Five research questions were formulated in the introduction to this thesis. This chapter will sum up the main findings of the thesis and discuss the answers to the research questions. The strengths and limitations, and the implications of the findings for clinical practice, policy and future research will then be discussed and the conclusions will be stated.

SUMMARY AND MAIN FINDINGS

Part I: Personality disorders in adolescents

1. To what extent have scientific evidence and practice guidelines relating to personality disorders in adolescents found their way into actual clinical practice?

Chapter 2 showed that, although a majority of psychologists working with adolescents acknowledge the existence of personality disorders (PDs) in adolescents, only a small minority of adolescents diagnosed with a PD are offered treatment that specifically targets PD pathology. The main reasons PDs are not diagnosed in adolescents are the belief that adolescent personality problems are transient and that the DSM-IV-TR does not allow for a diagnosis of PDs during adolescence. As a result, personality pathology in adolescence is under-diagnosed and this could be preventing referral to specialized treatments. The reluctance of professionals to diagnose PDs in adolescents could be hindering the development and dissemination of appropriate interventions for these young people. A major strength of the study described in this chapter was the large sample size. About one in five registered psychologists completed the survey, which makes our data representative of the opinions and practices of psychologists in Belgium and the Netherlands. The limitations of this study included the difficulty of generalization to other countries, and the reliance on self-report rather than registrations of actual routine clinical practice.
2. **What is the burden of disease in adolescents with personality pathology and is it comparable with the burden of disease in adults with PDs?**

**Chapter 3** showed that 131 adolescents with personality pathology who sought treatment experienced a high burden of disease: poor quality of life (QoL) and high costs for health care. QoL in the adolescents in our study was comparable with QoL in adults with PDs. The mean direct medical costs in the year prior to treatment were substantially higher than the costs found in the adult population with PDs. This could be explained by the fact that earlier studies calculated mean direct medical costs for patients with all sorts of PDs, whereas we looked only at patients with BPD. Given the poor QoL and high direct medical costs reported in this patient group, we concluded that effective treatment strategies should be developed for this group of adolescents in order to benefit both the patients and society. The major strength of this study was the use of generic measures to assess the burden of disease, allowing us to compare the burden in this patient population with the burden for patients with other physical and mental disorders. A major limitation was that this study did not include the costs of school absenteeism, violence and criminal behaviour in our sample and this may have resulted in an underestimation of the costs.

3. **Is MBT-A a feasible treatment for adolescents with borderline symptoms?**

**Chapter 4** described the preliminary results of a pilot study looking at eleven female adolescents in a centre for mental health care in the Netherlands. The results were significant reductions in symptoms, and improvements in personality functioning and QoL at 12 months after the start of MBT-A (Mentalization-Based Treatment for adolescents). The effect sizes were medium to large. This study also showed that MBT-A was associated with a reliable improvement of symptoms in most patients (91%). A major strength of this study was that it was the first study to present pilot data from an inpatient MBT treatment focusing primarily on adolescents with borderline personality symptoms. However, the results should be interpreted in the context of some important limitations: the lack of a control group, small sample size, female participants only and implementation problems. The improvements may therefore be due to treatment effects, the natural course of the disorder, external events, or any combination of these factors and we should be careful in interpreting the results. However, the striking similarity of
effect sizes with other treatment studies in similar samples suggests that the observed effects were at least partially related to the treatment.

**Part II: Borderline personality disorder in adults**

4. **What is the burden of disease in adults with BPD eligible for MBT?**

Chapter 5 showed that patients with borderline personality disorder (BPD) eligible for MBT reported severely impaired QoL and that their disorder was associated with high societal costs: the mean QoL index score was .48 and the mean total costs in the year prior to treatment were €16,879 per patient, of which 21 percent consisted of productivity costs. QoL in BPD patients eligible for MBT was lower than, or at least comparable with, QoL in patients with severe physical and mental illnesses and findings from other studies of BPD patients. The economic burden in BPD patients eligible for MBT seemed to be considerably higher than the burden in patients seeking mental health treatment for other mental and physical disorders such as anxiety disorders, mood disorders and Parkinson’s disease, and comparable with the costs of psychotic disorders and other PDs and BPD. This high burden of disease – impaired QoL and societal costs – in BPD patients eligible for MBT makes it more likely that society will be willing to invest in treatment for these patients. However, this finding should not be interpreted as a license to devote resources without restriction to the funding of treatment for severe BPD patients since these findings do not include any conclusions about the effectiveness of MBT or other treatment programmes available for BPD. One of the strengths of this study was the use of a generic QoL measure, which made it possible to compare the QoL of the patients in our study with that of patients with other mental and physical illnesses. Although it is suggested that the EQ-5D-3L may not be sensitive enough to reflect the impact of severe mental disorders such as chronic schizophrenia and PDs (Brazier, 2010), our study showed that these concerns are not justified for severe BPD patients in our study population. We found severely impaired QoL in these patients and this indicated that the EQ-5D detected a large proportion of the problems in this particular patient group. In addition, other studies of QoL in BPD patients found similar EQ-5D scores, suggesting that the present findings are robust. We included only BPD patients eligible for MBT, and this may limit the generalizability
of our study results to the overall group of BPD patients. However, our results showed that costs and QoL were comparable with other studies of QoL and costs in BPD patients.

5. Is MBT-DH more effective than S-TAU in the treatment of BPD after 18 months of follow-up?

Chapter 6 described the study protocol of our randomized controlled trial (RCT) that compared Day Hospital MBT (MBT-DH) with specialized treatment as usual (S-TAU). We expected MBT-DH to outperform S-TAU after eighteen months of follow-up. Chapter 7 showed that both MBT-DH and S-TAU led to significant improvements in all outcome measures at 18 months of follow-up. Also, MBT-DH was not superior to S-TAU at that time, which was contrary to our expectations. There are several possible explanations for this finding. For instance, we implemented MBT-DH in newly trained teams. Although therapists trained in MBT were highly experienced clinicians, they had almost no prior experience with MBT. We cannot exclude the possibility that this lack of experience with MBT may have had an impact on the outcome of MBT-DH when compared to S-TAU, particularly as the S-TAU was well-established and administered by professionals with years of experience with their approach. However, it should not be forgotten that, despite the shortage of experience with MBT at the beginning of the trial, the MBT teams were found to be successful in treating BPD at 18 months of follow-up. Although inconclusive, this finding indicates that the difference in experience did not play a significant role. Furthermore, it seemed that patients recruited in the first half of the inclusion period improved as much as patients who were recruited in the second half, even though one may expect therapists to be more experienced later, especially since they were trained and supervised by an experienced MBT expert. Nevertheless, it should be noted that the power of this sub-analysis was too small to draw firm conclusions from this finding.

In addition, one could argue that the dropout rate from our trial was too high to draw firm conclusions from the data. However, in research on BPD patients, one can expect a substantial number of dropouts and these dropout percentages should be seen in the light of this severe patient population. When we compared the dropout rates from our trial with other studies, we found comparable, and
even higher, dropout rates in RCTs in BPD patients. For example, a recent meta-analysis of BPD patients showed that dropout from intervention in the first year varied from 11% to 64%, with a mean of 29% (Barnicot, Katsakou, Marougka & Priebe, 2011). Another meta-analysis showed that the dropout from intervention ranged from 7% to 77% in BPD patients, with a mean of 30% (Lana & Fernandez-San Martin, 2013). We calculated the dropout from treatment in our trial at one year after start of treatment and found comparable results: 31% in the MB-DH group and 37% in the S-TAU group (with a total mean of 33%). In addition to intervention dropouts, we also investigated the study dropouts. The study dropout rate at 18 months for all patients who started one of the interventions was 47% (MBT-DH 45%, S-TAU 52%). This percentage is high but comparable with other studies (Barnicot et al., 2011; Blum et al., 2008; Giesen-Bloo et al., 2006; Verheul et al., 2003), especially when we look at the severity of the disorder and the length of the interventions. Total study dropout was particularly high in the control condition because a relatively large group of patients dropped out from the treatment directly after randomization, and intervention dropouts are almost always also study dropouts. This significantly higher dropout rate immediately after randomization in the S-TAU condition (34%) compared with MBT-DH (9%) could be the result of differences in the way patients perceived MBT-DH and S-TAU. Although presenting BPD patients with the option of tailoring their treatment to their specific needs may be appealing, it may be associated with lower acceptance because of those patients’ need for consistency and coherence. In the end, intention-to-treat can be seen as a conservative method and so we also analysed the data with Last Observation Carried Forward and with an imputed dataset. Both methods lead to the same conclusion: MBT-DH is not superior to S-TAU. It should also be mentioned that the initial power of the study was relatively high. With the aim of including 54 patients in both treatment arms and an expected difference in effect size of .65, the power was 91.7%. There were 49 patients who started MBT-DH and 27 who started S-TAU and power was therefore still 77.6%. In hindsight however, given that meta-analyses have shown since this study was designed that there are very few, if any, differences in the effectiveness of well-organized treatments such as the ones investigated in this paper (Cristea et al., 2017), the current study may have been underpowered to detect meaningful differences between both treatments. Yet, as the same time, it may be questionable whether such small differences would be clinically meaningful.
The finding that MBT-DH is not superior to S-TAU is consistent with increasing evidence that well-specified treatments for BPD delivered in a consistent, coherent and continuous way tend to be equally effective, irrespective of their theoretical orientation. This raises the question of whether treatment-specific factors and techniques or a consistent, coherent and continuous way of performing a generalist treatment model are more important factors in the treatment of BPD. Integrative treatment approaches have therefore been proposed for BPD. We should also view our results in the face of everyday reality. In the Netherlands, more and more MBT-DH units are closing because insurance companies are no longer prepared to pay for such expensive treatment. So even if we had found that MBT-DH outperforms S-TAU, it is debatable whether funding for such expensive treatment is socially acceptable. Also, this study suggests that MBT, as delivered by therapists that are new to the model and that receive a 2-day training and regular supervision, is associated with similar effects as a well-established treatment service offering other evidence-based interventions for BPD patients. This finding may have important implications in terms of cost-effectiveness of training and service delivery in this area. Further research into these issues is needed, as well as studies of the cost-effectiveness and long-term outcome of both treatments and of integrated treatment models.

A major strength of the study was that this is the first independent study to compare MBT-DH with a well-established specialist TAU. The limitations of this trial included the slightly skewed randomization in favour of MBT-DH, the lack of any systematic assessment of treatment adherence, the relatively high dropout rate during treatment, and implementation problems that may have affected the results.
GENERAL DISCUSSION

PDs in adolescents

The importance of the early recognition of PDs in adolescents and early intervention

This thesis shows that only a small percentage of adolescents with PD features or a full-blown PD are diagnosed as having a PD and it is plausible that an even smaller number of adolescents receive appropriate treatment for their problems. This can be attributed to factors that include concerns about stigmatization and the belief that the problems are part of a developmental phase rather than personality problems (Laurenssen, Hutsebaut, Feenstra, Busschbach & Luyten, 2013). As a result, many professionals in mental health care tend not to diagnose PDs in adolescents, even though PDs do not appear out of the blue at age 18 (Arens et al., 2013; Chanen & Kaess, 2012); PDs can be diagnosed in adolescents in a reliable and valid way (Chanen & McCutcheon, 2008), and PDs in adolescence are a strong predictor of future functioning (Cohen, Crawford, Johnson & Kasen, 2005; Crawford et al., 2008; Winograd, Cohen & Chen, 2008). Furthermore, several recent studies indicate that BPD in adolescents is treatable and results can be achieved in a relatively short period of time (Chanen et al., 2008; Laurenssen, Hutsebaut et al., 2014; Rossouw & Fonagy, 2012). The reluctance to diagnose a PD in adolescents hinders early detection and referral to treatment for adolescents with a PD or a BPD. This is a concern because there is evidence that adults with a BPD might subsequently show long histories of mental health care service use and ancillary costs over long periods of time (Zanarini, Frankenburg, Bradford Reich, Harned & Fitzmaurice, 2015; Zanarini, Frankenburg, Reich, Conkey & Fitzmaurice, 2015), and they seem to have chronic problems and a poorer prognosis (Chenan, Berk & Thompson, 2016; De Girolamo, Dagani, Purcell, Cocchi & McGorry, 2012). Furthermore, adolescent personality disorder features are a strong predictor of full-blown PDs in young adulthood (Cohen et al., 2005). Early detection and intervention may mitigate this adverse prognosis (Patel, Flisher, Hetrick & McGorry, 2007). This results in a paradox: early detection and intervention probably give the best chance of a good prognosis but professionals in mental health care try to protect these youngsters and their families from an early diagnosis that they fear could be invalidating.
Towards a clinical staging model in the treatment of adolescent PD

Our system may have been focusing too much on a categorical diagnosis, generating resistance from clinicians to diagnosing PDs in adolescents. As a consequence, treatment for these young people is delayed, however some sort of treatment is often needed before a diagnosis is made. Chanen and colleagues therefore developed a clinical staging model for adolescent BPD (Chanen, Berk et al., 2016) based on an effective clinical staging model for psychosis (McGorry, Killackey & Yung, 2008). A clinical staging model describes the stage of a disease in which an individual is located on a continuum of disorder progression. The idea is that treatment needs to differ depending on the stage of the disorder. In general, proposed interventions for the earlier stages are simpler and more benign than in later stages, and the intensity of interventions increases with disorder progression. Interventions in the early stages will be, for example, more general psychosocial interventions, and an example of an intervention at a later stage could be the more intensive and disease-specific MBT-A. The ultimate goal of clinical staging is therefore to alter the development of the disease by tailoring the best intervention to the needs of the patient and their families in each stage. The focus of the model is therefore more on the severity and persistence of symptoms rather than diagnostic categories and arbitrary age restrictions (Chanen, 2015). The clinical staging model for psychosis has proven successful: professionals focused more on fast recognition without the fear that this would decisively lead to schizophrenia, and it led to less stigma (McGorry et al., 2008). In summary, a clinical staging model could lead to a developmental and dimensional approach to the diagnosis of PD in adolescents. It could be accepted more by clinicians and it could lead to the development of new, more tailored interventions that are appropriate at each stage of the model.

Implications for clinical practice and policy

When dealing with personality pathology in adolescence, clinicians should be more aware of the potential severity of the pathology and the burden a PD imposes on these patients and their environments. They should be clearly aware that early intervention leads to more favourable outcomes later in life because, if clinicians do not take these symptoms seriously, patients will be deprived of appropriate treatment for their disorder. Clinicians in routine clinical care should learn how to recognize PDs and BPD to make early intervention possible. In this light, in Australia, Chanen and McCutcheon developed a two-day workshop for
people working in youth mental health in primary care agencies. This workshop focused on early intervention for BPD. They also performed a study to evaluate the effects of this workshop on the knowledge, attitude and perceived skills of these therapists relating to adolescent BPD. They assessed therapists three times: before and after the training and after three months of follow-up. They found that the attitudes and openness to working with young BPD patients changed in a positive way. The next step will be to evaluate whether this also leads to an actual change in clinical practice (Chanen, Sharp & Hoffman, 2017). Validated instruments have been developed for assessing adolescent personality pathology. They include the Shedler-Westen Assessment Procedures for Adolescents, Version II (SWAP-II-A) (Westen, Dutra & Shedler, 2005), and the Borderline Personality Disorder Features Scale for Children (BPFSC) (Crick, Murray-Close & Woods, 2005). Future developments should focus on worldwide agreement about which instrument to use, the validation of the instruments in different languages and the inclusion of the instrument in standard assessment batteries in routine clinical care.

In summary, clinical staging could be used as an acceptable framework for professionals in mental health care to treat adolescents with PDs. Moreover, it could even provide a framework for the development of new interventions. Future research should focus on the development and implementation of the clinical staging model and the most appropriate intervention for each stage of the disease.

**Adult borderline personality disorder**

**Towards a generalist treatment model for BPD**

The finding that MBT-DH is not superior to S-TAU for the treatment of BPD is consistent with recent studies comparing evidence-based treatment for BPD with highly structured TAU (Bateman & Fonagy, 2009; Chanen et al., 2008; Clarkin, Levy, Lenzenweger & Kernberg, 2007; Cristea et al., 2017; Feigenbaum et al., 2012; Jørgensen et al., 2013; McMain, Guimond, Streiner, Cardish & Links, 2012). This raises the issue of whether specialist psychotherapeutic treatment as offered by the Big Four (MBT, DBT, SFT, TFP) may indeed be required to treat a substantial subgroup of BPD patients. This issue is important given the limited availability of specialist treatments. Our study is one of the many studies that found no difference between highly specialist treatment and highly structured TAU. It is therefore possible that the effectiveness of treatments may depend more on
common factors than on specific techniques (Lambert & Barley, 2002). If this is true, important health benefits can be gained by upgrading generalist interventions. Bateman and colleagues described a model for a generalist approach in the treatment of BPD (Table 1).

Table 1: Proposed characteristics for a generalist approach to treating borderline personality disorder (Bateman, Gunderson & Mulder, 2015).

- Treatment providers have previous experience with borderline personality disorder
- Supportive (ie, encouraging, advisory, and educational)
- Focus on managing life situations (not on the in-therapy interactions)
- Non-intensive (ie, once per week, with additional sessions as needed)
- Interruptions are expected; consistent regular appointments are optional
- Psychopharmacological interventions are integrated; group or family interventions are encouraged when necessary.

The development of a generalist approach to the treatment of BPD is highly important given the current context of limited resources and limited access to the Big Four for many patients. The question that still needs to be answered is: what works for whom? We still do not know which patients need to be directly referred to more specific and intensive treatments and which patients can benefit from generalist care.

The role of salutogenesis in the treatment of BPD

According to Fonagy and colleagues, another important issue in the treatment of BPD is the role of salutogenesis (Fonagy, Luyten & Allison, 2015; Fonagy, Luyten, Allison & Campbell, 2017a, 2017b). It implies that one should focus on the importance of a benign social environment at the time of treatment in order for patients to benefit from benign social interactions. This construct of salutogenesis emphasizes the importance of experience outside the therapy rooms in terms of change (Fonagy et al., 2015). However, in MBT-DH, where patients are in treatment for 18 months and 5 days a week, it is really hard to gain experiences outside therapy. The focus in MBT-DH may therefore be too much on reducing BPD symptoms and not enough on the outside world. MBT-DH may therefore actually limit these patients’ ability to experiment with new ways of thinking, feeling and behaving in the outside world. This interpretation is consistent with the recent emphasis on step-down programmes in the treatment of BPD (Fonagy et al., 2015).
Implications for clinical practice and future research

We should make the most of the limited resources available such as money and the number of highly trained professionals. This pragmatic approach means that we have to deliver some generalist care, and some specialist care. By referring only the BPD patients to specialist care who need it most, the resulting savings in scarce resources can then be used to provide early and rapid intervention for a much larger number of patients, making BPD treatment more accessible (Gunderson, 2016; Paris, 2015; Richards, 2012).

Generalist models for the treatment of BPD should be implemented in general mental health care institutes and their effectiveness (and particularly cost-effectiveness) should be investigated. In the Netherlands, the Dutch Knowledge Centre for Personality Disorders is currently implementing general treatments for BPD in regular institutes for general mental health care. We should be aware that the successful implementation of these general treatments could have enormous consequences for treatment guidelines because general treatments could become the preferred treatment for first-diagnosis or first-treatment BPD patients (Gunderson, 2016). In addition, existing evidence-based and theory-oriented therapies should be improved to serve patients that do not benefit from a generalist approach. When improving these current BPD treatments (most of which are intensive), the importance of salutogenesis should be kept in mind. A less intensive MBT treatment may, for example, be just as effective as MBT-DH. We hope to be able to answer this question in the near future on the basis of the results of our study in which we compare MBT-DH with an intensive outpatient MBT treatment (Laurenssen, Smits et al., 2014). In addition, the underlying mechanisms of change and an improved understanding of the underlying, abnormal, psychological and biological processes leading to the manifestation of a disordered personality should be investigated in order to establish more specific psychotherapies for those BPD patients who need them.

One of the most important questions for future research remains: what works for whom? It is still unclear which patients need to be referred directly to the more specific and intensive treatments and which patients will benefit enough from generalist care. In other words: how do we make sure that the patients who need them most are referred to the relatively scarce, highly-specific, treatments? For example, it is likely that BPD patients with two or more comorbid PDs
may need specialist rather than generalist treatment, as was also suggested by Bateman and Fonagy (Bateman & Fonagy, 2013).

CONCLUSION

We conclude that early recognition and early intervention are crucial for adolescents with PDs/BPD in order to provide them with optimal care and ensure the best possible prognosis since delayed treatment can lead to persistent functional deficits. MBT-A is a promising treatment for adolescent BPD. A clinical staging model could give therapists the opportunity to intervene before a PD diagnosis is made and therefore to alter the progression of the disorder. The clinical staging model may also be accepted more by clinicians than the categorical diagnostic model because of the dimensional perspective. In addition, clinicians must be made more aware of PDs in adolescents so that clinical diagnostic practice is changed and so that adolescents receive treatment for PDs. Early interventions for adolescent PDs should be developed further and matched to the different levels of the clinical staging model. We found that MBT-DH was not superior to S-TAU for the treatment of adults with BPD after 18 months of follow-up. Future research should focus on the long-term effects after 36 months of follow-up and the cost-effectiveness of both treatments. At the same time, the development of a generalist approach to the treatment of BPD is highly important given the current context of limited resources and limited access to the Big Four for many patients.

In the end, we must be realistic and it is our job to make the most of limited resources or, as Schulz & Black put it: “Our patients deserve no less than the continued investigation of our options for their treatment” (Schultz & Black, 2015).
REFERENCES


