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The impact of childbirth-related post-traumatic stress on a couple's relationship: a systematic review and meta-synthesis

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The impact of childbirth-related post-traumatic stress on a couple's relationship: a systematic review and meta-synthesis

Abstract

Objective: This review aimed to identify the impact of childbirth-related post-traumatic stress disorder (PTSD) or symptoms (PTSS) on a couple's relationship.

Background: Childbirth can be psychologically traumatic, and can lead to PTSD. There is emerging evidence that experiencing a traumatic birth can affect the quality of the couple's relationship. This is an important issue as poor quality relationships can impact on the well-being of partners, their parenting, and the welfare of the infant.

Methods: A systematic search was conducted of Amed, CENTRAL, Cinahl, Embase, Maternity and Infant Care, Medline, MITCognet, POPLINE, PsycARTICLES, PsycBITE, PsycINFO, Pubmed, and Science Direct. Additionally, grey literature, citation, and reference searches were conducted. Papers were eligible for inclusion if they reported qualitative data about parents who had experienced childbirth and measures of PTSD or PTSS and the relationship were taken. Analysis was conducted using meta-ethnography.

Results: Seven studies were included in the meta-synthesis. Results showed that childbirth-related PTSD or PTSS can have a perceived impact on the couple's relationship and five themes were identified: negative emotions; lack of understanding and support; loss of intimacy; strain on the relationship; and strengthened relationships. A model of proposed interaction between these themes is presented.

Conclusions: The impact of childbirth-related PTSD or PTSS on the couple's relationships is complex. As the quality of the couple relationship is important to family wellbeing, it is important that health care professionals are aware of the impact of experiencing psychologically traumatic childbirth as impetus for prevention and support.

Keywords: Traumatic birth; Couple Relationship; Posttraumatic Stress Disorder; Psychological Stress; Meta-synthesis, Meta-ethnography.

Word count (excluding tables, references and figure): 3751

Introduction

For some women childbirth can be psychologically traumatic due to a perceived threat of injury or death to the woman, infant or both, and this can lead to post-traumatic stress disorder (PTSD). The prevalence of childbirth-related PTSD in women is 3 to 4% (Dikmen Yildiz, Ayers, & Phillips, 2016) but more may suffer from symptoms of post-traumatic stress (PTSS) despite not meeting diagnostic criteria. PTSD presents with symptoms such as; re-experiencing the traumatic event, increased arousal, avoidance of trauma triggers and numbing of emotions. The impact of PTSD or PTSS can be wide ranging effecting for example; the parent-infant bond, relationships, self-image, and emotions (McKenzie-McHarg et al., 2015).

Partners of women can also be affected. Witnessing traumatic childbirth has the potential to affect partner's mental health (Hinton, Locock, & Knight, 2014) leading to anxiety (Bradley, Slade, & Leviston, 2008) or PTSS (Elmir & Schmeid, 2016). The mental health responses of partners following childbirth appear to be interlinked (Iles, Slade & Spiby, 2011) and postnatal mental health has been shown to affect the quality of the relationship between partners (Burgess, 2011).

Good quality relationships are associated with positive personal outcomes (Reynolds, Houlston, & Coleman, 2014), increased achievement (Marjoribanks, 2016), higher personal well-being (Proulx, Helms, & Buehler, 2007) and better health (Robles, Slatcher, Trombello, & McGinn, 2014). Relationships also influence parenting and a child's attachment to its parents (DCSF, 2010). A child's future psychological wellbeing is associated with the type of the attachment it forms with its parents (Sroufe, 2005), and parental relationship breakdown is associated with poverty, poorer health, lower educational attainment, and behavioural problems for the child (Coleman, 2010).

The impact of childbirth-related PTSD or PTSS on the couple's relationship has been examined by a few studies. Most of the research is qualitative and reports a range of impacts of traumatic birth on the couple's relationship. Only two quantitative studies have been published. The first was a study of 64 couples which found that childbirth-related PTSS was not associated with changes in the couple's relationship (Ayers, Wright, & Wells, 2007). The second was an online survey of 152 women and men that found that childbirth-related PTSS was associated with a worse relationship, but that this was fully mediated by symptoms of depression (Parfitt & Ayers, 2009).

This systematic review aimed to investigate the body of qualitative work of the impact of childbirth-related PTSD or PTSS on the couple's relationship as qualitative research allows greater understanding of a phenomenon to be gained through description of the lived experience (Al-Busaidi, 2008).

Method

Design

A systematic review conducted according to PRISMA guidelines to facilitate completeness of information gathering and strengthen the validity of review findings (Liberati et al., 2009). Results of papers included were then synthesized using meta-ethnography (Noblit & Hare, 1988)

Inclusion criteria

All types of couple relationships (e.g. married, cohabitating, heterosexual and homosexual) were eligible for the systematic review. Papers were included if they presented first order qualitative couple relationship data and measures of PTSD or PTSS (whether formal scales or self-reported) of parents aged over eighteen who had experienced childbirth of a live infant after 24 weeks of gestation. Miscarriage and stillbirth were excluded as grief reaction is a complex psychological issue, arguably requiring separate consideration (Badenhorst &

Hughes, 2007). Only studies reported in English were eligible for inclusion. We did not restrict by clinical or normative population or by publication dates and country of origin due to limited research in this topic. The lead author conducted literature selection against the inclusion criteria with any areas of uncertainty being discussed by the team of authors until consensus was achieved.

Search strategy

Thirteen databases were searched in November 2015 (Amed, CENTRAL, Cinahl, Embase, Maternity and Infant Care, Medline, MITCognet, POPLINE, PsycARTICLES, PsycBITE, PsycINFO, Pubmed, and Science Direct). Search terms within the following concepts were crossed using Boolean syntax AND: (1) Parental (e.g., Parent* OR Couple); (2) Pregnancy and Childbirth (e.g., *birth OR pregnanc*); (3) Psychological (e.g., trauma* OR distress); and (4) Relationship (e.g., partner* OR spouse*). Full details of search terms are available as online supplementary information.

Searches were also conducted of Grey literature (e.g., Open Grey and EthOS) and websites of relevant organisations (e.g., Birth Trauma Association). Citation and reference searches were conducted of eligible papers and ten key authors contacted to enquire about relevant work for the review, eight of these responded but did not provide any additional eligible research. One thousand and twelve records were initially identified and after applying the inclusion criteria seven studies were retained. Figure 1 depicts the evidence identified at each stage of the search.

[Figure 1 insert here]

Quality appraisal

The lead author conducted a two-stage process to critically appraise the validity of the studies in the systematic review. Firstly, papers were screened against the COREQ checklist (Tong, Sainsbury, & Craig, 2007) which was designed to improve the quality of qualitative research

by assuring comprehensive reporting. Then content was assessed against the Critical Appraisal Skills Program (CASP) checklist for qualitative work to ascertain the validity and value of results (CASP, 2014).

Validity was then discussed by all authors. Six of the seven included papers met a high proportion of the COREQ and CASP checklist items and were considered reliable. Reporting of the final study (Kendall-Tackett, 2014) made it difficult to ascertain the study design in order to complete the appraisal checklists, however, this paper was retained as its themes were consistent with other included papers.

Analysis

Results of the identified studies were synthesised using meta-ethnography techniques (Noblit and Hare, 1988) to systematically compare and examine the results of included studies and enable a deep understanding of the research (Toye et al., 2014). This technique was selected as interpretations from meta-ethnography can more readily generate new awareness of a subject (Paterson, Thorne, & Canam, 2001), adding to the body of evidence and informing the development of theories of experiences and behaviors (Atkins et al., 2008).

All papers were read and data extracted verbatim into a spreadsheet as first order (participant's voice) and second order (author's voice) data. Each data item was assigned a concept based on the message of the data and concepts were compared across studies, analysed and refined into emerging overarching themes (Walsh & Downe, 2005). This process was completed independently by two researchers who then discussed the themes identified. Final themes were agreed by the authors, then developed into a proposed model of the interaction between themes.

Findings

Identified studies

Seven studies met inclusion criteria and are presented in Table 1. All studies used a clinical population of parents who reported childbirth related PTSD or PTSS and sample sizes varied widely from 2 (Kendall-Tackett, 2014) to 145 participants (Allen, 1998). None of the studies used relationship type as inclusion criteria and only two studies reported the relationship status of the sample (Ayers, Eagle & Waring, 2006; Nicholls & Ayers, 2007). Five studies were based on women; two in the UK (Allen, 1998; Ayers, Eagle & Waring, 2006); one in the US (Kendall-Tackett, 2014); one in Iran (Taghizadeh, Irajpour, & Arbabi, 2013); and one across Australia, New Zealand, and UK (Beck, 2004). One study was based on couples in the UK (Nicholls & Ayes, 2007) and the final study was of men in New Zealand (White, 2007). Three studies included participants on the basis of self-identified PTSS (Kendall-Tackett, 2014; White, 2007) or disclosure of an earlier diagnosis (Beck, 2004). Remaining studies used a variety of PTSD measures; the PTSD Diagnosis Scale (PDS) (Ayers, Eagle, & Waring, 2006; Nicholls & Ayers, 2007), the revised Impact of Event Scale (Allen, 1998), and assessment using the DSM-IV criteria however it is unclear if this was done by interview or questionnaire (Taghizadeh et al., 2013).

[Table 1 insert here]

Themes

Five themes were identified: (1) Relationship strain, (2) Strengthened relationships, (3) Negative emotions, (4) Lack of understanding and support, and (5) Loss of intimacy. Table 2 shows which studies themes were drawn from. Themes are outlined below and illustrated with quotations which state whether the quote is from the author or a male/female participant.

[Table 2 insert here]

Relationship strain

All seven studies found a perceived negative impact of childbirth-related PTSD or PTSS on the couple's relationship. This was expressed as strain (Ayers et al., 2006), demanding

relationships (Taghizadeh et al., 2013), barriers in the relationships, (Nicholls & Ayers, 2007) and frustration between partners leading to treating one another badly (Allen, 1998).

I always used to be patient, but now I fly off the handle. I just need to get rid of the frustration, but the next day I think 'God. I was so unreasonable' and then I'd feel bad and that it has put even more strain on my relationship with [husband] (female).
(Allen, 1998, p. 120)

She's a lot more standoffish now of me. At times when as a couple you want to be kind of closer, and then that closeness seems to have something stopping it, there's a barrier to being closer that shouldn't be there (male). (Nicholls & Ayers, 2007, p 500)

It is important to highlight that there were examples when relationships were strained to the limit (Beck, 2004) leading to relationship breakdown (Ayers et al., 2006; White, 2007). However, there was no information about how individuals felt about the end of their relationship.

One women had separated from her partner, and a further two women said their difficulties nearly caused them to separate (author). (Ayers et al., 2006, p. 394)

His wife and baby survived but his marriage did not (author). (White, 2007, p. 43)

Strengthened relationships

In contrast, two studies (Kendall-Tackett, 2014; Nicholls and Ayers, 2007) showed that although there was relationship strain there were also examples of couples working together and the experience ultimately strengthening their relationship.

By the grace of God, my husband and I made it. We are best friends, and war buddies, and love each other more every day (female). (Kendall-Tackett, 2014, p. 55)

But, you know, what did it do to our relationship, it strengthened it if anything, not that it needed it, it was like we came through this thing (male). (Nicholls & Ayers, 2007, p.502)

Negative emotions

Experiencing negative emotions was reported in all of the studies. The most commonly mentioned emotion was anger, which was reported in six of the seven papers.

He went to a job where he was treated like crap and came home to a wife who hated him. We were both miserable (female). (Kendall-Tackett, 2014, p. 54)

I do tend to be very angry towards him, which he does find very difficult (female).
(Ayers et al., 2006, pp. 394-5)

Other emotions highlighted were guilt (Allen, 1998), blame (Ayers et al., 2006), and disagreements (Nicholls & Ayers, 2007).

When it didn't get any better we just started to take it out on each other really, and blaming each other for it (male). (Nicholls & Ayers, 2007, p. 501)

I think with [my wife] I was a lot more careful of what I might say and what I might do. It was a bit like walking on eggshells all the time. You put on foot wrong and you're likely to cop a serve. Yes I guess I avoided the position which could lead into an argument for a long time (male). (Nicholls & Ayers, 2007, p. 501)

Depressive mood was also apparent with symptoms such as; emotional numbness and detachment (Ayers et al., 2006; Taghizadeh et al., 2013), feeling empty or soulless (Beck, 2004), and suicidal thoughts (Ayers et al., 2006). These depressive symptoms affected personal wellbeing and had an impact on the couple relationship.

Negative changes in mood and cognition overlap considerably with depression and can directly impact how a woman feels about her baby and partner (author) (Kendall-Tackett, 2014, p. 53).

We lost a lot of the light-hearted stuff like we used to have, we got a lot more serious with the responsibility and when [my baby] was crying it really pulled us down...I think it was a very dark period in our lives really (male). (Nicholls & Ayers, 2007, p. 502)

Lack of understanding and support

A lack of understanding and support between partners was reported in six of the seven papers. This was described in terms of apathy (Taghizadeh et al., 2013), partners not understanding what women were going through (Ayers et al., 2006), partners showing irritation that women's distress was prolonged (Allen, 1998), and women feeling neglected by their partners (Kendall-Tackett, 2014).

When [the baby] was born he didn't see anything wrong with it, he didn't really; couldn't really empathize and didn't really notice the mess I'd gotten into or tried not to notice it (female). (Ayers et al., 2006, p. 394)

...women...reported that the closeness of their relationship had been negatively affected and that their partners showed irritation with them because their distress was so prolonged (author). (Allen, 1998, p.121).

A mismatch of support was highlighted in terms of partners trying to help women through their difficulties but offering support that was ineffective (Ayers et al., 2006) or not accepted by the women (Nicholls & Ayers, 2007).

He loves me more than ever, he just wants to try and make it better, and no matter what he does he just doesn't make it better (female). (Ayers et al., 2006, p. 394)

...we had arguments in which she says that she has a problem, I try to say, well, let's talk about it right now, and [my wife] refusing...and therefore, for me, frustration because I cannot solve the problem, I cannot help (male). (Nicholls & Ayers, 2007, p. 501)

Women identified that their partners also required support but they were unable to personally provide this due to a lack of personal resources (Allen, 1998; Ayers et al., 2006).

Two [women] stated that their own emotional resources were so depleted that they could no longer provide any support for their partner (author). (Allen, 1998, p. 121)

There have been times when I felt I want to leave and just take [the baby] and not be with him anymore, and it's not because I don't love him, it's because I don't feel that I can give to him anymore (female). (Ayers et al., 2006, p. 394)

A reduction in communication between couples was reported due to a lack of understanding (Kendall-Tackett, 2014) or due to the process being too painful (Nicholls & Ayers, 2007).

My husband was completely confused. I wanted a baby. I had a baby. Why was I mad at him? And why was I so sad? We weren't talking at all (female). (Kendall-Tackett, 2014, p. 54)

I would get desperately upset if we tried to talk about it, talking about it was painful and awful (female). (Nicholls & Ayers, 2007, p. 500)

Loss of intimacy

All seven papers reported that sexual relationships were affected with a reduction in sexual relations (White, 2007) and loss of intimacy (Taghizadeh et al., 2013). Some women and

their partners reported having flashbacks when initiating sex (Beck, 2004) or avoiding sexual intercourse due to fears about becoming pregnant (Nicholls & Ayers, 2007).

Our emotional relationship decreased after childbirth. I lost my sex drive. I don't know what is my problem? I was damaged (female). (Taghizadeh et al., 2013, p. 4)

After about 6 months, my husband and I still hadn't had sex since before the birth.

When we began to try, I had flashbacks to the birth (female). (Beck, 2004, p. 219)

Closeness (Nicholls & Ayers, 2007), love (Taghizadeh et al., 2013) and romance also reduced between partners with some women saying the dynamics of their relationship had changed to one of friendship (Ayers et al., 2006).

My anxiety affected my marital relationship. We became apart; our love decreased, it affected our life directly (female). (Taghizadeh et al., 2013, p. 4)

There was no romantic inclination, we were friends (female). (Ayers et al., 2006, p. 394)

Proposed model of the impact of childbirth-related PTSD or PTSS on the couple's relationship

The meta-synthesis identified five themes of the perceived impact of childbirth related PTSD or PTSS on a couple's relationship. Negative impact themes; relationship strain, negative emotions, lack of understanding and support, and loss of intimacy, and a fifth positive theme of strengthened relationships. These themes are presented in a proposed model in Figure 2. The lower level of the model shows the symptoms a couple may experience, filtering up to middle level, which shows the themes of relationship issues. The top layer of the model shows the overall perceived impact on the couple's relationship where symptoms and

problems combine to lead to relationship strain (and potential breakdown) or conversely to a strengthened relationship.

[Figure 2 insert here]

Discussion

From the limited qualitative literature, this review with the use of meta-ethnography has demonstrated the perceived impact of childbirth-related PTSD or PTSS on the couple's relationship with five themes being identified; relationship strain, strengthened relationships, negative emotions, lack of understanding and support, and loss of intimacy.

These findings are consistent with previous qualitative literature. A previous meta-ethnography of psychosocial implications for women (Fenech & Thomson, 2014) and a study of paternal mental health after traumatic birth (Inglis, Sharman, & Reed, 2016) both reported a detrimental impact on the couple relationship. Relationship strain is a broad theme reported by the review which has various indicators and the ability for strain to contribute to the end of the relationship which is consistent with previous case studies (Beck, 2015; Joseph, 2011).

The theme of negative emotions found in the current review is consistent with previous studies. A meta-synthesis of fathers' experiences of complicated childbirth reported feelings of guilt and blame (Elmir & Schmied, 2016) and seething anger was a theme found in a meta-synthesis of the consequences of traumatic childbirth (Beck, 2015); the identification of depressive symptoms within this theme is consistent with the high co-morbidity of postnatal PTSD and depression (White, Matthey, Boyd, & Barnett, 2006). Previous studies also support the themes of lack of understanding and support (Elmir, Schmied, Wilkes, & Jackson, 2010) and loss of intimacy (Olde, van der Hart, Kleber, & Van Son, 2006) found in this review.

There is less evidence for childbirth-related PTSD or PTSS resulting in a strengthened relationship with only two papers in the review supporting this theme. However, it has been

observed in other studies looking at the impact of potentially life threatening events during pregnancy and birth (Hinton, Locock & Knight, 2015; Engström & Lindberg, 2012), these studies were not eligible for the review as they did not include relationship first order data (Hinton et al., 2015) or PTSD/PTSS measures (Engström & Lindberg, 2012). Unfortunately, there was no information in the included studies to enable understanding of the mechanisms by which some relationships strengthen after experiencing traumatic birth, but it is speculated that this could be due to post-traumatic growth (Joseph, 2011).

In contrast, previous quantitative research in this area found that childbirth-related PTSD or PTSS is not associated with the quality of a couple's relationship (Ayers et al., 2007) or that the association is fully mediated by symptoms of depression (Parfitt & Ayers, 2009). In the current review, included studies did not control for depression so it is possible that the reported perceived impact on the couple relationship is not entirely attributed to childbirth-related PTSD or PTSS and that depression is a contributing factor. Further quantitative research is needed in more representative samples as the existing quantitative studies are limited methodologically being restricted to couples who were still together so potentially had a stronger relationship (Ayers et al., 2007) and a self-selected sample recruited from the internet (Parfitt & Ayers, 2009).

When looking at literature more broadly, the results of the review correspond with general trauma literature which points to a potential association between trauma-related symptoms and marital satisfaction (Weinberg, Besser, Zeigler-Hill, & Neria, 2017) with a qualitative study reporting a range of perceived relationship effects including sexual intimacy problems (Goff et al., 2006). Similarly, relationship satisfaction commonly declines in the transition to parenthood (Shaprio, Gottman, & Carrere, 2000) and research looking at the impact of becoming a parent on a couple's relationship also reports strain (Luhmann, Hofmann, Eid, & Lucas, 2012), negative emotions (Parfitt & Ayers, 2014), lack of

understanding (Chong & Mickelson, 2013), and loss of intimacy (Yeniel & Petri, 2014).

Studies included in the review did not provide comparison of relationship changes following traumatic and non-traumatic childbirth so it was not possible to examine whether the themes identified in the meta-synthesis are unique to traumatic childbirth.

Limitations and strengths

This is the first systematic review with meta-synthesis of the impact of childbirth-related PTSD or PTSS on the couple's relationship. The search strategy was comprehensive and the study conclusions more robust due to the synthesis being conducted independently by two researchers.

However, the review has limitations which need to be considered. The meta-synthesis was based on a small sample of seven papers and some studies were not focused primarily on measuring the couple's relationship. The quantity of data extracted from each study varied and studies used a variety of measures for defining PTSD or PTSS in their samples. No studies compared the couple's relationships before and after birth to assess for changes over time, and no comparisons were made between experiencing psychologically traumatic childbirth versus non-traumatic childbirth.

Conclusions

This systematic review with meta-ethnography suggests the impact of childbirth-related PTSD or PTSS on the couple's relationships is complex. Experiencing psychologically traumatic childbirth can lead to relationship strain and associated symptoms of negative emotions, lack of understanding and support, loss of intimacy, and in some case relationship breakdown. Conversely, the synthesis showed evidence of strengthened relationships but there was no data to allow understanding why or how this growth occurs.

As the quality of the couple relationships is important for personal wellbeing, is associated with the parent-infant bond and infant welfare, it is important that health care

professionals are aware of the potential impact and presentation of childbirth-related PTSD or PTSS on a couple's relationship and the need for support for couples.

More research is required to understanding this phenomenon as impetus for prevention of childbirth-related PTSD or PTSS and the development of interventions to support couples following such an experience. Future research would benefit from being dyadic in focus, ascertaining how the impact of childbirth-related PTSD or PTSS on the couple's relationship differs from typical changes for couples in the transition to parenthood. Similarly, research looking at the mechanisms by which some relationships breakdown or develop following childbirth-related PTSD or PTSS may increase understanding of the support and interventions such couples require.

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Table 1. Studies and Characteristics

Author/Title/Location	Methodology/Methods	Aim	Sample	Inclusion Criteria
Allen (1998) A qualitative analysis of the process, mediating variables and impact of traumatic childbirth UK	Grounded Theory Self-reported questionnaire then semi structured interviews	To identify whether women do experience significant PTSD symptoms following childbirth and provide data to facilitate prevention of PTSD symptoms and guide psychological interventions	First stage – 145 women Second stage – 20 women	Women presenting their baby for an 8 week check and rating their labour as extremely distressing
Ayers, Eagle and Waring (2006) The effects of childbirth-related post-traumatic stress disorder on women and their relationships: A qualitative study UK	Thematic Analysis Semi-structured interviews	To carry out an investigation of the long-term impact of a traumatic birth and postnatal PTSD on women	6 women	Women who reported having psychological problems after a traumatic birth
Beck (2004) Post-Traumatic Stress Disorder Due to Childbirth New Zealand, UK, US, and Australia	Phenomenology Women own written accounts of experience	To describe the woman's experience of PTSD after childbirth	38 women	Woman who had experienced PTSD attributed to birth
Kendall-Tackett (2014) Childbirth-Related Posttraumatic Stress Disorder, US	Qualitative – women's accounts in own words	To describe the prevalence of PTSD after childbirth and symptoms so Lactation Consultants can recognize and refer mothers	2 Women	Unclear
Nicholls and Ayers (2007) Childbirth-related post-traumatic stress disorder in couples: A qualitative study UK	Thematic Analysis Semi-structure interviews	To look at the experience and impact of childbirth related PTSD in women and their partners	6 couples	A traumatic birth over 3 months ago, one member of the couple had to fulfill DSM-IV PTSD criteria and both partners be willing to participate
Taghizadeh, Irajpour and Arbabi (2013) Mothers' Response to Psychological Birth Trauma: A Qualitative Study Iran	Content Analysis Interviews	To describe a woman's response to psychological birth trauma	94 Women screened - 23 Women included in study	No previous post-trauma stress or psychotic disorders prior to experiencing psychological birth trauma as assessed by DSM-1V
White (2007) You cope by breaking down in private: fathers and PTSD following childbirth New Zealand	Descriptive Phenomenology Narrative either verbal to researcher or written in own words	To explore the phenomenon of PTSD following childbirth from the fathers' perspective	21 Men	Men that had experienced their partners giving birth as traumatic

Table 2. Identified Themes

		Themes				
Papers		Relationship Strain	Strengthened Relationships	Negative Emotions	Lack of Understanding and Support	Loss of Intimacy
	Allen (1998)	X		X	X	X
	Ayers, Eagle and Waring (2006)	X		X	X	X
	Beck (2004)	X		X	X	X
	Kendall-Tackett (2014)	X	X	X	X	X
	Nicholls and Ayers (2007)	X	X	X	X	X
	Taghizadeh, Irajpour and Arbabi (2013)	X		X	X	X
	White (2007)	X		X		X

Figure 1. PRISMA Flowchart

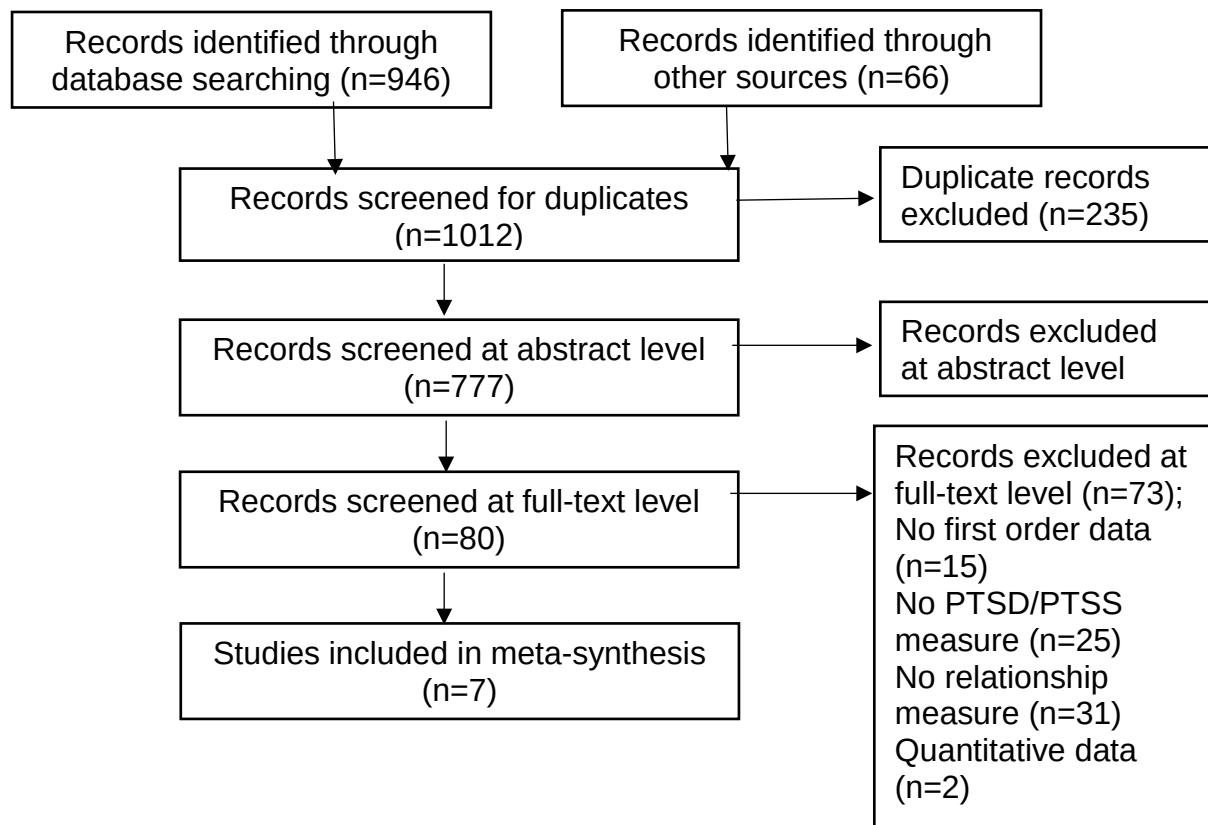
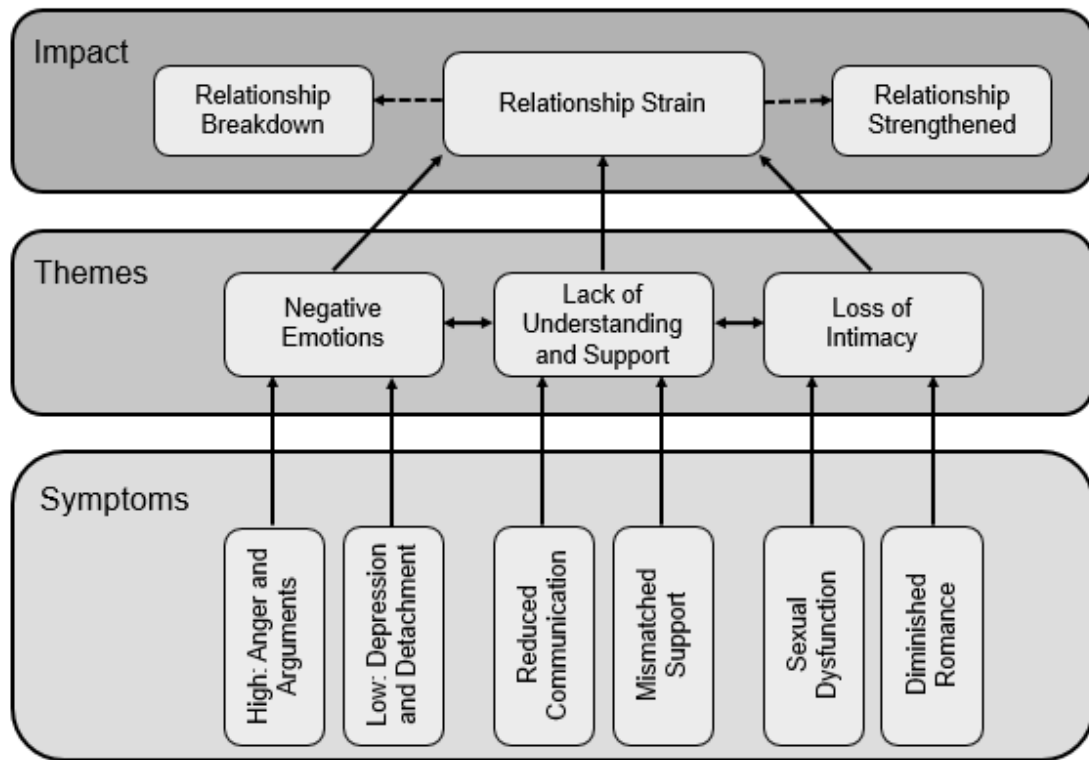


Figure 2. Proposed Model of the Impact of Childbirth Related PTSD or PTSS on the Couple's Relationships



Supplementary Information

Full Systematic Review Search Terms

Concept	Keywords
Patient	Couple Dad Father Mom Mother Mum Parent*
Intervention/Interest 1 <i>Pregnancy & Childbirth</i>	*atal *birth Delivery Labo?r Pregnanc* Prematur* *term Viable
Intervention/Interest 2 <i>Psychological</i>	*aternal illness Anxiety Death Depression Distress Loss Post-traumatic stress disorder Psycho* PTSD PTSS Stress* Trauma*
Outcome	Attachment Consequence Couple* Relation* Effect Impact Marital Parent-baby bond Partner* Primary care Problem Quality Spous* Support