range when lenient threshold values are applied, but it becomes less cost-effective when stricter threshold values are used. The results should be interpreted with caution due to the design, which brings biases from both sampling and timing differences.

We used state-of-the-art instruments to assess health-related quality of life and direct and indirect societal costs. With the SF-6D, it is possible to examine whether a treatment has a clinically relevant effect on health-related quality of life, as the minimally important difference (MID) for the SF-6D utility scores has been estimated to be 0.033 points (23). Utility scores for patients receiving psychoanalysis increased with 0.089 from pretreatment to posttreatment. For patients in psychoanalytic psychotherapy, the increase in utility scores from pretreatment to posttreatment was 0.054. From this, we can conclude that both treatments had a clinically relevant effect on health-related quality of life as it exceeds 0.033. The SF-36 is a generic measure and not so much targets the specific areas in which our patients experience problems. In this way, it is possible to compare patient populations. Although not relevant for cost-utility analysis, we tentatively examined the SF-36 subscales. It appeared that our patient population showed significantly worse health-related quality of life scores in several areas (mainly mental problems) before treatment as compared to the age- and sex-adjusted reference scores from the Dutch general population (1). However, our patients did not report many physical problems and were actually functioning quite well in these areas at the start of treatment. With the TiC-P, we generated data on direct medical costs following a standard procedure. It included costs associated with productivity loss at work, which was particularly relevant to our study population. As advised by the developers of the instrument, we decided not to consider costs of medication use, because of the immense diversity in medications used and relatively low costs associated with it. By including the TiC-P, we tried to adopt a broad societal perspective. Nonetheless, we are aware that we are still dealing with imperfect estimates of true overall costs for society. As Lazar et al. (14) pointed out, remote savings such as reduced healthcare consumption and increased

productivity of the patient's family members, should ideally be included, but are obviously difficult to measure.

Even in the most carefully designed study, data for all patients are unlikely to be complete. Group mean imputation generates 'replacement' values for missing data that will permit complete case analysis using the whole data set. While mean imputation is one of the most commonly used methods to deal with missing data in economic evaluations, Oostenbrink and Al (16) state that one should be cautious to apply relatively simple methods such as mean imputation to deal with missing data, because it can often lead to biased estimates. We had to deal with a fairly large amount of missing SF-6D data, so these estimations were associated with the most uncertainty. The sensitivity analyses revealed, however, that this uncertainty impacted the estimations of the cost-effectiveness ratios only to a moderate extent.

In cross-sectional cohort designs, a potential form of confounding involves differences in background characteristics and level of pretreatment psychopathology between the cohorts. One cannot be sure that the patients enrolled in the various cohorts were entirely equivalent in terms of baseline psychopathology and background characteristics. Pretreatment differences could potentially influence the results of our cohort comparisons. To investigate bias, we compared the three cohorts on pretreatment DSM-IV-R diagnoses, sociodemographic characteristics and clinical decision making and found very few significant differences. Although we realize that there might be other variables—which we did not measure—that could have relevance to potential confounds, we have checked the comparability of the cohorts on several variables and found no significant sampling bias. The present cross-sectional cohort design was set up to gather data about costs and effects of long-term treatments within a relatively short period of time. We encourage future studies on the cost-utility of long-term psychoanalytic treatment to also include true longitudinal research designs. In addition, we encourage cost-utility analyses of psychoanalytic treatment compared with other forms of (long-term) treatment. Our study has shown that psychoanalysis is indeed more costly compared with psychoanalytic psychotherapy, but also more effective from a health-related quality of life perspective. The cost-utility ratio of psychoanalysis relative to psychoanalytic psychotherapy appeared to be within the acceptable range, however, when one uses stricter thresholds psychoanalysis becomes less cost-effective than psychoanalytic psychotherapy. More research is needed to find out which types of patients have benefited more from psychoanalysis as compared to psychoanalytic psychotherapy.

REFERENCES

1. Aaronson, NK, Muller, M, Cohen, PDA, et al. Translation, validation, and norming of the Dutch language version of the SF-36 health survey in community and chronic disease populations. *J Clin Epidemiol.* 1998;51:1055-1068.
2. American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: American Psychiatric Association.
3. Asselt, ADI van, Dirksen, CD, Arntz, A, et al. Out-patient psychotherapy for borderline personality disorder: Cost-effectiveness of schema-focused therapy v. transference-focused psychotherapy. *Br J Psychiatry.* 2008;192:450-457.
4. Bartak, A, Soeteman, DI, Verheul, R, Busschbach, JJV. Strengthening the status of psychotherapy for personality disorders: An integrated perspective on effects and costs. *Can J Psychiatry.* 2007;52:803-810.
5. Berghout, CC, Zevalkink, J. Clinical significance of long-term psychoanalytic treatment. *Bull Menninger Clin.* 2009;73:18-44.
6. Bickman, L, Rog, DJ. *Handbook of applied social research methods.* Thousand Oaks: Sage Publications; 1998.
7. Brazier, J, Roberts, J, Derevill, M. The estimation of a preference-based measure of health from the SF-36. *J Health Econ.* 2002;21:271-292.
8. Brouwer, WBF, Rutten, FFH. Afbakening van het basispakket. De rol van het doelmatigheidscriterium [Demarcation of the basic package. The role of the efficiency criterion]. In Raad voor de Volksgezondheid en Zorg, *Zicht op zinnige en duurzame zorg* (pp. 35-88). Den Haag: RVZ; 2006.
9. Doidge, N, Simon, B, Brauer, L, et al. Psychoanalytic patients in the U.S., Canada, and Australia: 1. DSM-III-R disorders, indications, previous treatment, medications, and length of treatment. *J Am Psychoanal Assoc.* 2002;50:575-614.
10. Drummond, MF, Sculpher, MJ, Torrance, GW, O'Brien, BJ, Stoddart, GL. *Methods for the economic*

- evaluation of health care programmes* (3rd ed.). New York: Oxford University Press; 2005.
11. Gabbard, GO. *Psychodynamic psychiatry in clinical practice. The DSM-IV edition* (3rd ed.). Washington, DC: American Psychiatric Press, Inc; 2005.
 12. Gabbard, GO (2009). Techniques of psychodynamic psychotherapy. In GO Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments* (pp. 43-67). Washington, DC: American Psychiatric Publishing, Inc.
 13. Hakkaart-van Roijen, L, Bouwmans, C. *Handleiding Short Form - Health and Labour Questionnaire* [Manual Short Form - Health and Labour Questionnaire]. Rotterdam: Institute for Medical Technology Assessment/Erasmus Universitair Medisch Centrum Rotterdam; 2007.
 14. Hakkaart-van Roijen, L, Straten, A van, Donker, M, Tiemens, B. *Handleiding Trimbos/iMTA questionnaire for costs associated with psychiatric illness (Tic-P)* [Manual Trimbos/iMTA questionnaire for costs associated with psychiatric illness (Tic-P)]. Rotterdam: Erasmus Universiteit; 2002.
 15. Lazar, A, Sandell, R, Grant, J. Do psychoanalytic treatments have positive effects on health and health care utilization? Further findings of the Stockholm Outcome of Psychotherapy and Psychoanalysis Project (STOPPP). *Psychother Res.* 2006;16:51-66.
 16. Leichsenring, F, Rabung, S. Effectiveness of long-term psychodynamic psychotherapy. A meta-analysis. *JAMA.* 2008;300:1551-1565.
 17. Oostenbrink, JB, Al, MJ. The analysis of incomplete cost data due to dropout. *Health Econ.* 2005;14:763-776.
 18. Oostenbrink, JB, Bouwmans, CAM, Koopmanschap, MA, Rutten, FFH. *Handleiding voor kostenonderzoek: Methoden en standaardprijzen voor economische evaluaties* [Manual for cost research: Methods and unit-prices for economic evaluations]. Diemen: College voor zorgverzekeringen; 2004.
 19. Person, ES, Cooper, AM, Gabbard, GO (Eds.). (2005). *Textbook of psychoanalysis*. Washington, DC: American Psychiatric Press, Inc.
 20. Pirraglia, PA, Rosen, AB, Hermann, RC, Olchanski, NV, Neumann, P. Cost-utility analysis studies of depression management: A systematic review. *Am J Psychiatry.* 2004;161:2155-2162.
 21. Sandell, R, Blomberg, J, Lazar, A. When reality doesn't fit the blueprint: Doing research on psychoanalysis and long-term psychotherapy in a public health service program. *Psychother Res.* 1997;7:333-344.
 22. Soeteman, DI, Hakkaart-van Roijen, L, Verheul, R, Busschbach, JJV. The economic burden of personality disorders in mental health care. *J Clin Psychiatry.* 2008;69:259-265.
 23. Walters, SJ, Brazier, JE. What is the relationship between the minimally important difference and health state utility values? The case of the SF-6D. *Health Qual Life Outcomes.* 2003;1:4, URL: <http://www.hqlo.com/content/1/1/4>.
 24. Ware, JE, Snow, KK, Kolinski, M, Gandek, B. *SF-36 Health survey manual and interpretation guide*. Boston, MA: The Health Institute, New England Medical Center; 1993.
 25. Zevalkink, J, Berghout, CC. Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychother Res.* 2008;18:316-325.

GENERAL DISCUSSION

CHAPTER 9

Conclusions and discussion

The general aim of this thesis was to provide data on the effectiveness of long-term psychoanalytic treatment. We focused on the characteristics of the patient population, the clinical effectiveness of psychoanalytic treatment, the course of improvement during treatment, and the cost-effectiveness of psychoanalysis compared to psychoanalytic psychotherapy. This chapter describes the findings and conclusions of these studies followed by a discussion of the present research. In this chapter, we will only include additional references that were not part of the discussion sections of the empirical chapters, with some notable exceptions, in order to avoid too much duplicity.

GENERAL SUMMARY

Chapters 2 and 3 described results of a pilot study on the characteristics (e.g., level of psychopathology) of patients assigned to long-term psychoanalytic treatment in order to investigate the feasibility of doing effectiveness research in this setting. The study ($N = 170$) intended to provide a detailed description of the patient population in regular clinical practice. Results showed that psychoanalytic treatment is not for the ‘worried well’: the overwhelming majority of patients were identified as clinical cases, characterized by high levels of depression, hypervigilance, trait anxiety, and interpersonal problems. The pilot study also showed that patients assigned to psychoanalysis reported higher pre-treatment levels of interpersonal problems and avoidance, and less problems with reality testing, information processing and instrumental aggression compared with patients assigned to psychoanalytic psychotherapy.

The following five chapters described results of our multiple cohort study into long-term psychoanalytic treatment ($N = 231$). We have summarized our study under three subsections: effectiveness, longitudinal measurements, and cost-effectiveness. The effectiveness results of the multiple cohort study showed that long-term psychoanalytic treatment appeared to be highly effective in reducing the level of psychopathology ($d = 1.19 - 1.27$) and moderately effective in improving personality functioning ($d = 0.52 - 0.79$). Patient gender was found to moderate treatment outcome after psychoanalysis, in that women appeared to have better treatment outcome than men. We found that psychoanalytic treatment also led to clinically significant changes in patients’ lives, although complete remission should not be expected for *all* patients. The longitudinal results showed that most symptoms and interpersonal problems did not decrease notably within the first two years of psychoanalytic treatment; the significant effects were found at treatment termination (which was after 3.9 years in the psychoanalytic psychotherapy group and after 6.5 years in the psychoanalysis group) and also at follow-up two years after treatment termination. With regard to cost-effectiveness, we found that long-term psychoanalytic treatment led to indirect cost savings due to reduced health care utilization (pre vs. post: -45%, pre vs. follow-up: -53%) and work impairment (pre vs. post: -44%, pre vs. follow-up: -71%). These cost savings were still lower than the direct treatment costs. Our cost-utility analysis revealed that psychoanalysis was more costly than psychoanalytic psychotherapy, but also more effective from a health related quality of life perspective. The cost-utility ratio of psychoanalysis relative to psychoanalytic psychotherapy was estimated at about €52.000 which appeared to be within the acceptable range.

GENERAL CONCLUSIONS AND DISCUSSION

Four general conclusions can be drawn, which will be discussed in light of the relevant literature. First, our detailed analyses of patient characteristics revealed that we are dealing with a special and complex patient population. To begin with, similar to findings in the U.S., Canada, and Australia (Doidge et al., 2002) the great majority of the patients had previously received treatment of some kind. This finding is important, because apparently these patients had already tried the road to less intensive treatments. The stereotype of patients in psychoanalytic treatment is that they are ‘YAVIS’ patients (Young, Attractive, Verbal, Intelligent, and Social). Sociodemographically, many of the patients in psychoanalytic treatment can indeed be described as young, female, and highly-educated. However, these characteristics are not uncommon for patients in regular ambulatory psychotherapeutic practice in the Netherlands (GGZ Nederland, 2009). More distinctive is their psychopathology profile. Patients assigned to psychoanalytic treatment reported fewer symptoms and complaints compared to other psychotherapy patients. In this regard their pathology appeared to be less severe than other

psychotherapy patients. However, we did find that the majority of the patients assigned to psychoanalytic treatment were in fact clinical cases, albeit in less easily detectable areas of social and emotional functioning (e.g., Rorschach-CS Special Indices were significantly higher than psychiatric outpatients). For instance, Exner (2001) reported normative cut-off scores for psychiatric outpatients with 20% having clinically elevated scores on the Depression Index, and 11% having clinically elevated scores on the Hypervigilance Index. In our sample, we found that 53% of the patients had a clinically elevated Depression Index and 26% on the Hypervigilance Index. This illustrates that patients who are assigned to psychoanalytic treatment suffer from problems that exist on a deeper personality level and are more distressed than is commonly assumed. Also, the fact that most symptoms and interpersonal problems did not readily decrease within the first two years of treatment, illustrates the persistence and chronic nature of the mental health problems these patients are struggling with. Therefore, we can conclude that patients entering ambulatory long-term psychoanalytic treatment can be characterized by complex emotional disorders, chronic mood and/or personality pathology, and so it seems reasonable that they have occupied their own niche within ambulatory mental health care.

The second general conclusion which can be drawn from this research study is that long-term psychoanalytic treatment is highly effective in reducing the level of psychopathology and moderately effective in improving personality functioning. These findings are in line with those of recent meta-analyses (Leichsenring & Rabung, 2008; de Maat, de Jonghe, Schoevers, & Dekker, 2009). In this study we used symptom questionnaires as well as personality assessment instruments to study the effectiveness of long-term psychoanalytic treatment. Although symptom reduction may be seen as an important target of long-term psychoanalytic treatment, the broader goal is to achieve fundamental character change and change in vulnerabilities inherent in the patient's personality (Gabbard, 2009; Shedler, 2010). Our results give support to the notion that change after psychoanalytic treatment goes further than symptom alleviation and behavioral change, in that personality change is also achieved. We consider this a major merit of our study. We found that the presence and depth of depression, the level of social maladjustment and feelings of alienation, and the high levels of anxiety and self-doubt that characterize patients who apply for psychoanalytic treatment could be effectively reduced after long-term treatment, and for the most part remain stable in the long run. Long-term psychoanalytic treatment also appeared to have a clinically significant impact on patients' lives, as demonstrated by the large number of patients whose end-state functioning was in the normative range on most outcome measures. These treatment effects were not yet visible after one year of treatment, but more so at the end of treatment and at two-year follow-up. It is important to emphasize that most treatment effects were sustained after a two-year follow-up period, because this follow-up effect is not commonly found after short-term psychotherapy or pharmacotherapy (Hughes & Cohen, 2009; de Maat, Dekker, Schoevers, & de Jonghe, 2006). Therefore, a tentative conclusion is that long-term psychoanalytic treatment is suitable and effective for patients with complex emotional problems, chronic mood disorders and/or personality pathology. We emphasize that the results from our cohort study regarding the effectiveness of long-term psychoanalytic treatment are based on cross-sectional cohort comparisons. Individual changes in patients across the complete duration of treatment were not tested, only differences between patients on a group level. Therefore, we need to be careful in drawing definite conclusions about treatment effectiveness from the presented data.

The third general conclusion of this research study concerns the findings regarding characteristics of patients in psychoanalysis and psychoanalytic psychotherapy. First of all, it is remarkable that we found many similarities between patients in psychoanalysis and those in psychoanalytic psychotherapy. For instance, patients in psychoanalysis and psychoanalytic psychotherapy did not differ in the level of symptoms and complaints before treatment as measured with three symptom questionnaires (SCL-90-R, BDI-II, STAI). Apparently these instruments mainly function as screening instruments and are not sensitive enough to detect more subtle differences between groups of patients. Another similarity we found was that the pre-post effect sizes of psychoanalysis and psychoanalytic psychotherapy were fairly comparable. Although patients in psychoanalysis had a significant longer treatment with higher frequency of sessions compared to patients in psychoanalytic psychotherapy, the end of treatment was signaled by a similar level of change in symptoms and personality problems. In other words, therapists and patients generally appear to end treatment when clinical significant change is obtained, albeit that psychoanalytic psychotherapy

achieved this effect after 3.9 years, and psychoanalysis after 6.5 years. This level of clinical change is a more common finding, because other forms of treatment aimed at other types of patients report similar effect sizes (e.g., Lambert & Ogles, 2004). Besides similarities, we also found differences between the two treatment groups. The first difference was related to pre-treatment levels of personality problems, as measured with the MMPI-2, Rorschach-CS and IIP-64. In the pilot study, patients assigned to psychoanalysis reported higher pre-treatment levels of interpersonal problems and avoidance and fewer problems with reality testing, conceptual thinking and instrumental aggression compared with patients assigned to psychoanalytic psychotherapy (Zevalkink & Berghout, 2008). However, this was not replicated in the pre-treatment group of the multiple cohort study (Berghout, Zevalkink, & de Jong, 2009). Perhaps the personality differences are too subtle to detect in a relatively smaller sample. Another possible explanation for this discrepancy is that in the first study we investigated intended treatment, and in the second study we investigated realized treatment. This might suggest that therapeutic decision making does not always relate to the actual treatment delivery (see also Caligor et al. 2009). In this, we have to keep in mind that we only looked at a certain selection of patient variables, and did not assess other variables that might be important in treatment assignment, such as therapist availability, therapist-patient matching, and life circumstances of the patient. Another difference between the two patient groups was found in the longitudinal study. Although changes in symptoms and interpersonal problems within the first two years of psychoanalytic treatment were fairly limited, we did find more significant changes during the first two years of psychoanalytic psychotherapy compared to psychoanalysis. This might suggest that patients in psychoanalysis follow a different (and slower) pattern of change than patients in psychoanalytic psychotherapy. Perhaps the setting of psychoanalysis –which encourages regression– may in some cases cause an initial *increase* in anxiety and generate psychological symptoms. Therefore the overall changes in the psychoanalysis group might have been smaller than those in the psychoanalytic psychotherapy group. A final difference was found in the follow-up effect sizes with those of psychoanalysis being somewhat higher than those of psychoanalytic psychotherapy. It seems that the slow rate of improvement during psychoanalysis enables patients to maintain their therapeutic gains more than patients in the lower intensity psychoanalytic treatment. Perhaps the claim that psychoanalysis achieves longer lasting change contains a grain of truth. Our study has tentatively investigated similarities and differences between the two treatment groups and reported some interesting findings, but more research is certainly needed.

And fourth, our cost-effectiveness results showed that long-term psychoanalytic treatment is indeed an expensive ambulatory treatment, but cost savings can be achieved in the long run by reducing health care utilization and work impairment. Nonetheless, we can not conclude that *all* invested costs will be earned back eventually in contrast to the findings of a recent review on the costs and benefits of long-term psychoanalytic treatment (de Maat, Philipszoon, Schoevers, Dekker, & de Jonghe 2007). Also, we found that costs savings (as a result of reduced health care use and work impairment) did not increase with more investments (increased frequency or longer duration). This would suggest that the costs-savings ratio for high-frequency psychoanalytic treatments is less favorable than that for low-frequency treatments. Our cost-utility analyses (CUA) showed that psychoanalysis was indeed more costly than psychoanalytic psychotherapy, but also more effective from a health related quality of life perspective (QALYs). The Incremental Cost-Effectiveness Ratio (ICER) –i.e. the extra costs to gain one additional QALY by delivering psychoanalysis instead of psychoanalytic psychotherapy– was estimated at about €52.000 which appeared to be within the acceptable range. This means that psychoanalysis has an added value over psychoanalytic psychotherapy which makes the difference in treatment costs a worthwhile consideration for policy makers and insurance companies. However, the cost-effectiveness ratio does not follow a one-on-one relationship. Our analyses showed that psychoanalysis is four to five times more expensive than psychoanalytic psychotherapy, but the effectiveness of psychoanalysis is not four to five times bigger than that of psychoanalytic psychotherapy. In order to assess whether or not psychoanalysis still provides good value for money compared to psychoanalytic psychotherapy one can investigate whether the ICER falls below or above a certain agreed upon threshold. So far, there is no clear consensus yet on what ICER value could function as a threshold when comparing the costs and effects of two treatments. Estimates of such a threshold vary substantially (from €12.000 to €73.000; Brouwer & Rutten, 2006) and can depend on many variables, such as societal and cultural factors. Our results

suggest that the Incremental Cost-Effectiveness Ratio of psychoanalysis relative to psychoanalytic psychotherapy appears to be within the acceptable range when lenient threshold values are applied, but it becomes less cost-effective when stricter threshold values are employed. Future research is needed to make more accurate estimates of cost-effectiveness ratios and ICER thresholds. In this regard, one also needs to take into account that the choice of instrument to measure health-related quality of life may influence ICER estimations as well (Sach et al., 2009). Therefore, careful consideration needs to be paid to the methodology of future cost-effectiveness studies.

CLINICAL AND ECONOMICAL IMPLICATIONS

The outcome measures in our research project were selected on the basis of theoretical significance, empirical research, clinical utility, and psychometric qualities. Most of the instruments we selected are widely used measures to assess therapeutic improvement and are also relevant for clinical decision making regarding treatment selection (Hill & Lambert, 2004). The relatively short self-report measures (SCL-90-R, BDI-II, STAI, IIP-64, and SF-36) are also suitable for monitoring progress *during* treatment, also known as routine outcome monitoring (ROM). This will ultimately improve the quality of care and therapeutic decision making (Lambert, 2007). Effectiveness research and routine outcome monitoring are tremendously valuable in identifying which patients improve, when they improve, and –perhaps even more important– which patients *do not* improve. This constant monitoring of treatment progress and treatment outcome can eventually help to improve treatment assignment and treatment delivery. We want to emphasize that we recognize that such data collection can be a big burden for treatment professionals; therefore it is vital that this process is organized independently from the treatment process (Oudejans, 2009). Two important benefits of routinely monitoring treatment progress and outcome can be identified.

First of all, patients and therapists will be able to use the results about progress regarding symptoms and personality to identify which treatments can be terminated. When enough progress has been achieved and the patient is again functioning on an acceptable level, the therapist can see this in the ROM reports and may suggest terminating the treatment. The systematic monitoring of treatment progress can also identify patients who *do not* improve in treatment. In those cases the reports may serve as primers to evaluate whether or not it is sensible to continue treatment. And if so, reflect on why the therapy is not working, and discuss what should be modified in order to make the treatment more effective. The more therapists become familiar with results from effectiveness research and routine outcome monitoring the more they will become able to interpret and use results from questionnaires and personality assessment instruments, which can eventually improve their treatments. Patients will also experience that they are being taken seriously. Process and outcome measurement gives patients a moment to reflect on how they are doing, and how they were feeling a while ago. This moment of evaluation also allows them to reflect on the process of therapy, and whether or not they feel they have made enough progress in the therapy.

The second important advantage of outcome monitoring treatment progress and outcome is that it will improve transparency towards third party payers. Policy makers and insurance companies are putting more and more pressure on mental health care providers to demonstrate the quality and effectiveness of their treatments. By providing feedback about treatment progress and outcome on an aggregated level, these third party payers will be provided with the best evidence available.

Before commenting on the cost-effectiveness of psychoanalytic treatment, it is important to note that the patient population receiving psychoanalytic treatment in the Netherlands is very small (\pm 150 new patients each year and \pm 400 patients in treatment). Indeed, long-term psychoanalytic treatments (especially psychoanalysis) are relatively expensive ambulatory treatments, but relatively cheap compared to clinical or day-clinical treatments. Nonetheless, we believe it is important to not waste public money and know when to stop. Perhaps some psychoanalyses can be terminated quicker. A suggestion could be to consider treatment termination after four years, give the patient a break, monitor how the patient is doing for a year or two, and if necessary resume treatment. This might prevent patients and therapists to get stuck in seemingly endless psychoanalyses.

If we think of the adagio: “short if possible, long if necessary”, does this mean that we should always start with short-term treatment and only assign patients to long-term psychoanalytic treatment when previous treatment has failed? From a cost-effectiveness point of view it would be advisable to

start with a short-term treatment if possible, and if that is not sufficient suggest long-term treatment. This is called stepped care. The majority of patients assigned to long-term psychoanalytic treatment have already received previous treatment. This seems to be characteristic of this patient population, and fits in the stepped-care way of thinking that long-term treatment is indicated when short-term treatment(s) failed. Of course, in clinical practice it should still be possible that in some cases clinicians decide to offer a patient long-term psychoanalytic treatment regardless whether the patient has received previous treatment or not.

The answer to the question when patients should be assigned to psychoanalysis and when to psychoanalysis is not solved in our study and remains a complicated one. Our cost-effectiveness data suggest that both treatments are viable options to improve the quality of life. Our longitudinal data showed that progress in psychoanalysis goes slower than in psychoanalytic psychotherapy, and the effectiveness data revealed that psychoanalysis might have longer lasting effects compared to psychoanalytic psychotherapy. In sum, the results of our study sketch a complicated picture. There might also be other considerations that play a role in choosing one treatment over the other. For instance, recent theoretical and empirical insights into the development of interpersonal problems have shown that patients with an internal working model of relationships that reflect a defensive, avoiding style needed higher intensity psychoanalytic treatment in order to change compared with those with a more preoccupied internal working model (Blatt & Shahar, 2004; Fonagy et al., 1996; Horowitz, Rosenberg, & Bartholomew, 1993). Further research is needed to look more closely into this issue.

METHODOLOGICAL COMMENTS

We are well aware of the fact that the internal validity of a RCT is better than that of a cross-sectional cohort study. However, we believe that the great advantage of cohort studies is that they use an *effectiveness* design, i.e. investigate treatments the way they are delivered in daily practice, whereas RCTs use an *efficacy* design and investigate treatments in experimental circumstances with artificially created patient groups, thus having less clinical representativeness than naturalistic research studies. To elaborate more on the limitations of cross-sectional cohort studies, two major limitations can be identified. First, the use of cross-sectional measurements increases threats to validity because the cohorts may not be fully comparable. The comparison of results between cohorts regarding symptoms and personality may have been distorted by any possible unmeasured differences between the cohorts. The second limitation is that the absence of a control group and the limited number of assessments over time makes causal interpretations uncertain. One cannot be absolutely sure that the improvements found could be attributed to the treatments, because to some degree they could also be caused by other (unknown) factors.

However, we have performed several cohort comparisons to minimize the distortion that possible differences might have caused. The results of our comparison of the cohorts regarding pre-treatment DSM-IV-R diagnoses, socio-demographic characteristics and clinical decision-making showed no significant differences on most variables, thus providing a strong check for the comparability of the four cohorts. Moreover, in our statistical analyses of treatment effectiveness we corrected for those pre-treatment variables that did show significant differences between the cohorts. With regard to the lack of an actual control group, we tried to deal with this by using data from clinical and non-clinical reference groups as well as reported data about the average control group effect (Leichsenring & Rabung, 2006). This way, we did have some reference points regarding the level of symptoms and personality pathology of our patients.

We used a relatively comprehensive assessment battery that showed that change is consistent across different methods. The validity and reliability of the instruments we used in this study appeared to be very good, although some might argue that the MMPI-2 and Rorschach-CS have less favorable psychometric properties. According to the COTAN (Commissie Testaangelegenheden Nederland: the Dutch Test Evaluation Authority) the MMPI-2 has adequate reliability but inadequate validity, and the Rorschach has both inadequate reliability and validity (Evers, Vliet-Mulder, & Groot, 2000). It therefore seems reasonable to be more careful in interpreting the test results of these instruments.

In principle, self-report instruments are vulnerable to distortions. Patients may exaggerate their distress before treatment or exaggerate their improvements after treatment (Stiles, Barkham, Mellor-Clark, & Connell, 2008). This is a restriction inherent to research using self-report measures.

However, the MMPI-2 does make some corrections in cases of over- or underreporting of complaints. Because we did not want to rely solely on self-report measures we also included personality assessment instruments that are less vulnerable to conscious over- or underreporting, such as the Rorschach-CS and the Adult Attachment Interview (AAI). At the time of writing this thesis, the manuscripts with the complete results of these instruments were not yet ready for publication.

Overall, we were very pleased with the participation rate of our study. Out of the 383 eligible patients 231 patients participated in the study, yielding a response rate of 65%. We consider this a very satisfactory response rate, as it is comparable to or even higher than that in other psychotherapy research. All patients were assessed at least once. The attrition rate—regarding the longitudinal measurements—was 15% after 6 months and 18% after 12 months. In the process of data collection we received many positive responses from patients about the study; patients very much appreciated the interest that was being shown in them. We believe that the prospect of being given personal feedback about their test results had a positive effect on the response rate. Patients felt that they were being taken seriously and valued our approach of assessing the effectiveness of the treatment from the patients' perspective. This strengthens our belief that effectiveness studies and routine outcome monitoring are feasible, acceptable and appreciated.

NEXT STEPS OF THIS RESEARCH STUDY

Psychotherapy research needs to differentiate more among patients and to examine systematically the patient's contributions to the treatment process. Different types of patients may respond more effectively to different types of treatment or respond to the same type of treatment in divergent ways (Blatt & Felsen, 1993). We identified patient characteristics that might be associated with treatment outcome. For instance, it appeared that female patients have better prospects when entering long-term psychoanalytic treatment, and in particular psychoanalysis, compared to male patients. More specifically, psychoanalysis was more effective in reducing personality problems regarding social disadaptation and disorganization for women than for men, even though we found similar levels of this type of pathology at the start of treatment. In addition, male patients with high levels of social disadaptation, feelings of alienation, anxiety and disorganized mental states were more likely to be effectively treated with psychoanalytic psychotherapy compared to psychoanalysis. Of course, these findings still need to be replicated before they can be used in treatment assignment. They do, however, stimulate our curiosity about other possible moderators. In this regard, it might be interesting to investigate the influence of patient/therapist gender matching on treatment outcome.

The implementation of routine outcome monitoring (ROM) will eventually enable us to draw stronger conclusions about the effectiveness of psychoanalysis and psychoanalytic psychotherapy, because each patient entering treatment will be followed longitudinally during the whole treatment process. This way we will also be better able to identify developmental paths within certain subgroups of patients. Certain variables—such as patient or treatment characteristics—can possibly be moderating factors in treatment outcome. These characteristics might influence the benefit derived from treatment. A possible research project for the near-future would be to identify a group of male patients with high scores on social disadaptation (MMPI-2 scales 4, 7, and 8) and assign these patients randomly to either psychoanalysis or psychoanalytic psychotherapy. In this way, we can test the hypothesis that psychoanalytic psychotherapy is more effective than psychoanalysis for this particular group of patients. This is just one example of future research steps. On the whole these results will eventually facilitate and improve therapeutic decision making, and enable us to formulate and sharpen criteria for treatment assignment as well as improve the quality of treatments delivered. Therefore, it is essential to do more research and perform additional longitudinal analyses.

In this study we also used the Adult Attachment Interview (AAI) as an outcome measure. The AAI is a 1-hour semi-structured interview about childhood attachment relationships and the present evaluation of these experiences. The AAI assesses state of mind with respect to attachment. The discourse characteristics of the interviews can be coded systematically, and will eventually yield three main classifications: autonomous, dismissing, and preoccupied. Furthermore, interviews can be categorized as unresolved with respect to loss or trauma. Unfortunately, at the time of finishing this PhD thesis, the AAI data were not yet complete, because transcribing and scoring the AAI is very time consuming. Preliminary analyses on 70% of the data show very encouraging results. For instance, first

data showed that before treatment about 80% of the patients had insecure attachment representations and after treatment only 20% had insecure attachment representations (Zevalkink, 2009). The complete AAI data will be presented in future reports.

In this thesis we focused on characteristics related to the patient. However, therapist variables (e.g., adherence, years of experience) as well as patient-therapist variables (e.g., therapeutic alliance), might also play a role in explaining the different treatment outcomes. Therefore, we also sent the Therapeutic Identity questionnaire (ThId; Sandell et al., 2004) to all therapists to measure therapeutic attitudes, styles and beliefs. These results were not included in this thesis, because data-analyses are still in progress. For the same reason we also have not included a detailed variable analyses of the Rorschach-CS (Exner, 2003) in this thesis, and only reported the general results regarding the Special Indices. These results showed some significant treatment effects, but less than expected based on the results of the other personality measures (MMPI-2 and IIP-64). Perhaps the detailed analyses of Rorschach-CS variables would reveal more or larger effects in certain clusters of variables or certain subgroups of patients.

SUGGESTIONS FOR FUTURE RESEARCH

There is a growing and encouraging evidence base for psychoanalytic treatments. Nevertheless, this evidence base is relatively small compared to that for other treatments such as Cognitive Behavior Therapy (CBT) or Interpersonal Psychotherapy (IPT). The suggestion to also compare long-term *open-ended* psychoanalytic treatment (such as psychoanalysis and psychoanalytic psychotherapy) with other forms of psychological treatment is an interesting line of inquiry. As mentioned before, comparative research is complicated when it concerns long-term treatments. So far, there have been few RCTs which studied psychoanalytic treatments, and most of these efficacy studies concerned time-limited psychoanalytic treatment (Busch, Milrod, & Sandberg, 2009; Clarkin et al., 2007; Leichsenring, Rabung, & Leibing, 2004; Leichsenring et al., 2009; Svartberg, Stiles, & Seltzer, 2004). One notable exception is the Helsinki Psychotherapy Study which is a randomized trial on the differential effectiveness of long-term psychodynamic psychotherapy, short-term psychodynamic psychotherapy, and short-term solution-focused therapy (Knekt & Lindfors, 2004). They found that the two short-term therapies produced benefits more quickly than long-term psychodynamic psychotherapy, but in the long run long-term psychodynamic psychotherapy was found to be superior to short-term therapies (Knekt et al., 2008). These researchers showed that it is possible to successfully apply a RCT design to the study of long-term psychoanalytic psychotherapy. Interestingly, this did not apply to their fourth treatment group –the psychoanalysis group– which was studied separately in a quasi-experimental design. These patients were self-selected and assessed as suitable for psychoanalysis, thus were not randomized to psychoanalysis. Apparently, the researchers found it unacceptable to randomize patients to such an intensive and long-term treatment, and therefore chose to follow a naturalistic study design to study the effectiveness of psychoanalysis.

The design of the multiple cohort study was partly cross-sectional and partly longitudinal. The longitudinal component of this study was limited to a 12-month period with three measurements in that year. By linking the cohorts together we created an ‘accelerated longitudinal design’ which is a close approximation of a longitudinal study. The advantage of an accelerated longitudinal design is that we can obtain information about therapeutic changes over a longer period within a relatively short period of time. However, such approximations of longitudinal studies are always less accurate than real longitudinal studies. We therefore encourage future studies on the (cost-) effectiveness of long-term psychoanalytic treatment to also include true longitudinal research designs.

Future research should also be focused on identifying mechanisms of change within psychoanalytic treatment. It would be interesting to investigate what goes on in treatment that is helpful, or what is helpful to different kinds of patients. In this regard we encourage future researchers to include process measures such as the Analytic Process Scales (APS; Waldron, Scharf, Hurst, Firestein, & Burton, 2004) or the Psychoanalytic Process Rating Scale (PPRS; Beenen & Stoker, 2001) to establish links between processes and outcomes. Including process measures would strengthen the conclusions of an outcome study and would increase also our knowledge of which aspects of the treatment seemed to be helpful and which did not.

CONCLUDING REMARKS

Fortunately, psychoanalytic treatments are still covered by national health insurance plans in Canada, Australia and several European countries including the Netherlands. We believe that it is crucial for the ‘survival’ of psychoanalysis and psychoanalytic psychotherapy to stimulate and promote empirical research. That does not mean that every psychoanalyst has to do research, or that one should immediately be swayed by the results of any study or trend, but we definitely believe the (psychoanalytic) community should be informed by it. It is therefore important to stimulate graduate students, scholars, university professors, psychotherapists and psychiatrists to become more involved in doing psychoanalytic research. Without empirical research supporting the effectiveness of psychoanalytic treatment, it will become very hard to maintain the credit from the public as well as coverage from health insurance companies.

The results of the studies in this thesis give support that long-term psychoanalytic psychotherapy and psychoanalysis are effective treatments for patients with complex and chronic mental health problems. The presence and depth of depression, the level of social maladjustment and feelings of alienation, (social) anxiety and self-doubt can be substantially and consistently reduced after long-term psychoanalytic treatment. Furthermore, long-term psychoanalytic treatment will lead to indirect cost savings due to reduced health care utilization and work impairment. It is clear that more work remains to be done, but we think that the present findings are helpful in adding to thinking about the effectiveness and cost-effectiveness of long-term psychoanalytic treatment.

REFERENCES

- Beenen, F., & Stoker, J. (2001). Psychoanalytic Process Rating Scale (PPRS) and Psychoanalytic Process Report (PPR). Amsterdam: Netherlands Psychoanalytic Institute.
- Berghout, C. C., Zevalkink, J., & de Jong J. T. V. M. (2009). *Effectiveness of long-term psychoanalytic treatment: Measuring personality functioning and symptomatic distress in a multiple-cohort design*. Manuscript submitted for publication.
- Blatt, S. J., & Felsen, I. (1993). Different kinds of folks need different kinds of strokes: The effect of patients' characteristics on therapeutic process and outcome. *Psychotherapy Research, 3*, 245-259.
- Blatt, S. J., & Shahar, G. (2004). Psychoanalysis — With whom, for what, and how? Comparisons with psychotherapy. *Journal of the American Psychoanalytic Association, 52*, 393-448.
- Brouwer, W. B. F., & Rutten, F. F. H. (2006). Afbakening van het basispakket. De rol van het doelmatigheidscriterium. In Raad voor de Volksgezondheid en Zorg, *Zicht op zinnige en duurzame zorg* (pp. 35-88). Den Haag: RVZ.
- Busch, F. N., Milrod, B. L., & Sandberg, L. S. (2009). A study demonstrating efficacy of a psychoanalytic psychotherapy for panic disorder: Implications for psychoanalytic research, theory, and practice. *Journal of the American Psychoanalytic Association, 57*, 131-148.
- Caligor, E., Stern, B. L., Hamilton, M., MacCornack, V., Wininger, L., Sneed, J., et al. (2009). Why we recommend analytic treatment for some patients and not for others. *Journal of the American Psychoanalytic Association, 57*, 677-694.
- Clarkin, J. F., Levy, K. N., Lenzenweger, M. F., & Kernberg, O. F. (2007). Evaluating three treatments for Borderline Personality Disorder: A multiwave study. *American Journal of Psychiatry, 164*, 922-928.
- Doidge, N., Simon, B., Brauer, L., Grant, D. C., First, M., Brunshaw, J., et al. (2002). Psychoanalytic patients in the U.S., Canada, and Australia: I. DSM-III-R disorders, indications, previous treatment, medications, and length of treatment. *Journal of the American Psychoanalytic Association, 50*, 575-614.
- Evers, A., Vliet-Mulder, J. C. v., & Groot, C. J. (Eds.). (2000). *Documentatie van tests en testresearch in Nederland* (7e geheel herziene ed.) [Documentation of Tests and Testresearch in the Netherlands (7th completely revised ed.)]. Assen/Amsterdam: Van Gorcum, Nederlands Instituut voor Psychologen.
- Exner, J. E. (2001). *A Rorschach workbook for the Comprehensive System*. Asheville, NC: Rorschach Workshops.
- Exner, J. E. (2003). *The Rorschach: A comprehensive system* (4th ed.). Hoboken, New Jersey: John Wiley & Sons, Inc.
- Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., et al. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology, 64*, 22-31.
- Gabbard, G. O. (2009). Techniques of psychodynamic psychotherapy. In G. O. Gabbard (Ed.), *Textbook of Psychotherapeutic Treatments* (pp. 43-67). Washington, DC: American Psychiatric Publishing, Inc.

- GGZ Nederland (2009). *Zorg op waarde geschat. Sectorrapport GGZ 2009*. Amersfoort: GGZ Nederland.
- Hill, C. E., & Lambert, M. J. (2004). Methodological issues in studying psychotherapy processes and outcomes. In M. J. Lambert (Ed.), *Bergin and Garfield's Handbook of psychotherapy and behavior change* (5th ed., pp. 84-135). New York: John Wiley & Sons, Inc.
- Horowitz, L. M., Rosenberg, S. E., & Bartholomew, K. (1993). Interpersonal problems, attachment styles, and outcome in brief dynamic psychotherapy. *Journal of Consulting and Clinical Psychology, 61*, 549-560.
- Hughes, S., & Cohen, D. (2009). A systematic review of long-term studies of drug treated and non-drug treated depression. *Journal of Affective Disorders, 118*, 9-18.
- Knekt, P., & Lindfors, O. (2004). *A randomized trial of the effect of four forms of psychotherapy on depressive and anxiety disorders: Design, methods, and results on the effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy during a one-year follow-up*. Helsinki: Edita.
- Knekt, P., Lindfors, O., Härkänen, T., Välikoski, M., Virtala, E., Laaksonen, M. A., et al. (2008). Randomized trial on the effectiveness of long- and short-term psychodynamic psychotherapy and solution-focused therapy on psychiatric symptoms during a 3-year follow-up. *Psychological Medicine, 38*, 689-703.
- Lambert, M. J. (2007). Presidential address: What we have learned from a decade of research aimed at improving psychotherapy outcome in routine care. *Psychotherapy Research, 17*, 1-14.
- Lambert, M. J., & Ogles, B. M. (2004). The efficacy and effectiveness of psychotherapy. In M. J. Lambert (Ed.), *Bergin and Garfield's Handbook of psychotherapy and behavior change* (5th ed., pp. 139-193). New York: Wiley.
- Leichsenring, F., & Rabung, S. (2006). Change norms: A complementary approach to the issue of control groups in psychotherapy outcome research. *Psychotherapy Research, 16*, 594-605.
- Leichsenring, F., & Rabung, S. (2008). Effectiveness of long-term psychodynamic psychotherapy. A meta-analysis. *Journal of the American Medical Association, 300*(13), 1551-1565.
- Leichsenring, F., Rabung, S., & Leibing, E. (2004). The efficacy of short-term psychodynamic psychotherapy in specific psychiatric disorders. *Archives of General Psychiatry, 61*, 1208-1216.
- Leichsenring, F., Salzer, S., Jaeger, U., Kächele, H., R., K., Leweke, F., et al. (2009). Short-term psychodynamic psychotherapy and cognitive-behavioral therapy in generalized anxiety disorder: A randomized, controlled trial. *American Journal of Psychiatry, 166*, 875-881.
- Maat, S. de, Dekker, J., Schoevers, R., & Jonghe, F. de (2006). Relative efficacy of psychotherapy and pharmacotherapy in the treatment of depression: A meta-analysis. *Psychotherapy Research, 16*, 562-572.
- Maat, S. de, Jonghe, F. de, Schoevers, R., & Dekker, J. (2009). The effectiveness of long-term psychoanalytic therapy: A systematic review of empirical studies. *Harvard Review of Psychiatry, 17*, 1-23.
- Maat, S. de, Philipszoon, F., Schoevers, R., Dekker, J., & Jonghe, F. de (2007). Costs and benefits of long-term psychoanalytic therapy: changes in health care use and work impairment. *Harvard Review of Psychiatry, 15*, 289-300.
- Oudejans, S. (2009). *Routine outcome monitoring & learning organizations in substance abuse treatment*. Unpublished doctoral dissertation, University of Amsterdam.
- Sach, T., Barton, G., Jenkinson, C., Doherty, M., Avery, A., & Muir, K. (2009). Comparing cost-utility estimates: Does the choice of EQ-5D or SF-6D matter? *Medical Care, 47*, 889-894.
- Sandell, R., Carlsson, J., Schubert, J., Broberg, J., Lazar, A., & Grant, J. (2004). Therapist attitudes and patient outcomes: I. Development and validation of the Therapeutic Attitudes Scales (TASC-2). *Psychotherapy Research, 14*, 469-484.
- Shedler, J. (2010). The efficacy of psychodynamic psychotherapy. *American Psychologist, 65*, 98-109.
- Stiles, W. B., Barkham, M., Mellor-Clark, J., & Connell, J. (2008). Effectiveness of cognitive-behavioural, person-centred, and psychodynamic therapies in UK primary-care routine practice: Replication in a larger sample. *Psychological Medicine, 38*, 677-688.
- Svartberg, M., Stiles, T. C., & Seltzer, M. H. (2004). Randomized, Controlled Trial of the effectiveness of short-term dynamic psychotherapy and cognitive therapy for cluster C personality disorders. *American Journal of Psychiatry, 161*, 810-817.
- Waldron, S., Scharf, R. D., Hurst, D., Firestein, S. K., & Burton, A. (2004). What happens in a psychoanalysis: A view through the lens of the analytic process scales (APS). *International Journal of Psychoanalysis, 85*, 443-466.
- Zevalkink (2009, July). *Clinical effectiveness of psychoanalysis and psychoanalytic psychotherapy: Dutch Data*. Paper presented at the International Psychoanalytic Association 46th Congress, Chicago, USA.
- Zevalkink, J., & Berghout, C. C. (2008). Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychotherapy Research, 18*(3), 316-325.

SUMMARY

A cohort study into the effectiveness of long-term psychoanalytic treatment for patients with personality disorders and/or chronic depression

Research into the effectiveness and cost-effectiveness of long-term psychoanalytic treatments, in specific psychoanalysis and psychoanalytic psychotherapy, is still relatively scarce and is the central topic of this PhD thesis. First, we performed a pilot study to investigate pre-treatment mental health characteristics of patients assigned to psychoanalysis and psychoanalytic psychotherapy. This pilot study was also meant to examine the feasibility of doing effectiveness research in this setting. Next, we performed a large multicentre study which aimed to investigate the effectiveness and cost-effectiveness of long-term ambulatory psychoanalytic treatment in the Netherlands.

Chapter 1 presents an introduction to the subject, which aims to explain the choice of theoretical framework, instruments, and design of our study into the effectiveness of psychoanalytic treatment

Chapter 2 offers a description of patients prior to long-term psychoanalytic treatment. The main question in this chapter is how the pre-treatment psychopathology levels of patients assigned to long-term psychoanalytic treatment relate to those of other ambulatory patient groups. For each patient we calculated whether the level of symptoms, interpersonal problems and personality pathology were above or below a statistically defined cut-off. The results showed that patients assigned to long-term psychoanalytic treatment presented less symptoms and complaints than other ambulatory patients. However, with regard to personality pathology they scored similar – and in some areas even higher – in comparison to other ambulatory patient groups. Next, we combined this information to come to a global estimation of the number of ‘clinical cases’ in our patient population. From the combined test results it appeared that the overwhelming majority of patients were identified as clinical cases, characterized by high levels of chronic depression, hypervigilance, trait anxiety, and interpersonal problems. Thirty-five percent of the patients was diagnosed with dysthymic disorder. Long-term psychoanalytic treatment appears to be assigned to patients with complex and chronic mental health problems, most of whom have already received short-term therapy. They present problems that exist on a deeper (and less easily detectable) personality level. We conclude that patients assigned to long-term psychoanalytic treatment are more distressed than is commonly assumed.

Chapter 3 discusses the differences between patients assigned to psychoanalysis (PA) and patients assigned to psychoanalytic psychotherapy (PP). We found a great number of similarities, but also some interesting differences between the two patient groups. The results showed that patients assigned to psychoanalysis reported higher pre-treatment levels of interpersonal problems and avoidance, and less problems with reality testing, information processing and instrumental aggression compared with patients assigned to psychoanalytic psychotherapy. These results seem to suggest that social inhibition and avoidance are important aspects in the therapists’ decision making process regarding treatment assignment. Avoidant patients appear to be more likely to be assigned to a longer and more intensive treatment than less avoidant patients. We conclude that there appears to be a large ‘grey area’ concerning assignment to psychoanalysis or psychoanalytic psychotherapy, and that perhaps other factors (which we did not measure) can also play an important role in therapists’ decision making process.

Chapter 4 reports on the results of the multiple-cohort effectiveness study. We compared patients in four different phases of treatment (pre, during, post, follow-up) with regard to symptoms and personality functioning. Differences in raw scores between patients in the different phases of treatment were investigated. We performed factor analyses to reduce the number of outcome variables, and with these outcome factors we investigated potential predictors of treatment outcome. Also we compared the effect sizes with natural remission data. The results showed that long-term psychoanalytic treatment was highly effective in reducing symptomatic distress ($d = 1.19 - 1.27$) and moderately

effective in improving personality functioning ($d = 0.52 - 0.79$). The effect sizes of psychoanalytic treatment were several times bigger than the average control group effect. Patient gender appeared to moderate treatment outcome, with women having a better treatment outcome with regard to disadaptation and disorganization compared to men, in particular in the psychoanalysis group. Our results showed that the presence and depth of depression, the level of social maladjustment and feelings of alienation, and the level of (social) anxiety and self-doubt were substantially and consistently reduced after long-term psychoanalytic treatment.

Chapter 5 investigates the clinical significance of long-term psychoanalytic treatment. Normative comparisons were done to investigate how the patient's level of functioning related to that of the 'functional' population and the 'dysfunctional' population. This way, we got an estimation of the proportion of 'normal functioning' people in each phase of treatment. The results showed that after long-term psychoanalytic treatment the majority of the participants appeared to function within the normal range on most instruments. We conclude that psychoanalytic treatment led to clinically significant changes in patients' lives, although complete remission should not be expected for *all* patients.

Chapter 6 discusses the results of the longitudinal measurements we performed within the multiple cohort effectiveness study. We investigated changes in symptoms and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis. The results showed less improvement in the first two years with regard to interpersonal problems compared to symptomatic improvement. Secondly, patients in psychoanalytic psychotherapy showed clear improvements on both symptomatic and interpersonal functioning, while patients in psychoanalysis only showed symptomatic improvement within the first two years of treatment. On the whole, the rates of change were lower than expected because patients in both treatment groups still presented moderate to high levels of symptoms and interpersonal problems after two years of treatment compared to non-clinical populations. Also, exploratory analyses revealed that interesting differences could be found between patients responding fast to treatment and patients responding slow to treatment. We found that fast responders in both treatment groups seemed to start with a much lower level of symptoms and interpersonal problems compared to slow responders.

Chapter 7 investigates the societal costs and savings of long-term psychoanalytic treatment. Long-term psychoanalytic treatments are relatively expensive treatments within the ambulatory segment. We investigated the effects of long-term psychoanalytic treatment on health care utilization and work impairment. From the results of our study it appears that after long-term psychoanalytic treatment health care utilization decreases, absenteeism reduces and work productivity increases. Long-term psychoanalytic treatment appears to generate economical benefits in the long run. We found that part of the treatment costs will be earned back because of these indirect costs savings. However, not *all* invested costs will be earned back eventually.

Chapter 8 reports on the cost-utility analysis where the differences in costs and effects of psychoanalysis and psychoanalytic psychotherapy were investigated. The analyses were done from a societal perspective. We examined the incremental cost-effectiveness ratio of high-dosage versus lower-dosage psychoanalytic treatment which estimates the additional costs that need to be invested to achieve an extra quality-adjusted life year (QALY) when choosing psychoanalysis over psychoanalytic psychotherapy. Our cost-utility analysis revealed that psychoanalysis is more costly than psychoanalytic psychotherapy, but also more effective from a health related quality of life perspective. The cost-utility ratio of psychoanalysis relative to psychoanalytic psychotherapy was estimated at about €52,000. Whether or not psychoanalysis provides good value for money compared to psychoanalytic psychotherapy depends on the threshold of the ICER as is acceptable in the society. No clear consensus exists on which ICER value is still acceptable, but estimates of this threshold vary from €12,000 to €73,000 per extra QALY. Our results suggest that the cost-utility ratio of psychoanalysis relative to psychoanalytic psychotherapy appears to be within the acceptable range when lenient threshold values are applied, but it becomes less cost-effective when stricter threshold values are used.

Chapter 9 summarizes the main findings from the previous chapters of this thesis, and presents a general discussion of the results. Merits and limitations of the chosen research design are discussed, and implications and recommendations are made for clinical practice, policy making, and future research. Finally, we discuss the importance of doing empirical research for the survival of long-term psychoanalytic treatments within the health care system.

SAMENVATTING

Een cohort studie naar de effectiviteit van langdurige psychoanalytische behandelingen voor patiënten met persoonlijkheidsstoornissen en/of chronische depressies

Onderzoek naar de behandel-effectiviteit en kosten-effectiviteit van langdurige psychoanalytische behandelingen, in het bijzonder psychoanalyse en psychoanalytische psychotherapie, is nog relatief weinig uitgevoerd en staat in dit proefschrift centraal. Als eerste is een pilot-studie uitgevoerd om de intake karakteristieken (bv. de mate van psychopathologie) van patiënten die verwezen worden naar psychoanalyse en psychoanalytische psychotherapie systematisch in kaart te brengen. Deze pilot-studie was ook bedoeld om de haalbaarheid van een effectiviteitsstudie te onderzoeken. Vervolgens hebben we een grootschalig effectiviteitsonderzoek uitgevoerd. Dit project was een samenwerking van vier ggz-instellingen met als doel de behandel- en kosten-effectiviteit van langdurige ambulante psychoanalytische behandelingen in Nederland te onderzoeken.

Hoofdstuk 1 geeft een introductie op het onderwerp, waarbij de keuzes voor het theoretische raamwerk, de gebruikte instrumenten, en de opzet van het onderzoeksproject worden toegelicht.

Hoofdstuk 2 geeft een beschrijving van patiënten voorafgaand aan langdurige psychoanalytische behandeling. De centrale vraag in dit hoofdstuk is in hoeverre patiënten voorafgaande aan een langdurige psychoanalytische behandeling niveaus van pathologie presenteren die vergelijkbaar zijn met andere patiënten binnen de reguliere ambulante GGZ. Op basis van de normgegevens hebben we per patiënt berekend of de ernst van de van symptomen, interpersoonlijke problemen en persoonlijkheidspathologie boven of onder een statistisch bepaalde afkapwaarde viel. Uit de resultaten bleek dat patiënten voorafgaand aan een psychoanalytische behandeling op symptoomniveau minder klachten rapporteerden in vergelijking met ambulante psychiatrische vergelijkingsgroepen. Echter, wat betreft persoonlijkheidspathologie scoorden zij grotendeels overeenkomstig – en op sommige gebieden zelfs hoger – in vergelijking met ambulante psychiatrische vergelijkingsgroepen. Vervolgens hebben we deze informatie gecombineerd om tot een globale schatting te komen van het percentage patiënten dat als een ‘klinisch geval’ beschouwd kan worden. Uit de gecombineerde testresultaten bleek dat de overgrote meerderheid van de patiënten voorafgaand aan psychoanalytische behandeling getypeerd kon worden als een ‘klinisch geval’ waarbij een hoge mate van ernstige chronische depressiviteit optrad. Zo wordt 35% van de patiënten gediagnosticeerd met een dysthyme stoornis. Bovendien waren waakzaamheid, structurele angst en interpersoonlijke problemen kenmerkend voor deze patiëntenpopulatie. We concluderen dat de indicatie voor langdurige psychoanalytische behandelingen betrekking heeft op een complexe patiëntengroep waarvan het grootste gedeelte bovendien al eerder kortdurende therapie heeft gehad met onvoldoende blijvend resultaat. Het blijkt dat patiënten die verwezen worden naar langdurige psychoanalytische behandeling vaak problemen hebben die op een dieper (en minder zichtbaar) niveau liggen. Zij hebben dus meer lijdensdruk dan op het eerste gezicht lijkt of dan soms voetstoots wordt aangenomen.

Hoofdstuk 3 gaat over verschillen tussen patiënten die zijn geïndiceerd voor psychoanalyse (PA) en patiënten die zijn geïndiceerd voor psychoanalytische psychotherapie (PP). Naast een groot aantal overeenkomsten vonden we enkele interessante verschillen tussen de twee patiëntengroepen. Zo vonden we dat PA-patiënten bij aanvang van de behandeling significant meer interpersoonlijke problemen rapporteerden en vaker een vermijdende coping-stijl hadden vergeleken met PP-patiënten. Ook vonden we dat PA-patiënten lager scoorden op instrumentele agressie en minder problemen met informatieverwerking en realiteitstoetsing leken te hebben dan PP-patiënten. Deze resultaten lijken aan te tonen dat sociale geremdheid en vermijding belangrijk zijn bij de indicatiestelling voor een psychoanalyse en dat therapeuten vaker een langduriger en intensiever behandeling indiceren voor meer vermijdende patiënten. Dit neemt niet weg dat er een groot grijs gebied bestaat bij de indicatiestelling voor psychoanalyse dan wel psychoanalytische psychotherapie en dat ook andere (niet gemeten) factoren meespelen bij de indicatiebeslissing.

Hoofdstuk 4 beschrijft de resultaten van het multiple-cohort effectiviteitsonderzoek. Patiënten in verschillende fasen van behandeling (vóór, tijdens, na, follow-up) werden met elkaar vergeleken op klacht- en op persoonlijkheidsniveau. We onderzochten of er verschillen waren in de ruwe scores op de instrumenten tussen de patiënten in verschillende fasen van de behandeling. Vervolgens hebben we met behulp van samengestelde factoren onderzocht of wij voorspellers voor de gevonden behandeluitkomsten konden identificeren. Ook vergeleken we de effectgroottes van deze samengestelde variabelen met gegevens over het natuurlijk beloop. Uit de resultaten blijkt dat langdurige psychoanalytische behandelingen zeer effectief zijn in het reduceren van psychische symptomen, interpersoonlijke problemen, andere uitingen van actuele psychische stress ($d = 1.19 - 1.27$) en ook effectief zijn in het verbeteren van persoonlijkheidsfunctioneren ($d = 0.52 - 0.79$). De effectgroottes van psychoanalytische behandeling blijken vele malen groter te zijn dan die van natuurlijk herstel. Daarnaast blijkt het geslacht van de patiënt van invloed te zijn op de behandeluitkomst in de psychoanalyse-groep. Vrouwelijke patiënten vertonen hierbij een betere behandeluitkomst dan mannen wat betreft sociale aanpassing. Onze resultaten laten zien dat de aanwezigheid en de ernst van depressieve pathologie, de mate van sociale angst, onaangepastheid en gevoelens van vervreemding allen significant verminderen na langdurige psychoanalytische behandeling, en dat deze effecten ook op de langere termijn behouden blijven.

Hoofdstuk 5 bekijkt de effectiviteitsgegevens vanuit de invalshoek van de klinische significantie. Normatieve vergelijkingen zijn uitgevoerd om zo een schatting te krijgen van het aantal mensen dat ‘normaal’ functioneert in verschillende fasen van de behandeling. De scores van de patiënten zijn vergeleken met scores van normgroepen. Uit de resultaten blijkt dat een groot deel van de patiënten na behandeling op de meeste instrumenten in het niet-klinische bereik functioneert. We concluderen dat een psychoanalytische behandeling kan zorgen voor klinisch relevante verbeteringen in iemands leven, hoewel een compleet herstel naar normaal functioneren niet verwacht kan worden voor *alle* patiënten.

Hoofdstuk 6 beschrijft de resultaten van de longitudinale metingen die zijn uitgevoerd binnen de multiple-cohort effectiviteitsstudie. We onderzochten het verloop van symptomen en interpersoonlijke problemen binnen de eerste twee jaar van psychoanalyse en psychoanalytische psychotherapie. Uit de resultaten blijkt dat er minder verbetering in interpersoonlijke problemen te zien is vergeleken met symptoomverbetering. Bovendien blijkt dat in de PP-groep zowel een duidelijke symptoomverbetering als een vermindering van interpersoonlijke problemen had plaatsgevonden, terwijl in de PA-groep er slechts significante verbetering werd gevonden op symptoomniveau. In de eerste twee jaar van behandeling vonden we dus meer significante verbeteringen in de PP-groep dan in de PA-groep. Over het geheel genomen blijkt de ernst van de symptomen en interpersoonlijke problemen na twee jaar behandeling nog steeds binnen het klinische bereik te liggen. Verder is gebleken dat de ernst van de pathologie bij aanvang van de behandeling voorspellend kan zijn voor de snelheid waarmee symptomen af zullen nemen tijdens de behandeling. Hoe meer klachten iemand bij aanvang van de behandeling heeft, hoe langer het herstel naar niet-klinisch functioneren zal duren.

Hoofdstuk 7 gaat over de maatschappelijke kosten en besparingen van langdurige psychoanalytische behandelingen. We onderzochten of psychoanalytische behandelingen op de lange termijn ook kunnen leiden tot een vermindering van zorgconsumptie, ziekteverzuim en productiviteitsverlies. Langdurige psychoanalytische behandelingen zijn relatief dure ambulante therapieën. Uit de resultaten blijkt dat patiënten na behandeling inderdaad een minder groot beroep doen op de gezondheidszorg, minder ziekteverzuim hebben, en ook productiever op het werk zijn. Uitgedrukt in maatschappelijke kosten, blijkt dat een deel van de geïnvesteerde kosten (behandelkosten) terugverdiend kan worden als gevolg van indirecte kostenbesparingen (vermindering in zorgconsumptie, ziekteverzuim en productiviteitsverlies). Echter, niet *alle* geïnvesteerde kosten zullen op den duur terugverdiend worden.

Hoofdstuk 8 doet verslag van de kosten-utiliteitsanalyse waarbij het verschil in kosten en effecten van psychoanalyse en psychoanalytische psychotherapie werd geanalyseerd. De analyses zijn gedaan vanuit een maatschappelijk perspectief. Onderzocht werd hoeveel extra kosten geïnvesteerd moeten

worden om een extra *quality-adjusted life year* (QALY) te bewerkstelligen als gekozen wordt voor psychoanalyse in plaats van psychoanalytische psychotherapie. Psychoanalyse blijkt duurder te zijn dan psychoanalytische psychotherapie, maar ook effectiever als het gaat om kwaliteit van leven. De *incremental cost-effectiveness ratio* (ICER), i.e. het verschil in kosten gedeeld door het verschil in effect, ligt rond de €52.000. Het antwoord op de vraag of de hogere kosten van psychoanalyse ten opzichte van psychoanalytische psychotherapie opwegen tegen de extra QALY's hangt af van welke ICER waarde nog als maatschappelijk acceptabel wordt gezien. Hierover bestaat geen duidelijke consensus, want de schattingen lopen uiteen van €12,000 tot €73,000 per extra QALY. Wanneer we een minder strikte afkapwaarde hanteren, blijkt de ICER van psychoanalyse ten opzichte van psychoanalytische psychotherapie nog binnen de maatschappelijk aanvaardbare grens te liggen. Dit betekent dat de meerwaarde van psychoanalyse ten opzichte van psychoanalytische psychotherapie nog steeds opweegt tegen de hogere behandelkosten.

Hoofstuk 9 vat de voornaamste bevindingen van de voorafgaande hoofdstukken samen en presenteert een algemene discussie van de gevonden resultaten. Voor- en nadelen van de gebruikte onderzoeksmethodologie worden besproken. Ook zijn implicaties en aanbevelingen voor de praktijk, beleid en verder onderzoek aangegeven. Tot slot wordt stilgestaan bij het belang van empirisch onderzoek voor het voortbestaan van langdurige psychoanalytische behandelingen binnen het gezondheidszorgsysteem.

CURRICULUM VITAE

Caspar Christiaan Berghout was born in Rotterdam (The Netherlands) on the 5th of April 1978. He graduated in 1997 from high school (VWO) at St. Laurens College in Rotterdam. After graduation he studied Psychology at the University of Amsterdam. He completed his Masters degree in Clinical Psychology in 2003 (cum laude), with a thesis on structural change, defence mechanisms and symptom improvement in the primary phase of psychotherapeutic treatment.

From 2003 to 2004 he worked as a research assistant at the Viersprong Institute for Studies on Personality Disorders (VISPD) in Halsteren. His work included studying the psychometric properties of the newly developed Severity Indices of Personality Problems (SIPP) questionnaire. In 2004 he started his PhD research at the Netherlands Psychoanalytic Institute (NPI) on the effectiveness and cost-effectiveness of long-term psychoanalytic treatment, under guidance of Jolien Zevalkink (NPI) and Joop de Jong (VU University Medical Center). This project was a multi-centre collaboration with Mediant, Parnassia/PsyQ, and De Gelderse Roos. From 2007 he combined his PhD research with projects in the field of outcome research and routine outcome monitoring. Also, his interest in attachment research let him to complete an intensive training in the coding of the Adult Attachment Interview (AAI). In 2009 he started his postdoctoral degree in Health Care Psychology (GZ-opleiding).

Caspar Berghout is married to Moraima Guadalupe García Mantilla.

LIST OF PUBLICATIONS

Publications of this thesis

- Berghout, C.C. & Zevalkink, J. (2008). Identifying clinical cases among patients assigned to psychoanalytic treatment. *Bulletin of the Menninger Clinic*, 72, 163-178.
- Berghout, C.C. & Zevalkink, J. (2009). Clinical Significance of Long-Term Psychoanalytic Treatment. *Bulletin of the Menninger Clinic*, 73, 7-33.
- Berghout, C.C., Zevalkink, J., & de Jong, J.T.V.M. (under review, Augustus 2009). Effectiveness of long-term psychoanalytic treatment: Measuring personality functioning and symptomatic distress in a multiple-cohort design. *Psychotherapy Research*.
- Berghout, C.C., Zevalkink, J., & Hakkaart-van Roijen, L. (2010). A cost-utility analysis of psychoanalysis versus psychoanalytic psychotherapy. *International Journal of Technology Assessment in Health Care*, 26, 3-10.
- Berghout, C.C., Zevalkink, J., & Hakkaart-van Roijen, L. (submitted October 2009). The effects of long-term psychoanalytic treatment on health care utilization and work productivity and their associated costs. *Journal of Psychiatric Practice*.
- Berghout, C.C., Zevalkink, J., Katzko, M.W., & de Jong, J.T.V.M. (accepted November 2009) Changes in symptoms and interpersonal problems during the first two years of long-term psychoanalytic psychotherapy and psychoanalysis. *Psychology and Psychotherapy: Theory Research and Practice*.
- Zevalkink, J., & Berghout, C.C. (2006). Expanding the evidence base for the cost-effectiveness of long-term psychoanalytic treatment. *Journal of the American Psychoanalytic Association*, 54, 1313-1319.
- Zevalkink, J. & Berghout, C.C. (2008). Mental health characteristics of patients assigned to long-term ambulatory psychoanalytic psychotherapy and psychoanalysis in the Netherlands. *Psychotherapy Research*, 18, 316-325.

Other publications

- Berghout, C.C., van Ginkel, J. Groeneweg, N., Israëls, H., Kas, A., Lesniewski, U., & van Stempvoort, J. (2002). Should Subjects Be Forewarned of the Possible Psychological Consequences of Filling Out a PTSD Questionnaire? *Psychological Reports*, 90, 461-465.
- Berghout, C.C. & Zevalkink, J. (2007). Differential selectivity of patients assigned to long-term psychoanalytic treatment. *Journal of the American Psychoanalytic Association*, 55, 1, 294-299.
- Berghout, C.C. & Zevalkink, J. (2007). Klinisch geval of worried well? Een beschrijving van patiënten voorafgaand aan psychoanalytische behandeling. *Psychologie & Gezondheid*, 35, 76-84.
- Berghout, C.C., Zevalkink, J., & de Jong, J.T.V.M. (2010). Symptomen en persoonlijkheidsproblemen voor, tijdens en na langdurige psychoanalytische behandelingen: Een multiple-cohort studie. *Psychologie & Gezondheid*, 38, 66-77.

- Berghout, C.C., Zevalkink, J., & de Wolf, M.H.M. (2010). Psychoanalyse en psychoanalytische psychotherapie: Effectgroottes en klinische significantie. *Tijdschrift voor Psychotherapie*, 36, 22-39.
- Verheul, R., Andrea, H., Berghout, C.C., Dolan, C., Busschbach, J.J.V., Van der Kroft, P.J.A., Bateman, A.W., Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): Development, factor structure, reliability and validity. *Psychological Assessment*, 20, 23-34.
- Zevalkink, J. & Berghout, C.C. (2008). *Door de bank genomen. Hoe effectief zijn psychoanalytische behandelingen?* Amsterdam: Nederlands Psychoanalytisch Instituut.
- Zevalkink, J. & Berghout C.C. (2008). Klinische besluitvorming ten aanzien van indicatie voor psychoanalyse en psychoanalytische psychotherapie: Een empirische invalshoek. *Tijdschrift voor Psychotherapie*, 34, 151-168.

ACKNOWLEDGEMENTS

This thesis is the product of cooperation. Without the help, support, love and guidance of the people around me, this piece of work would probably have never come about.

Let me start off by expressing my gratitude to my copromotor **Jolien Zevalkink** who guided and supported me every step of the way. Almost every day we discussed minor and/or major things. With her strictness at certain times and looseness at other times, she knew how to inspire and stimulate me during the past five and a half years. You gave me confidence when it was lacking, you gave me space when it was needed, and you gave me support when times were rough in my personal life. I'm incredibly grateful to have you as my mentor.

I'm also very thankful to my promotor **Joop de Jong**. You have learned me a great deal about writing and structuring manuscripts, coming to the point, and 'killing my darlings'. Your guidance and your positive words always gave me a sense of trust and confidence.

Many thanks for the careful reading of the dissertation to the members of the PhD committee: **prof.dr. A.T.F. Beekman, prof.dr. P. Cuijpers, prof.dr. P. Fonagy, prof.dr. P. Schnabel, prof.dr. J.A. Swinkels, and prof.dr. W. van Tilburg**. I am honored to have such distinguished professors in my PhD committee.

In the design of the study the following members of the scientific board deserve acknowledgement: **prof.dr. J.J. Baneke, prof.dr. J.J.V. Busschbach, prof.dr. J.J.L. Derksen, dr. L. Hakkaart-van Roijen, and prof.dr. W.A.M. Vollebergh**. I would also like to thank **prof.dr. G. Meyer and prof.dr. R. Sandell** for the numerous consultations during the project.

Of course, this project would not have been possible without the cooperation of all the **patients** who participated in the study and all the **therapists** who treated them. Clearly, it is not possible to mention all my great **colleagues** at the Netherlands Psychoanalytic Institute (NPI). However, let me thank in specific **Quin van Dam, Wouter Gomperts, and Ron Koster** for their contribution to the 'indicatiestellingsonderzoek' which investigated the comparability of the cohorts. I also gratefully acknowledge **Bram Pieters, Zamire Saltzherr, and Aukje Beekhuizen** for coding the Rorschach protocols, and **Sandra den Hollander and Margit Deben** for coding the AAI transcripts. For the processing of data I am thankful to **Amanda Sharon, Anke Niehof, Liesbeth Bakker, Laura Mayer, and Marije Vos**. I am also grateful for the methodological and statistical support given by **Michael Katzko**, and the data-analytical consultations of **Clazien Bouwmans**.

The multiple cohort study was a cooperation between four mental health institutes. Therefore, I would like to thank **Paul van Woerden and Anne Onnink** of De Gelderse Roos, **Ada van Hechten** of Parnassia/PsyQ, and **Drien Suurmond and Paulien Nijhuis** of Mediant. It has been a pleasure working with you.

I'm also very grateful to my wife **Moraima García Mantilla**. You have made it so easy to forget about work when I come home! Te amo, mi vida. And finally, I would like to thank my family for providing me with a wonderful and loving home: my mom **Anny Berghout-Vermeulen**, my sister **Tessa** and my brothers **Jeroen and Jim**. This thesis I would like to dedicate to my father **Joop Berghout** who passed away in the second year of my PhD. Without our loving and stable family I would never have been where I am today. Love, Caspar.