# PART IV

## CONCLUSION

# 9 GENERAL DISCUSSION AND RECOMMENDATIONS

## GENERAL DISCUSSION AND RECOMMENDATIONS

The results of the studies presented in this thesis allow for a number of conclusions regarding posttraumatic stress disorder (PTSD) following pregnancy and childbirth, related to assessment issues, study design, specific populations, and treatment options. In addition, this final part of the thesis contains suggestions for future research and recommendations to improve care for women with (symptoms of) PTSD following childbirth, in particular related to possible prevention strategies.

Establishing if a new mother suffers from PTSD is less easy than is generally assumed, and prevalence rates of PTSD are closely linked to the instrument used to screen for the disorder. As has been pointed out in *chapter 3*, a marked discrepancy was found between the cases of PTSD following childbirth that were identified with the TES-B and the PSS-SR ($\kappa = 0.24$), even though a strong association was found between the two instruments (Spearmans $\rho = 0.78$). In comparing these two questionnaires, large differences in operationalization were identified: inclusion of all or some criteria in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)[1], formulation of questions, answer categories, cut-off values and instructions to respondents. It was also pointed out that studies on PTSD following childbirth use a variety of instruments, with very different psychometric properties. Notably, some questionnaires do not include all DSM-IV criteria, causing them to measure *symptoms* of PTSD, rather than the full set of criteria as described in the DSM-IV. In clinical settings, recognition of suffering and possible treatment options should not be limited to women with full-blown PTSD, but for research purposes it is important to use uniform and unambiguous definitions of PTSD, in order to allow comparison between studies.

*Chapter 5* demonstrated that the rates of PTSD, depression and anxiety are similar in women who conceived spontaneously and those who underwent medically assisted conception. At the same time, with the relatively small sample size in mind, it was noted that trends observed may prove to be significant differences with a larger number of subjects. At present, this means there is no indication for extra or special psychological care postpartum for women who gave birth after fertility treatments. *Chapter 6,* on the other hand, revealed that the constellation of events associated with preterm delivery, often including hospitalization during pregnancy, admittance of the infant to the neonatal intensive care unit and sometimes perinatal death may be highly traumatic. In fact, 14% of women with preterm preeclampsia (PE) or preterm premature rupture of membranes (PPROM), delivering on average 9 weeks before term, met the DSM-IV criteria for PTSD, compared to 3% in women with uncomplicated pregnancies. While an increased prevalence of PTSD among women with severe preeclampsia was to be expected based on previous research[2,3], the actual percentage of women with PPROM who reported full blown PTSD (17%) was highly surprising, and is cause for concern. These findings also indicate that the delivery itself is not necessarily the (most) traumatic event for every woman presenting with PTSD postpartum, but that the trauma may also be related to sudden hospitalization or neonatal complications. This study has made the prevalence of PTSD in women with hypertensive disorders of pregnancy explicit, and has added PPROM to the list of

conditions with increased risks of impaired mental well being. These findings justify screening for PTSD among all women with preterm delivery, and follow up consults to evaluate mental well being for an extended period of time.

*Chapter 7* demonstrated that the focus of research and care should not only be on mother and child, but should be extended to the partners (fathers) as well. While full PTSD after a complicated pregnancy (preeclampsia or PPROM) was not as frequent in men as in women, it did become clear that symptoms of PTSD in women and their partners are strongly associated. One may hypothesize that, for a new mother, a healthy, mentally stable, supportive partner could make the difference between adequate coping or a downward spiral leading to an overall negative delivery experience or even PTSD. Women with PTSD following childbirth frequently indicate that their partners are unsupportive, do not fully understand what they have experienced, and fail to see the extent of their suffering. Several studies have shown that perceived lack of support from their partner is associated with a negative delivery experience and symptoms of PTSD.[4-6] Research among depressed women revealed a marked discrepancy between the support they desire during the postpartum period and that which they perceive to have actually received from their partner.[7] This is by no means to say that partners of women with PTSD *are* insufficiently supportive, but rather that there is a difference between the *desired* and *experienced* support by these women. Care providers should therefore also pay attention to the well being and experience of the partner, the strengths and weaknesses in the relationship between both partners, and the role the partner plays in ensuring stability of the family as a whole.

Both studies the formed the basis of this thesis have excluded women with insufficient proficiency of Dutch from participation, as adequate command of Dutch was warranted to complete the written questionnaires. This is not unlike most studies, especially those using self-reports. However justified and practically unavoidable, this leads to exclusion of subgroups of women, in particular those from immigrant populations with lower socio-economic status. Future research should target at these particular women. A review of the literature on PTSD following childbirth revealed a striking lack of studies in developing countries. Apart from 2 studies in Nigeria[8] and Brazil[9], and a handful in the United States, Canada and Australia[5,10-15], most research on this topic has been conducted in Western and Northern Europe. A more diverse geographical dispersion of research would allow for comparison between different countries and health care systems, as well as possibly differentiate between risk factors for the development of PTSD following childbirth in different models of care. In addition, very little is known about the development of children of mothers suffering from PTSD following childbirth. One study has found that the intensity of the posttraumatic reactions of the parents is an important predictor of sleeping and eating problems in prematurely born infants[16], but systematic research into mother-infant bonding and long term development is lacking thus far.

Despite the wealth of research into prevalence of and risk factors for PTSD following childbirth, no standard intervention with proven effectiveness is currently available for women with posttraumatic

stress following childbirth to date due to a lack of research. Several possible interventions are available, including pharmacotherapy, debriefing, trauma-focused cognitive behavioral therapy (CBT) and eye-movement desensitization and reprocessing (EMDR). In international guidelines on the management of PTSD, CBT and EMDR are recommended as the treatments of choice for trauma victims.[17,18]

*Chapter 8* described a remarkable improvement in 3 women who were treated for posttraumatic stress following childbirth during their next pregnancy, which is in line with the conclusions of the single other study published thus far on EMDR as a treatment for PTSD following childbirth.[19] To date, one qualitative case series has been published evaluating the effects of CBT[20], describing a reduction of posttraumatic stress in two women. No studies have yet evaluated the effectiveness of pharmacological treatments for PTSD following childbirth. These must be evaluated, as studies in non-childbearing populations present evidence of dysfunction in norepinephrine, serotonin, glutamate and HPA axis systems, and antidepressants have proven to be effective in reduction of symptoms. Several studies have investigated the effects of debriefing/counseling on PTSD following childbirth, using diversity in approaches ranging from individual to group interventions, from single to multiple sessions, and with varying inclusion criteria. Results have been inconclusive both in unselected populations and in women at risk of developing PTSD following childbirth. Taking into account the fact that debriefing has not been proven effective in the prevention of PTSD in other populations[21], this intervention warrants further research in women with traumatic delivery experiences, and currently has no place in standard treatment protocols.

**Recommendations**

- to exercise utmost caution when comparing studies using different instruments for the measurement of PTSD following childbirth.
- to ensure the use of instruments that include all DSM-IV criteria when designing future research.
- to be explicit in research designs and publications about measurement of full or partial PTSD.
- to screen for PTSD in all women with very premature delivery (<32 weeks gestation)
- to explicitly involve partners in clinical and research settings, in particular in case women are experiencing PTSD symptoms.
- to include non-native speakers, in particular ethnic minorities, in research and screening for PTSD following childbirth and other psychiatric disorders (e.g. depression and anxiety during pregnancy and postpartum).
- to increase the number of studies into PTSD following childbirth in countries outside Western and Northern Europe.
- to extend the follow up period of studies and to investigate possible long-term effects of maternal and paternal PTSD on child development.

- to investigate the effectiveness of EMDR in larger samples of women with PTSD following childbirth, both in pregnant and non-pregnant women; to opt for EMDR in case the time to treat PTSD following childbirth is limited, for example during a subsequent pregnancy.
- to investigate the effectiveness, format and optimal timing of pharmacological interventions, CBT and debriefing in women with traumatic delivery experiences and PTSD following childbirth; to offer therapeutic interventions to all women with PTSD following childbirth, based on the best available evidence, local availability of resources and preference of the women involved, until a standard intervention with proven effectiveness is available.

In summary, while much progress has been made during the past 15 years in the identification of symptoms, risk factors and consequences of PTSD following childbirth, there is still a long way to go and many advances in the treatment, prevention, awareness and organization of care need to be made. This chapter has indicated a number of recommendations for future research as well as clinical practice based on the conclusions of this thesis.

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# 10

## ENGLISH SUMMARY

# ENGLISH SUMMARY

**Chapter 1: Scope of the Thesis**

The studies presented in this thesis have been conducted in order to evaluate:

- instruments used to assess PTSD following childbirth with both quantitative (reliability analysis and factor analysis) and qualitative (comparison of operationalization) techniques.
- the prevalence of and risk factors for posttraumatic stress (disorder) following childbirth
    - after home and hospital deliveries in The Netherlands
    - in women who conceived after fertility treatment
    - in women whose pregnancy was complicated by preeclampsia (PE) or preterm premature rupture of membranes (PPROM)
    - in partners of women with PE and PPROM
- whether eye-movement desensitization and reprocessing (EMDR) is an effective treatment for posttraumatic stress following childbirth.

**Chapter 2: General Introduction**

Posttraumatic stress disorder (PTSD) is an anxiety disorder that can develop following confrontation with a traumatic stressor. The most characteristic symptoms of PTSD are re-experiencing the event, avoidance of stimuli associated with the event and hyperarousal. Since the late 1990's, research has been published on childbirth as a possible traumatic event that could lead to the development of posttraumatic stress (disorder).

In order to place the topic of this thesis, PTSD following childbirth, in a context with other psychiatric disorders, to understand the similarities and differences in underlying mechanisms and to consider the effects of possible co-morbidity, the introduction provided an overview of psychiatric disorders during the peripartum period. These comprise mood disorders, including major depressive disorder, bipolar disorder and puerperal psychosis; and anxiety disorders, including obsessive-compulsive disorder (OCD), fear of childbirth, and posttraumatic stress disorder (PTSD). These conditions have characteristics and symptoms that are specific to pregnancy and puerperium, frequently have their onset or an increased prevalence during pregnancy or postpartum, of often intensify during the peripartum period. A comprehensive overview of the main characteristics and symptoms of each condition, diagnostic tools, prevalence, risk factors, and possible consequences has been provided. A variety of psychotherapeutic and pharmacological interventions have been discussed, which may be used depending on the type and severity of the disorder, potential risk to the fetus or neonate, and possible co-morbidity. In clinical practice, awareness, recognition and prompt referral are key to prevention of adverse effects on maternal well-being, infant development and mother-child bonding.

# PART I: IDENTIFICATION, PREVALENCE AND RISK FACTORS

**Chapter 3: Assessment**

In this part of the thesis, the *Traumatic Event Scale-B* (TES-B) and the *PTSD Symptom Scale - Self Report version* (PSS-SR), two instruments frequently used to assess PTSD following childbirth, have been evaluated with both quantitative and qualitative techniques.

Assessment of internal consistency yielded similar results for the TES-B and PSS-SR (Cronbach's $\alpha$ = .87 and .82, respectively). Factor analysis revealed two rather than three DSM-IV symptom categories for both instruments: childbirth related factors (re-experiencing/ avoidance) and symptoms of depression and anxiety (numbing/ hyperarousal). We found considerable overlap between the scales in reported posttraumatic stress symptoms, as indicated by a strong association between the TES-B and the PSS-SR sum-scores (Spearmans rho = .78). However, agreement between the instruments on the identification of actual PTSD cases was low (kappa = .24). We identified large differences in operationalization between TES-B and PSS-SR, i.e. in the formulation of questions, answer categories, cut-off values and instructions to respondents.

Therefore, we recommended that comparison between studies using different instruments for measuring PTSD following childbirth should be done with utmost caution. An ´ideal´ instrument for the assessment of PTSD following childbirth was proposed.

**Chapter 4: Prevalence and risk factors**

This multi-center cross-sectional study, which took place at midwifery practices, general hospitals and a tertiary (university) referral center in The Netherlands, evaluated the prevalence of PTSD following childbirth after home and hospital deliveries, and examined risk factors for the development of posttraumatic stress following childbirth. 428 women complete questionnaires on PTSD, anxiety and depression, as well as demographic, psychosocial and obstetric characteristics two to six months after delivery. PTSD following childbirth was found in 1.2% of the respondents (5/428 women), while 9.1% of women (39/428) had experienced the delivery as traumatic.

The prevalence rates of clinically significant anxiety and depression symptoms were 22.7% and 14.3%, respectively. Posttraumatic stress symptoms were associated with unplanned cesarean section, low sense of coherence (coping skills) and high intensity of pain. Initial differences in posttraumatic stress symptoms between home and hospital deliveries disappeared after taking into account the (by definition) uncomplicated nature of home births.

# PART II: SPECIFIC POPULATIONS

**Chapter 5: After medically assisted conception**

Women undergoing fertility treatments frequently report psychiatric symptoms, but little is known about postpartum mental problems in women who conceived through Medically Assisted Conception (MAC). We compared the postpartum prevalence of PTSD, anxiety and depression in 32 women who conceived through MAC and 392 women who conceived naturally.

No significant differences were found between the two groups in the prevalence of PTSD (0.0% vs. 1.3%; OR= 0.0 (CI: 0 - ∞)), anxiety (28.1% vs. 22.2%; OR=1.4 (CI: 0.6-3.1)) and depression (9.4% vs. 14.6% (OR= 0.6 (CI: 0.8-2.0)). Although it is important to consider the unique needs of this group of women, our study indicates that previously infertile new mothers experience mental well-being similar to their fertile counterparts with no more referral to the second or tertiary care setting.

**Chapter 6: After preterm pre-eclampsia and PPROM**

This prospective longitudinal study evaluated the prevalence of and risk factors for PTSD in women with preeclampsia (PE) or preterm premature rupture of membranes (PPROM) compared to uncomplicated pregnancies. Participating women completed PTSD and depression questionnaires during pregnancy, 6 weeks, and 15 months postpartum. We included 57 women with PE, 53 with PPROM, and 65 healthy pregnant women, of whom 137 also participated in the 15-month follow-up (PE 70%, PPROM 48%, and controls 95%; $p<.001$).

At 6 weeks postpartum, the prevalence of PTSD, but not depression, following childbirth was significantly higher in patients than in controls (14% vs 3%; $p=.023$). The maternal condition seemed to be less relevant, as there was no difference between the prevalence of PTSD after PE and PPROM (11% vs 17%; $p = .324$). A history of depression, depressive symptoms during pregnancy, and infant death were significantly associated with symptoms of postpartum PTSD. At 15 months postpartum, 11% of women with PE had PTSD, some of which did not have PTSD 6 weeks postpartum. The low response rate in the PPROM group at 15 months postpartum did not allow for definite conclusions.

It is likely that the whole constellation of events accompanying a complicated and preterm pregnancy (e.g. maternal hospitalization, cesarean section, long term infant hospitalization, infant death) puts women vulnerable for mental problems at risk for developing PTSD.



**Chapter 7: Partners**

The partners of the women with PE, PPROM and uncomplicated pregnancies also took part in the study on PTSD and depression following complicated pregnancies. Our aim was to evaluate the prevalence of and risk factors for PTSD following childbirth and depression in partners of women with PE, PPROM and uneventful pregnancies, and to investigate the relationship between symptoms in male and female counterpart. 85 of the 187 eligible men participated, 66 completed the questionnaires at both $t_1$ (during pregnancy) and $t_2$ (6 weeks postpartum).

At $t_1$, the prevalence rates of PTSD and depression were 6% and 4% for partners of patients, and 0% and 3% for partners of controls. At $t_2$ the prevalence rates were 3% (PTSD) and 5% (depression) for partners of patients, and 0% for both PTSD and depression among partners of controls. Contrary to expectations, no significant differences were found between partners of patients and partners of controls in symptoms of PTSD and depression ($t_1$: p=.28 for PTSD and p=.34 for depression; $t_2$: p=.08 for PTSD and p=.31 for depression). For PP, the correlation between PTSD and depression sum-scores was .48 (p<.001) at $t_1$, and .86 (p<.001) at $t_2$. Additionally, within-couple correlation of PTSD and depression symptom-severity was low and not significant during pregnancy, but strong postpartum (PSS-SR: r= .62, p<.001; BDI-II: r=.59, p<.001). In PP, PTSD and depressive symptoms at $t_2$ were associated with symptoms of PTSD and depression at $t_1$, maternal PTSD and depression at $t_2$, with lower gestational age at delivery, perinatal mortality and higher paternal age.

In case of PE or PPROM, these findings call for a system-oriented approach, evaluating the well being of not only of the new mother, but also of her partner.

## PART III: TREATMENT

**Chapter 8: EMDR**

We evaluated the possibility of using eye-movement desensitization and reprocessing (EMDR) treatment for women with symptoms of posttraumatic stress disorder following childbirth. The treatment is internationally recognized as one of the interventions of choice for the condition, but little is known about its effects in women who experienced the delivery as traumatic. Three women suffering from posttraumatic stress symptoms following the birth of their first child were treated with EMDR during their next pregnancy. The treatment resulted in fewer posttraumatic stress symptoms and all three women were sufficiently confident to attempt vaginal birth rather than demanding an elective cesarean section. Despite delivery complications in each of the patients, they looked back positively at the second delivery experience.

## PART IV: CONCLUSION

**Chapter 9: General discussion and recommendations**

Based on the findings and conclusions of the studies that formed the basis of this thesis, a number of recommendations for future research and clinical practice have been formulated.

Following comparison between two frequently used instruments to screen for PTSD following childbirth, we suggested to use caution in comparing studies using different instruments for the measurement of PTSD following childbirth. When designing future research we recommended to ensure the use of instruments that include all DSM-IV criteria, and to be explicit about measurement of full or partial PTSD.

The findings of the study among women with preterm preeclampsia or PPROM allowed for the advice to screen for PTSD in all women with very premature delivery (<32 weeks gestation). Both for research purposes and in clinical settings, we advised to include partners, to extend the follow-up period of women's mental well being, and to incorporate evaluation of infant development, in particular in at-risk populations. With regard to study design, we suggested to ensure that non-native speakers (especially ethnic minorities) are included in research and to increase the number of studies into PTSD following childbirth conducted in countries outside Western and Northern Europe.

The promising findings of the pilot study on EMDR as a brief and effective treatment for posttraumatic stress following childbirth led us to recommend to conduct larger studies on the effects of EMDR in this specific population.

# 11 NEDERLANDSE SAMENVATTING

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**Hoofdstuk 1: Onderwerp van het proefschrift**

De studies die in dit proefschrift worden gepresenteerd, zijn opgezet:

- om de meetinstrumenten te evalueren die worden gebruikt om te screenen op PTSS na de bevalling. Hierbij werden zowel kwantitatieve (betrouwbaarheidsanalyse en factoranalyse) als kwalitatieve (vergelijking van operationalisering) technieken gebruikt.
- om de prevalentie van, en risicofactoren voor, het ontwikkelen van (een) posttraumatische stress (stoornis) na de bevalling te onderzoeken
    - na thuis- en ziekenhuisbevallingen in Nederland
    - bij vrouwen die na vruchtbaarheidsbehandeling zwanger zijn geworden
    - bij vrouwen van wie de zwangerschap werd gecompliceerd door pre-eclampsie (PE) of voortijdig breken van de vliezen (preterm premature rupture of membranes, PPROM)
    - bij partners van vrouwen met PE en PPROM
- om eye-movement desensitization and reprocessing (EMDR) te bestuderen als mogelijke behandeling voor posttraumatische stress na de bevalling.

**Hoofdstuk 2: Algemene inleiding**

Posttraumatische stress stoornis (PTSS) is een angststoornis die kan ontstaan na het meemaken van een traumatische gebeurtenis. De meest kenmerkende symptomen van PTSS zijn herbeleving van de gebeurtenis, vermijding van situaties die doen herinneren aan de traumatische gebeurtenis, en verhoogde prikkelbaarheid. Sinds medio jaren '90 zijn er wetenschappelijke publicaties waarin wordt aangegeven dat de bevalling ook een traumatische gebeurtenis kan zijn die mogelijk leidt tot het ontwikkelen van een posttraumatische stress stoornis of -klachten.

Teneinde het onderwerp van dit proefschrift, PTSS na de bevalling, in een context te plaatsen met andere psychische aandoeningen, om de overeenkomsten en verschillen in onderliggende mechanismen te begrijpen, en om inzicht te krijgen in de gevolgen van eventuele co-morbiditeit, is in de algemene inleiding een overzicht gegeven van psychiatrische stoornissen die relatief vaak voorkomen tijdens de zwangerschap en postpartum. Dit betreffen stemmingsstoornissen, waaronder de depressieve stoornis, bipolaire stoornis en puerperale (kraambed) psychose, en angststoornissen, waaronder obsessief-compulsieve stoornis (OCS), angst voor de bevalling, en posttraumatische stress stoornis (PTSS). Deze aandoeningen hebben alle kenmerken en symptomen die specifiek zijn voor de zwangerschap en het kraambed, ontstaan vaak of vaker in de peripartum periode, of kennen een heftiger beloop tijdens de zwangerschap en/of postpartum.

Er is een uitgebreid overzicht gegeven van de belangrijkste kenmerken en symptomen van elke aandoening, diagnostiek, prevalentie, risicofactoren, en de mogelijke gevolgen. Ook wordt het

aanbod aan psychologische en farmacologische interventies besproken. De keuze voor een behandeling is voorts afhankelijk van het type en de ernst van de aandoening, het potentiële risico voor de foetus of pasgeborene, en eventuele co-morbiditeit. In de klinische praktijk zijn bewustwording, herkenning en snelle doorverwijzing cruciaal voor het voorkomen van negatieve effecten op het welzijn van de vrouw, de ontwikkeling van de baby en de moeder-kind binding.

## DEEL I: IDENTIFICATIE, PREVALENTIE EN RISICOFACTOREN

**Hoofdstuk 3: Screening**

In dit hoofdstuk van het proefschrift zijn de Traumatische Event Scale-B (TES-B) en de PTSD Symptom Scale - Self Report (PSS-SR) met elkaar vergeleken. Deze twee instrumenten worden vaak gebruikt om te screenen op PTSS na de bevalling. Zij werden geëvalueerd met zowel kwantitatieve als kwalitatieve technieken.

De TES-B en PSS-SR toonden een vergelijkbare mate van interne consistentie (Cronbach's α = .87 en .82, respectievelijk). Factoranalyse liet voor beide instrumenten zien dat de symptomen van PTSS in twee (in plaats van de huidige drie) categorieën kunnen worden ingedeeld: bevallingsgerelateerde factoren (herbeleving / vermijding) en symptomen van depressie en angst (emotionele afstomping / verhoogde prikkelbaarheid). We vonden een aanzienlijke overlap tussen de instrumenten in de door vrouwen gerapporteerde symptomen van PTSS , zoals blijkt uit de sterke samenhang tussen de TES-B en de PSS-SR somscores (Spearmans rho = .78). Echter, de detectie van vrouwen die aan alle DSM-IV criteria voldeden ("cases") verschilde behoorlijk tussen de twee instrumenten (kappa = .24), hetgeen is toe te schrijven aan verschillen in o.a. de formulering van items, antwoordcategorieën, afkapwaarden en instructies aan de respondenten.

Om deze reden is aanbevolen om de grootst mogelijke voorzichtigheid te betrachten bij het vergelijken van studies die screenen op PTSS na de bevalling en die daarvoor verschillende meetinstrumenten gebruiken. Een voorstel is gedaan voor een 'ideaal' instrument voor het screenen op PTSS na de bevalling.

**Hoofdstuk 4: Prevalentie en risicofactoren**

In deze multi-center cross-sectionele studie, die plaatsvond in verloskundigenpraktijken, algemene ziekenhuizen en een universitair centrum in Nederland, werd de prevalentie van PTSS na de bevalling na thuis- en na ziekenhuisbevallingen onderzocht, en werden de risicofactoren voor het ontwikkelen van posttraumatische stress na de bevalling geëvalueerd. 428 vrouwen vulden vragenlijsten in over PTSS, angst en depressie, evenals demografische, psychosociale en obstetrische kenmerken twee tot zes maanden na postpartum.

PTSS na de bevalling werd gevonden in 1.2% van de respondenten (5/428 vrouwen), terwijl 9.1% van de vrouwen (39/428) aangaf dat zij de bevalling als traumatisch had ervaren. De prevalentie van klinisch significante symptomen van angst en depressie waren respectievelijk 22.7% en 14.3%. Symptomen van PTSS hingen samen met een ongeplande keizersnede, een lage 'sense of coherence' (copingvaardigheden) en een hoge ervaren intensiteit van de baringspijn. Initiële verschillen in posttraumatische stresssymptomen tussen thuis- en ziekenhuisbevallingen verdwenen na correctie voor het (per definitie) ongecompliceerde karakter van thuisbevallingen.

## DEEL II: SPECIFIEKE GROEPEN

**Hoofdstuk 5: Zwangerschap na vruchtbaarheidsbehandeling**

Vrouwen die vruchtbaarheidsbehandelingen (hebben) ondergaan rapporteren veelvuldig psychische klachten, maar er is weinig bekend over mogelijke psychische problemen postpartum bij vrouwen die zwanger zijn geworden na geassisteerde voortplantings-technieken. We vergeleken de prevalentie van PTSS, angst en depressie postpartum bij 32 vrouwen die door middel van vruchtbaarheidsbehandeling zwanger waren geworden en 392 vrouwen die spontaan zwanger waren geworden.

Er werden geen significante verschillen gevonden tussen de twee groepen in de prevalentie van PTSS (0.0% versus 1.3%; OR = 0.0 (CI: 0 - ∞)), angst (28.1% versus 22.2%; OR = 1.4 (CI: 0.6 -3.1)) en depressie (9.4% versus 14.6% (OR = 0.6 (CI: 0.8-2.0). Hoewel het belangrijk is om oog te hebben voor de bijzondere behoeften van vrouwen die zwanger zijn geworden na geassisteerde voortplantingstechnieken, blijkt uit deze studie dat het psychisch welbevinden van deze voormalig subfertiele vrouwen niet significant verschilt van dat van vrouwen die spontaan zwanger zijn geworden, en dat zij ook even vaak in de tweede of derde lijn bevallen.

**Hoofdstuk 6: Zwangerschappen gecompliceerd door vroege pre-eclampsie en PPROM**

In deze prospectieve, longitudinale studie is de prevalentie van, en risicofactoren voor, PTSS onderzocht bij vrouwen met vroege pre-eclampsie (PE) of voortijdig breken van de vliezen (preterm premature rupture of membranes, PPROM) in vergelijking met vrouwen met ongecompliceerde zwangerschappen. Deelnemende vrouwen vulden vragenlijsten in over PTSD en depressie tijdens de zwangerschap, 6 weken en 15 maanden na de bevalling. Er werden 57 vrouwen met PE, 53 met PPROM en 65 gezonde zwangere vrouwen geïncludeerd, van wie er 137 ook hebben deelgenomen aan de lange termijn follow-up (PE 70%, PPROM 48%, controles 95%, p<.001).

6 weken postpartum was de prevalentie van PTSS significant hoger in de PE/PPROM-groep dan in de controlegroep (14% versus 3%, p=.023), terwijl er voor depressie geen verschil werd gevonden tussen de groepen. Welke complicatie de vrouw had bleek minder relevant, omdat er geen verschil

werd gezien in de prevalentie van PTSS tussen de vrouwen met PE en PPROM (11% versus 17%, p=.324). Een voorgeschiedenis van depressie, depressieve klachten tijdens de zwangerschap en overlijden van het kind hingen samen met symptomen van PTSS na de bevalling. 15 maanden postpartum voldeed 11% van de vrouwen met PE aan de criteria voor PTSD, en sommigen hiervan waren nieuwe ‘cases’. De lagere respons in de PPROM groep 15 maanden na de bevalling maakte het niet mogelijk om aan die getallen conclusies te verbinden.

Waarschijnlijk vormt de hele constellatie van gebeurtenissen waar zwangerschapscomplicaties en vroeggeboorte mee gepaard gaan (o.a. ziekenhuisopname van de moeder, (spoed)keizersnede, langdurige ziekenhuisopname of overlijden van de baby) een verhoogd risico op het ontwikkelen van PTSS na de bevalling vooral bij die vrouwen die aanleg hebben voor psychische problemen

**Hoofdstuk 7: Partners**

Ook partners van vrouwen met PE/PPROM (patiënten) en van vrouwen met ongecompliceerde zwangerschappen (controles) namen deel aan het onderzoek over PTSS en depressie na zwangerschapscomplicaties. Het doel was om de prevalentie van, en de risicofactoren voor, PTSS na de bevalling en depressie te evalueren bij partners van vrouwen met PE, PPROM en ongecompliceerde zwangerschappen, en om de relatie tussen de symptomen bij vrouwen en bij hun partners te onderzoeken. 85 van de 187 partners namen deel, waarbij 66 mannen zowel op $t_1$ (tijdens de zwangerschap) als $t_2$ (6 weken na de bevalling) gegevens verstrekten.

Op $t_1$ was de prevalentie 6% (PTSS) en 4% (depressie) voor de partners van de patiënten, en 0% (PTSS) en 3% (depressie) voor de partners van vrouwen zonder zwangerschapscomplicaties. Op $t_2$ was de prevalentie 3% voor PTSS en 5% voor depressie onder de partners van patiënten, en 0% voor zowel PTSS als depressie voor de partners in de controlegroep. In tegenstelling tot onze verwachtingen, werden geen significante verschillen gevonden tussen partners van patiënten en partners in de controlegroep ($t_1$: p=.28 voor PTSS en p=.34 voor depressie; $t_2$: p=.08 voor PTSS en p=.31 voor depressie). Voor partners van patiënten was de correlatie tussen de PTSS en depressie somscores 0.48 (p<.001) op $t_1$ en .86 (p<.001) op $t_2$. Daarnaast was de correlatie tussen de somscores van vrouwen en hun partner op de PTSS- en depressievragenlijsten laag en niet significant tijdens de zwangerschap, maar sterk postpartum (PSS-SR: r =0.62, p<.001; BDI-II: r = 0.59, p<.001). Voor partners van patiënten bleken symptomen van PTSS en depressie op $t_2$ samen te hangen met symptomen van PTSS en depressie op $t_1$, PTSS en depressie bij de vrouw op $t_2$, met een kortere zwangerschapsduur op moment van bevallen, perinatale sterfte en hogere leeftijd van de partner.

Deze bevindingen pleiten in geval van PE en PPROM voor een systeemgerichte aanpak met niet alleen aandacht voor het welzijn van de nieuwe moeder maar ook voor het welzijn van haar partner.

# DEEL III: BEHANDELING

**Hoofdstuk 8: EMDR**

We evalueerden eye-movement desensitization and reprocessing (EMDR) als mogelijke behandeling voor vrouwen met (symptomen van) PTSS na de bevalling. EMDR wordt internationaal erkend als een van de interventies van eerste keus bij PTSS, maar er is weinig bekend over de effecten van EMDR bij vrouwen die de bevalling als traumatisch hebben ervaren. Drie vrouwen die symptomen van PTSS rapporteerden na de geboorte van hun eerste kind kregen EMDR tijdens hun volgende zwangerschap. De behandeling resulteerde in minder posttraumatische stresssymptomen, en alle drie de vrouwen hadden voldoende vertrouwen om een vaginale baring aan te durven. Ondanks opnieuw complicaties tijdens de daarop volgende bevalling keken al deze vrouwen positief terug op die tweede bevalling.

# DEEL IV: CONCLUSIE

**Hoofdstuk 9: Algemene discussie en aanbevelingen**

Op basis van de bevindingen en conclusies van de studies die de basis van dit proefschrift vormden, zijn een aantal aanbevelingen geformuleerd voor toekomstig onderzoek en voor de klinische praktijk.

Op basis van de vergelijking van twee vaak gebruikte screeningsinstrumenten voor PTSS na de bevalling, is geadviseerd om voorzichtigheid te betrachten bij het vergelijken van studies waarbij verschillende vragenlijsten worden gebruikt. Bij de opzet van toekomstig onderzoek wordt geadviseerd om gebruik te maken van instrumenten die alle DSM-IV criteria omvatten, en om expliciet te maken of een posttraumatische stress stoornis wordt gemeten of alleen een aantal symptomen daarvan.

De bevindingen van de studie onder vrouwen met vroege pre-eclampsie en PPROM leidden tot het advies om in elk geval te screenen op PTSS bij alle vrouwen met een ernstige vroeggeboorte (<32 weken zwangerschap). Tevens wordt geadviseerd om in de toekomst partners te betrekken in zowel de opzet van onderzoek als in de klinische praktijk, om de periode waarin het psychisch welbevinden postpartum wordt vervolgd uit te breiden, en om de evaluatie van de ontwikkeling van het kind mee te nemen in onderzoek, in het bijzonder in risicopopulaties. Er is verder voorgesteld meer onderzoek te doen onder vrouwen die de dominante taal niet machtig zijn (veelal immigranten) en om het onderzoek naar PTSS na de bevalling uit te breiden naar landen buiten West- en Noord-Europa .

De veelbelovende resultaten van de pilot-studie naar EMDR als een korte, doeltreffende behandeling voor PTSS na de bevalling leidde tot de aanbeveling om grotere studies op te zetten naar de effecten van EMDR in deze specifieke populatie.