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Chapter 6
GENERAL DISCUSSION

Introduction

The central question underlying this thesis was whether children with a history of pathogenic care, visual and severe intellectual disabilities, and severe challenging behaviour can develop an attachment relationship with a therapist. Furthermore, from an intervention point of view, the effect of Integrative Therapy for Attachment and Behaviour (ITAB, see Appendix A) on children's behaviour was studied.

The development of an attachment relationship was studied by testing the stress-regulating function of the therapeutic relationship using physiological (PEP, RSA, cortisol), and behavioural measures. The effect of ITAB was studied by comparing the behaviour modification given by an attachment therapist with behaviour modification given by a non-attachment/control therapist, and by examining behavioural changes in daily life.

In this chapter, the findings of the studies presented in Chapter 2 to 5 are summarized and discussed. Limitations and strengths of the study are addressed. Finally, its clinical implications are discussed.

Summary and conclusions

Chapter 2 describes a multiple baseline study whose central question was whether the clients could develop an attachment relationship with the therapist. Because attachment relationships are supposed to facilitate affect regulation (Bradley, 2000) in challenging situations, the autonomic nervous system responses of six clients were examined. Respiratory sinus arrhythmia (RSA) and pre-ejection period (PEP) were recorded using the VU-AMS (De Geus & Van Doornen, 1996). First, the RSA data were corrected for level of activity. Because no association was found between PEP and level of activity, no corrections were necessary for PEP. Proximity-seeking behaviour (Appendix B) was independently coded using Noldus computer software (The Observer), during peaks of arousal indicated by low RSA and PEP, and was compared between the experimental and control treatments. The clients showed significantly longer periods of proximity-seeking behaviour at higher levels (levels 3 – active – and 4 – very active –) towards the experimental therapist compared to the control therapist. In addition, during moments of high RSA and PEP arousal the clients showed more and higher levels of proximity-seeking behaviour towards the experimental therapist than towards the control therapist. Differences in proximity-seeking between periods of high and low parasympathetic

nervous system arousal did not significantly vary between therapists. During behaviour modification, a phase in ITAB in which the clients are confronted with stressful situations, the clients showed marginally significantly less RSA and significantly less PEP arousal in the presence of the experimental compared to the control therapist. Consequently, as this intensive therapeutic intervention over time resulted in more proximity-seeking behaviour towards the experimental therapist compared to the control therapist and in particular more proximity-seeking during peaks of arousal, the therapeutic relationship fulfilled a function similar to that of an attachment relationship. In addition, this therapeutic relationship had an affect-regulating effect similar to that of an attachment relationship.

Psychophysiological studies have confirmed that the presence or absence of primary attachment figures (biological or foster parents) is associated with children's autonomic nervous system (ANS) responses, in particular in stressful situations (Gilissen, Koolstra, Van IJzendoorn, Bakermans-Kranenburg, & Van der Veer, 2007; Oosterman & Schuengel, 2007a,b; Stevenson-Hinde & Marshall, 1999; Willemen et al., in press). Our study may be the first study showing similar effects in therapeutic relationships. Relationship-based support might be especially important in psychotherapy involving children without attachment relationships. Our results support the plasticity of developing an attachment relationship, even for children with multiple disabilities developing along severe maladaptive pathways, and growing up without stable attachment figures.

Adam and Gunnar (2001) found that security of attachment between mothers and their 2-year-old children is associated with more adaptive functioning of the physiological stress system. A similar mechanism may perhaps be at work in the therapeutic relationship established during integrative therapy. Through better affect-regulation attained by developing an attachment relationship with the therapist, the client might experience lower levels of less continuous stress. Because cortisol is important for stress regulation (Blair et al., 2005), and cortisol reactivity and cortisol circadian rhythm have been linked to caregiving experiences (Dozier et al. 2002, Dozier et al. 2006, Fisher et al. 2000, Gunnar & Quevedo, 2007, Gunnar & Vazquez, 2001), the expectation was that clients who develop an attachment relationship with the therapist will show a more typical circadian rhythm at the end compared to the start of the intervention. This was the focus of the study described in Chapter 3. Salivary samples were collected in the clients' residential environments four times a day on two consecutive weekend days once a month during ITAB. One client, a blind boy aged 17 years, resisted saliva collection and was therefore excluded from the study. In interpreting the results it is important to keep in mind that

collecting saliva samples from children with serious visual and severe intellectual disabilities proved to be difficult, and resulted in a high percentage of missing values. Nevertheless, the results showed that three clients exhibited an atypical cortisol cycle at the start of the intervention, which evolved to a more typical diurnal cycle with less extreme levels at the end of the invention. However, compared to a community comparison group involving 12-year-old twins (N = 180 pairs: Bartels et al., 2003), morning cortisol levels were still significantly lower and evening levels were significantly higher at the end of the intervention. Concerning the overall aim of this study, the results indicate that the diurnal cycle of cortisol might indeed change in response to changes in the environment. The lower morning cortisol levels at the end of the intervention period in particular may indicate, like the autonomous nervous system (PEP and RSA) findings reported in Chapter 2, that the development of the therapeutic relationship supports better stress regulation in the clients of this study.

The effect of ITAB on behaviour was tested in a series of single case studies with alternating therapy conditions (Chapter 4) for the six clients, described in Chapter 2 and 3. Standardized instruments were used to assess the challenging behaviour shown by the clients at the start of the intervention and after its completion. For the six clients the 'Severe Challenging Behaviour Consensus Protocol – National Institute for Health Care Management' (CEP) (Kramer, 2001) score was significantly lower at the end compared with the start of the intervention. On the 'Challenging Behaviour Scale for People with an Intellectual Disability' (Storend Gedragschaal voor Zwakzinnigen or SGZ) (Kraijer & Kema, 1994) four out of the six clients showed a higher score, which indicates less challenging behaviour.

Professional caregivers in the clients' residential homes were instructed to record the frequency of challenging behaviour. Challenging behaviour was then recorded continuously (every waking hour of each day during the intervention) in the residential home using observation lists (Appendix C). Due to low intraclass reliability coefficients for the weekly averages of the scored observation lists, two cases were dropped from the analyses of challenging behaviour in the residential setting. For the four remaining cases the results indicated that challenging behaviour in the residential home, outside the therapeutic intervention, decreased during the attachment relationship building phase and continued decreasing during behaviour modification (phase 2).

The weekly videotaped sessions conducted by both therapists were randomly and independently coded using Noldus computer software (The Observer) by observers

who were blind to the therapeutic condition. The challenging behaviour and adaptive replacement behaviours were coded during behaviour modification (phase 2). For the six clients the behaviour modification sessions conducted by the experimental therapist resulted in significantly more adaptive replacement behaviour than the behaviour modification sessions conducted by the control therapist. No significant differences were found between the therapists in their effectiveness with respect to reducing the already fairly low levels that had remained of target challenging behaviour during the behaviour therapy sessions.

These positive effects of ITAB were found in clients for whom in the past no other therapies and interventions had proven successful. We found that clients learned adaptive replacement behaviours more easily from therapists who had previously attempted to build a therapeutic relationship based on attachment principles, compared with therapists who were merely familiar (control therapists).

In the single case study (Chapter 5) we integrated the two research aspects, the development of a therapeutic relationship and the effect of ITAB. Roy, a 17-year-old blind boy with Down Syndrome and a severe intellectual disability, received this treatment over a 12-month period. At the start of the intervention he was completely isolated from the world, exhibiting challenging behaviour noted as severe and persistent. His history included early pathogenic care, based on the DSM-IV criteria for an attachment disorder. No earlier interventions had been successful.

Observation-coding schedules were developed for the four types of attachment behaviour used for mother-child interaction in the Strange Situation (Ainsworth et al., 1978; Appendix B) to determine the attachment behaviour during attachment therapy (phase 1). Independent observers blind to condition coded the therapy sessions in random order. The results indicated that Roy, over time, sought more proximity to the experimental therapist than towards the control therapist. Additional evidence for the development of an attachment relationship was found in phase 2. Roy showed less PEP arousal when the experimental therapist rather than the control therapist conducted behaviour modification therapy, indicating that during the sessions with the experimental therapist systems underlying fight-or-flight responses were less activated. Furthermore, the experimental therapist was significantly more effective than the control therapist in teaching Roy new adaptive replacement behaviour during behaviour modification (phase 2).

Challenging behaviour was coded on the basis of videotaped therapy sessions, by coders who were blind to the experimental condition and treatment phase. The frequency and intensity of the challenging behaviour decreased over time. Furthermore, the intensity and frequency of the challenging behaviour in the week after the therapy sessions followed the same pattern, with significant phase effects indicating that positive effects had generalized to daily situations outside the therapy. Challenging behaviour in the residential setting was scored on the observation lists every hour of each day during the intervention by the professional caregivers.

These results are consistent with the theory that when clients such as Roy are able to develop an attachment relationship with another person, in this case a psychotherapist, stress regulation may improve and learning new behaviors may become easier.

Study limitations and implications for future research

Although proximity-seeking behaviour was identified on the basis of the guidelines developed by Ainsworth et al. (1978) for coding attachment behaviour in the Strange Situation Procedure, these guidelines also make it clear that proximity-seeking is related to moments of stress. Therefore, highly stressful moments were selected which then give evidence for the activity of the attachment behavioural system. However, also under conditions of low arousal, similar differences were found in proximity-seeking between the experimental and control therapist. One possible explanation is that the experimental therapist not only became a target for attachment behaviour but also a target for exploration and play, given that the capacity for independent exploration away from the therapist as a secure base was limited due to intellectual and visual disabilities. Further research might attempt to differentially link security-seeking and exploratory proximity-seeking to autonomic nervous system response. Nevertheless, the combined results (Chapter 2-5) would seem to indicate that an attachment relationship developed between clients and the therapist administering ITAB. As might be expected, proximity-seeking behaviour towards the experimental therapist increased over time, whereas it remained stable in the sessions with the control therapist. Furthermore, the experimental therapist was more effective in supporting affect regulation during behaviour modification (phase 2). This therapist was also more effective in modifying adaptive replacement behaviour (phase 2).

Behaviour modification (phase 2) started when challenging behaviour had already dropped to fairly low levels during the therapy and control sessions. Combined with the limited number of sessions during phase 2, this may explain the result that no significant differences were found between the therapists in their effectiveness in reducing the target challenging behaviour. However, we can state that the experimental therapist was significantly more effective in shaping selected adaptive replacement behaviour.

A limitation of the design used in this study to examine the effect of ITAB was that the independent effect of the attachment-based therapy phase (phase 1) was not examined. However, a reversal design (ABAB) was deemed undesirable, because that would have disrupted the developing relationship. The results showed that the control therapist's positive presence alone did not result in the clients showing more attachment behaviour towards the control therapist. Therefore, without an ABAB design it is plausible that the increase of attachment behaviour shown towards the experimental therapist may be ascribed to ITAB.

In the multiple baseline study (Chapter 4) and in the single-case study (Chapter 5), the frequency of challenging behaviour diminished during the phase of the therapy in which an attachment relationship was stimulated. After having completed phase 1.3 (see Appendix A) behaviour modification (phase 2) was initiated. However, the question remains of whether over time the challenging behaviour would have diminished even without behaviour modification (phase 2), by extending phase 1.3, skipping phase 2 and continuing with phase 3. In other words, it is not clear whether behaviour modification is necessary for an intervention based on attachment to treat challenging behaviour. Nevertheless, behaviour modification may certainly be needed in order to teach clients adaptive replacement behaviour.

Further research is needed to examine the effect of the generalization component of the intervention protocol, in order to find out whether clients and caregivers are able to capitalize on a newly established sensitivity to social rewards and interactions in order to develop trusting relationships within the context of residential care, given the challenges of staff turnover and workloads. Ultimately, the most important effect of the therapy may be the increased responsiveness of children with severe disabilities to their social environment. The therapy may have long-term effects if the caregiving environment sustains this social responsiveness and continues to stimulate the development of adaptive replacement behaviour using positive and social means of communication. Replication of

this study may give insight into situations where ITAB is found to be effective but also into situations where the treatment seems to lack the expected effect.

Further research is also needed to determine whether the buffering effect of the relationship-based treatment on affect regulation as reported in this study is found among other clients, for example children or adults with an intellectual disability but no visual disability or adults with a visual and intellectual disability, and in other settings, for instance among young children without a visual or intellectual disability, deaf-blind clients or clients with an ASS diagnosis.

ITAB was given by two different therapists, each working with three clients, showing the same treatment effects. However, the question remains of whether different therapists would achieve the same results after using the ITAB protocol.

Clinical implications

This study indicates that it was possible for the multiply disabled clients in this study, who had a history of pathogenic care, to develop an attachment relationship. A psychotherapist became a source of comfort and security during times of stress. These results show the plasticity even for clients with a prolonged and severe background of social deprivation. Caregivers may be important as stress regulators, and may indirectly reduce the likelihood of developing challenging behaviour. In this thesis we found that during the intervention, over time, challenging behaviour reduced significantly in the daily caregiving environment with significantly less challenging behaviour reported on observation lists and on the standardized tests, e.g. from a CEP 3 and 4 to 1 and 2. Thus, a caring relationship, which provides comfort and safety, may support the client in coping with life stresses, such as the loss of a loved one, moving to a new home or care-centre, or during changes in day-care facilities.

The experimental therapist was found to be more effective in teaching the clients new adaptive replacement behaviour in the behaviour modification phase of ITAB than the control therapist (Chapter 3 and 5), presumably because the experimental therapist functioned as a stress regulator (Chapter 2 and 5). For this reason, building a therapeutic attachment relationship may be considered as an adjunctive treatment to enhance the effectiveness of behavioural interventions. These findings thus support the practice in behaviour modification of using parents or attachment figures, where possible, as

behaviour modification agents. But these results may also emphasize the importance of focusing on the therapeutic relationship prior to using behaviour modification for therapists using behaviour modification as a therapeutic intervention.

Looking at the effect of the ITAB we not only found a decrease in challenging behaviour, but also, over time, more possibilities for social interaction. On this basis, maybe with more effect than in previous treatments, the interaction between the client and caregiver can be guided, stimulating the development of a network of secure relations in the daily caregiving environment.

General conclusions

This thesis is of importance to the care of persons with disabilities. First, the study confirmed the plasticity of the development of an attachment relationship even in adolescence, indicating also that it was possible to develop an affect-regulating relationship with clients with visual and severe intellectual disabilities who had not had the opportunity to develop an attachment relationship with specific attachment figures earlier in life. Second, an attachment-based intervention can help children with multiple disabilities and unfavourable past experiences to cope with challenges to mental health. This was found in clients for whom, in the past, no other therapies and interventions had proven successful.