Sexual & Reproductive Healthcare 36 (2023) 100847

Contents lists available at ScienceDirect

Sexual & Reproductive Healthcare

journal homepage: www.elsevier.com/locate/srhc

The experience of being a partner to a childbearing woman whose pregnancy is complicated by pre-eclampsia: A Swedish qualitative study

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ARTICLE INFO

Keywords:
Father
High-Risk Pregnancy
Mental health
Partner
Pre-eclampsia
Preterm birth

ABSTRACT

Background: Pre-eclampsia affects 3–5% of all pregnant women and is among the leading causes of maternal morbidity and mortality as well as iatrogenic preterm birth worldwide. Little is known about the experience of partners of women whose pregnancy is complicated by pre-eclampsia.
Aim: To describe partners' experience of having a spouse whose pregnancy was complicated by pre-eclampsia.
Methods: A qualitative study with in-depth interviews. Eight partners of women whose pregnancy was complicated by pre-eclampsia were interviewed and data were analysed using content analysis.
Findings: Partners found themselves in an unfamiliar and unexpected situation. They experienced an information gap in which they tried to make sense of the situation by interpreting subtle signs. The situation left them feeling emotionally stretched, feeling like an outsider while trying to provide support for their extended family. The partners experienced a split focus after the baby was born, prioritising the baby while worrying about their spouse. Post-partum, they expressed needing time to process and heal after childbirth. A need for professional support was highlighted and concerns about a future pregnancy were voiced.
Conclusion: Having a spouse who is diagnosed with pre-eclampsia is challenging and overwhelming. Our findings imply a need to develop a model of care for women with pre-eclampsia that includes their partner, i.e., the other parent.

Statement of significance

Problem or issue

Little is known about partners' experience of their spouse having pre-eclampsia.

What is already known

Pre-eclampsia is among the most common causes of maternal and fetal morbidity. There is limited research into partners' experience of pre-eclampsia. The existing literature reveals that partners have limited understanding of pre-eclampsia and express fear for the mother's and baby's lives.

What this paper adds

Partners of women with pre-eclampsia are in an unfamiliar and unexpected situation in which they feel emotionally stretched. Partners need time to process their experience and heal after childbirth and would likely benefit from extended professional support.

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https://doi.org/10.1016/j.srhc.2023.100847
Received 25 November 2022; Received in revised form 28 February 2023; Accepted 10 April 2023
Available online 15 April 2023
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Background

Becoming a parent is a life-changing event that has been studied in detail for women giving birth [1–4], while research focusing on the women's partner, the other parent, has been limited.

Pre-eclampsia is a known pregnancy complication affecting 3–5 % of pregnant women worldwide [5]. According to the Swedish Pregnancy register's annual report 3,8% women were affected by pre-eclampsia in Sweden during 2021 [6]. It is diagnosed by new onset of hypertension with proteinuria or end organ dysfunction after 20 gestational weeks. If pre-eclampsia is left untreated, it can be lethal [7], in under-resourced countries, it is among the main causes of neonatal and maternal morbidity and mortality, leading to over 42,000 maternal deaths annually worldwide [6]. Symptoms of pre-eclampsia may be treated, but to this day, the only way to cure pre-eclampsia is birth of the placenta [9], resulting in an increased risk of iatrogenic preterm birth [10].

A survey of women with pre-eclampsia and of their confidants (e.g., partners, close relatives, and friends) showed that most confidants had no prior understanding of pre-eclampsia, and that they were worried for the lives of their spouses (or relatives or friends) and their unborn babies' lives [11]. A newly published Swedish qualitative study by Hansson et al from 2022 reported that women describe pre-eclampsia as an unexpected and unknown situation and that women and their partners need detailed, reliable, and frequent information about the severity and prognosis to reduce their confusion and suffering [5]. Furthermore, an exploratory study of posttraumatic stress disorder (PTSD) after pre-eclampsia suggested that pre-eclampsia predisposes to PTSD in mothers, mainly when the baby was born preterm, and that this could also apply to their partners [12].

When babies are born preterm to women with severe pre-eclampsia, the mother's journey to parenthood begins with a separation, in particular if mother and baby are cared for in different wards. This leaves the other parent with the dreadful dilemma of having to choose whether to stay with their baby or their spouse [7]. These findings indicate that pre-eclampsia could have a negative impact on partners' mental health and thereby potentially influence their transition to parenthood. Considering the severity for the pregnant woman and her unborn child, the lack of literature regarding the partner's experience of pre-eclampsia, calls for further research in this area.

The aim of this study was to describe partners' experience of having a spouse whose pregnancy was complicated by pre-eclampsia.

Methods

This study is part of the **GO**thenburg **Pr**e-eclampsia **O**bstetric ad**V**erse **E**vents study, GO-PROVE study, a prospective multicentre cohort study, investigating maternal end organ manifestations and the psychological impacts of pre-eclampsia [8].

This study presents the results of the qualitative interview study designed to describe the experience of partners to women (hereafter referred to as 'spouse') with pre-eclampsia. The data was analysed using qualitative content analysis with an inductive approach inspired by Elo and Kyngäs [9], to reach a contained and broad descriptions of the phenomenon.

Settings

The study was conducted at a tertiary-care hospital in western Sweden, with the interviews being conducted from April to September 2021. Maternity care in Sweden is publicly funded and provided free of charge. At the antenatal clinics, pregnant women are cared for by midwives and their partners are welcomed to accompany them on their visits. If complications arise during pregnancy, women are referred to obstetricians who plan for their care, which is provided by a team of midwives and obstetricians. The standard program for routine prenatal follow-up consists of four visits up to gestational week 32, and thereafter a visit every second week until birth [10].

Every year approximately 5000 women are diagnosed with pre-eclampsia in Sweden [10]. In 2021, 17 % of those diagnosed developed severe pre-eclampsia [6]. Maternal and social risk factors include for example, nulliparity, chronic hypertension, assisted reproduction, multifetal pregnancy and reduced school education. The risk for developing pre-eclampsia is greater in a first pregnancy (4 %) and the risk for recurrence is 15 % after one pregnancy, increasing to 32 % after two such pregnancies [11]. Pre-eclampsia does however arise, in most cases, at term and resolves soon after the birth. In cases where pre-eclampsia arises preterm, the consequences can be life-threatening [12].

Women who develop pre-eclampsia during pregnancy are followed more closely with more frequent monitoring in an outpatient or sometimes an inpatient setting. The recommendation in Sweden is to closely monitor women with pre-eclampsia before gestational week $< 37 + 0$ and to induce labour at the latest at gestational week $\geq 37 + 0$. After birth, they are offered a follow-up visit with an obstetrician and they have a follow-up visit with their antenatal care visit as all other women. They are also advised to have an annual check-up in which their blood pressure is measured, as are risk factors for cardiovascular diseases [13]. When women are admitted to hospital during pregnancy, their partners are invited to stay whenever possible, allowing them to be present for the duration of the expecting mothers' hospital stay.

Participants

The participants (hereafter, 'partners') were recruited through their spouses' involvement in the GO-PROVE study [8] and were selected through purposive sampling [14]. Eligible partners were those whose spouses were diagnosed with pre-eclampsia at a variety of gestational weeks (Table 1). Nine partners were contacted by the first author (LT), by e-mail, after childbirth, however, one was excluded before giving consent, as their spouse's diagnosis of pre-eclampsia was retracted postpartum. After written and oral information, participants provided written consent. The participants were informed that they could withdraw their consent at any time without giving a reason. The partners received LT's contact information and were informed that they could approach LT at any time after the interview if in need for support. In total, eight partners participated, seven men and one woman. Seven of the partners were interviewed 6–21 months after childbirth. One partner whose spouse had experienced pre-eclampsia in two subsequent pregnancies, was interviewed one month after the latest childbirth and 30 months after the birth of their first child. Characteristics of the participants are presented in Table 1. Three out of eight interviewed partners experienced becoming a parent during the Covid-19 pandemic restrictions.

Data collection

In-depth interviews were conducted by LT at the partners' preferred time, through digital video meetings. The interviews took place from April to September 2021. Each partner was interviewed once. All interviews were conducted one on one, in Swedish, and were audio recorded. The interviews used open-ended questions, such as 'Can you tell me about how you found out that your spouse was diagnosed with pre-eclampsia?', as well as questions focusing on the pregnancy, birth, and time since the diagnosis. Follow-up questions were used to gain a deeper understanding of the partner's experience. The interviews lasted 45–107 min (mean, 67 min).

Data analysis

The interviews were transcribed verbatim resulting in 167 pages of text, which were analysed using qualitative content analysis with an inductive approach inspired by Elo and Kyngäs [9]. Inductive content analysis is useful in cases in which knowledge is lacking or no previous

Table 1
Characteristics of the participants.

	Age	Number of children	Gestational week at pre-eclampsia diagnosis	Birth outcome	Infant admitted to neonatal ward	Level of education
P1	36	First child	38	Caesarean-section	No	First cycle
P2	34	First child	37	Vaginal birth	No	Higher vocational
P3	34	First child	31	Caesarean-section	Yes	First cycle
P4	26	First child	24	Caesarean-section	Yes	Upper secondary
P5	33	First child	33	Caesarean-section	Yes	Higher vocational
P6	26	First child	31	Vaginal birth	Yes	First cycle
P7	36	First child	37	Vacuum extraction	No	Second cycle
P8	29	Second child	36	Vaginal birth	No	Upper secondary

studies address the phenomenon [9]. The transcriptions were initially read numerous times by the first and first last author to discern the content regarding the partners' experience of having a spouse whose pregnancy was complicated by pre-eclampsia. The analysis was performed in the following steps: a) the transcripts were summarised with the aim of the study in mind, with data from each partner being categorised separately into codes; b) codes consisting of the partners' experience of pre-eclampsia were imported into a separate design page; and c) the codes were grouped, and, through further analysis, four categories and nine sub-categories were formed. To ensure a standard approach to every step of the analysis, the first and the first last author discussed their interpretation with the second author and the second last author, all of whom are midwives, until agreement was reached.

Ethical considerations and approval

This study was conducted according to the ethical principles presented in the declaration of Helsinki [15]. Every participant received written and oral information from LT before giving their written consent to participate. They were informed that they could at any time withdraw their consent without reason. The participants received LTs contact information and were informed that they could approach LT at any time as it was acknowledged that the interview might be experienced as challenging.

The study was approved by the regional ethical review board in Gothenburg on December 28th, 2018 (approval number 955-18). The study is registered at ISRTC, with the registration number ISRCTN13060768.

Findings

The experience of being a partner of a woman whose pregnancy was complicated by pre-eclampsia was summarised in four categories: *being in an unexpected and unfamiliar situation*, *feeling emotionally stretched*, *having a split focus*, and *needing time to process and heal*. Each category is described by subcategories (see Table 2).

Being in an unexpected and unfamiliar situation

Partners described being in an unexpected and unfamiliar situation where they were thrust into a situation of which they had no prior knowledge and said their information needs went unmet. They found themselves trying to understand what was happening by trying to 'read the signs', to respond to this lack of information. This category consists of two subcategories: *information void* and *trying to read the signs*.

Table 2
Categories and sub-categories describing partners' experience of having a pregnant spouse with pre-eclampsia.

Categories	Subcategories
Being in an unexpected and unfamiliar situation	Information void
	Trying to read the signs
Feeling emotionally stretched	Being an outsider
	Trying to provide support for everyone
Having a split focus	Prioritising the baby
	Surrealness of having a baby preterm
	Worrying about their spouse
Needing time to process and heal	In a need of professional support
	Concerns about future pregnancies

Information void

When the partners felt they were not being informed, they described this as an "information void" and said that they desired transparency. Partners acknowledged that not being informed could result from care providers trying not to create more stress, in an already stressful situation, but instead having an opposite effect. Their information needs varied, with some wanting detailed information and others being comfortable with less. The partners reported that the standardised information they received was not always enough, while their lack of knowledge made it difficult for them to raise relevant questions.

"Yes, I'm certain that I felt that [free to ask questions]. But I didn't know what questions I should ask" (partner 8).

When it came to closely monitoring the pregnancy, information about why their spouse was monitored was lacking. The flow of information, described as fragmented, could leave partners with more questions than answers.

"What does it actually mean that you … yes, but they say they're checking the blood pressure several times a day, and so it's "No, but it's high here, no, but it's high, it's high here. Yes, it was good there. It's high here, it's high here" – what does that mean?" (partner 5).

Partners found themselves in a unique position when their spouse was diagnosed with pre-eclampsia, as they were not the primary healthcare consumers. When it came to gathering information, many expressed worries about shifting the focus from the mother and baby and therefore chose not to ask questions. This feeling changed when they felt invited, by care providers, to participate in the conversation. When the situation was considered more dire for the pregnant spouse, partners refrained from asking questions as they were afraid of what the answers could be.

"There was no one who even said whether they could save the child [in that gestational week]. But we were able to assume, given that that was their starting point, that we could at least assume that they would try, at any rate. But there was no one who said, yes, by week 25 this many children survive, as compared with week 23, or the like" (partner 4).

Trying to read the signs

When their spouse was diagnosed with pre-eclampsia, partners described how they tried to make sense of the situation by trying to interpret the unspoken. For instance, when a woman was advised to drive directly to hospital from her antenatal visit, the situation was understood by her partner to be serious, but not life threatening. Another partner assumed that the situation was indeed very serious when their spouse was transferred from a secondary hospital to a tertiary by ambulance with the trip classified as category-1 emergency. Another partner assumed that something was wrong when a doctor was

called to assist at birth, as a doctor would not have been called otherwise.

"But then you notice that the doctor is coming in more often and the midwife is busier, and other people are coming in. You understand that something is going on. You don't need a machine to figure it out" (partner 1).

Feeling emotionally stretched

The experience of being a partner of a woman whose pregnancy was complicated by pre-eclampsia left the partners feeling emotionally stretched. They reported feeling like outsiders, as they felt they were seen as appendages while longing for support in a challenging situation. Partners also reported assuming the role of provider of support to their spouse and other family members, as well as a mediator of information for those relatives. This category consists of two subcategories: *being an outsider* and *trying to provide support for every-one*.

Being an outsider

Partners did not consider themselves active participants during medical visits or at the hospital. Trying not to take up too much space, as the focus should be on the mother and unborn baby, was challenging, and partners would withdraw from trying to engage in conversations with care providers. Not participating in these conversations made the partners feel like outsiders. Partners were worried and sad, and described breaking down and crying for their spouse and baby.

"You don't always feel participatory as a father in a situation like this, and absolutely not in this particular situation. It actually feels as though you become some sort of assistant and supporter, and it's clear that you have to try to do it, but you also have things that you need to process and gain an understanding of" (partner 7).

It also brought feelings of powerlessness. Partners described feeling like an accessory, but realised they had an important role towards their spouse in interpreting and conveying her wishes when she was too tired to do so herself. As this was a novel situation for them, they worried that they might complicate matters if they were to misinterpret their spouse's wishes. They did not expect to be comforted or cared for by care providers since they were not patients, but the situation left them feeling helpless and they expressed a need for support.

Trying to provide support for every-one

The partners found themselves trying to provide support for every-one. Naturally, they described wanting to take care of their spouse when they were diagnosed with pre-eclampsia and they tried their best to meet her needs. This could involve anything from practical matters such as buying candy to making sure that she was feeling well emotionally. They also became a link mediating between the spouse in hospital and the family at home. This was experienced as demanding, as they did not have all the answers, and also because they found themselves in a situation in which they did not feel comfortable. While they cared for their pregnant spouse who was diagnosed with pre-eclampsia and admitted to hospital, they also had to assume a caregiver role for the extended family, who worried at home.

"I knew that if I mentioned these things to them [extended family] they would go completely bananas. And then it turned out, when I was already thinking that it was pretty tough, I would need to lift mum's spirits and explain that "No, but there's no danger, you know, and all that. This happens to loads of people", and so on" (partner 5).

The partners said that it was hard to live with the uncertainty. They felt as if they were in a vacuum, understanding that the continuation of the pregnancy was important for the safety of the baby, while sensing that their spouse's health was compromised. While understanding that the situation was serious, it was hard to adjust to the vagueness of how long the pregnancy could continue and provide support accordingly. Some partners hoped that the healthcare providers would take over.

"We didn't know whether we would give birth in a week, or a day, or a month. And they made it clear that they couldn't say either. But we just hung around and waited and waited and waited, and we wanted it to go a long time for the baby's sake, but she was feeling so bad, so we also wanted someone to come and say "Nope, now we're just going to proceed" (partner 6).

Having a split focus

During birth, the focus shifted from their spouse to their baby, meaning that the partners experienced a split focus. If their baby was admitted to the neonatal intensive care unit and their spouse could not be discharged from the labour ward, due to her condition, partners described how their bond with their baby evolved. This was described as a positive experience, but it was overshadowed by the fact that they could not tend to both their spouse and baby simultaneously for logistical reasons. This category consists of three subcategories: *prioritising the baby, surrealness of having a baby preterm* and *worrying about their spouse*.

Prioritising the baby

During birth, partners described how their focus shifted between their spouse and baby. When monitors indicated that their baby was stressed, the focus shifted to the baby's well-being and the partners entered a new phase. A range of emotions arose when their baby suddenly felt more important than their spouse, and those feelings of prioritising the baby were unexpected to some partners. The positive feelings of becoming a parent were overshadowed by not being able to be in two places at once. This mainly occurred when their spouse could not, due to her condition, be released from the labour ward and their baby was admitted to the neonatal intensive care unit, making the partner the baby's primary caregiver.

"I just remember the huge splitting headache I had because a lot had happened and so on … Yes, but now you have to care for a baby, as of right now. You just have to jump in, you just have to get on with it" (partner 5).

The period after the birth was described as having fallen in love with the baby, while feeling guilty for not being able to support their spouse to the same extent as before. Even though it was a challenging time, it was also the most beautiful experience of becoming a parent. There was, however, concern that separation from their baby negatively affected their spouse's mental health, when she could not be discharged from the labour ward.

"I found myself in a sort of cloud world, a proper baby bubble, I suppose. And it was very beautiful, but it also meant that then I couldn't … all of a sudden I stopped supporting my spouse as much. Because now I had the baby, and I was compelled to make sure that [the baby] was doing well. The baby was suddenly more important" (partner 6).

Surrealness of having a baby preterm

Partners described feeling unsupported when their baby was born preterm. From having a shared experience, as a couple, during the pregnancy with all its complications, the experience during birth and afterwards differed. Seeing their preterm baby was experienced as traumatic. Before the baby's birth, a physician would inform the parents of the estimated weight of their baby, but as one partner noted, it is very hard to associate that number with the thought of a baby weighing that little. There was considerable stress and concern about their baby, as the partners had not seen a preterm baby before. It was described as surreal, as their preterm baby did not look like a baby born at term and the thought of bringing the baby home was mind boggling.

"Rather than being happy, you're looking for wrong or not wrong, you're looking for "Could something be … could there be something wrong, or something that I have to ask the doctors about?" Eh, it was like

this … no, you're looking at the detailed level rather than, ah yes, just feeling happy … and it's like you're falling into a little world, uh, that I can't properly describe, uh, worry, quite simply" (partner 3).

In hindsight, they realised that the period of caring for their preterm baby positively affected their bond with the baby. Having a specific care provider who could support them when seeing their baby for the first time would have helped them handle the situation, which was tormenting. Sadness was also expressed over the lack of support, as it would have made the ordeal more manageable and lessened the trauma caused. One partner still vividly remembered the time spent in the resuscitation room, a trauma relived to this day.

"As noted, it does feel totally unrealistic, what you've gone through, because it was so different from anything you could anticipate (…) everything was totally new to take in, and with this journey you've been on, that in the most difficult moments it had been clear, … the actual birth and the actual time in the first room where we were. It sits very, very deep" (partner 4).

Worrying about their spouse

The partners said that they had understood that when the baby was born, their spouse would recover, i.e., that the only way to cure pre-eclampsia was birth. Therefore, it came as a surprise when their spouse's blood pressure did not stabilise, and she had to continue using medications after birth. One partner, whose spouse suffered from severe pre-eclampsia and gave birth by caesarean section, mentioned that just after their baby was born, their spouse expressed fear of dying while lying on the operating table.

"But then there was some doctor who said, "You can sleep, you won't die". But then it got scary. It was then that I first reflected on the fact that it was my wife's health that was at risk" (partner 8).

The partners recognised that having developed pre-eclampsia affected their spouse's mental health after birth. The first year was described as difficult. The partners said that they had not realised the tremendous effect it had had on their spouse until later noting how important it is to pay attention to the mother's mental health as well as her physical well-being after birth. Sensing that the spouse's mental health was affected negatively also affected the well-being of the partners, who described a debilitating feeling of not being able to help. Some believed it would have saved them from a lot of grief if their spouse had been able to talk about her experience shortly after birth.

"You can actually engage in dialogue with the patient – "How are you feeling? What's happening? Do you feel like you might need to get checked out with some form of … have an examination to ease your mind, relieve the worry?" – and so on" (partner 3).

Needing time to process and heal

After birth, partners needed time to process and heal and expressed a need for professional support. This was partly for their own mental health but also to meet their spouse's emotional needs, as they understood that the experience had had a significant impact on her. When discussing the future, there was hesitation as their thoughts about pregnancy and childbirth had changed after experiencing pre-eclampsia. Although all partners had planned on having more than one child, they questioned that idea after having this experience. This category consists of two subcategories: *in need of professional support* and *concerns for future pregnancies*.

In need of professional support

During the time following the birth, it became apparent that there was a lack of follow-up to help the couple process their experience, they were in need of professional support. All parents of babies admitted to the neonatal ward were offered counselling by a social worker, but those conversations concerned practical things, with little or no attention paid to the parents' emotional well-being. A partner, whose spouse was separated from their baby at birth, expressed a certain frustration at the lack of follow-up after being discharged.

"My wife felt pretty bad afterwards, had a bit of difficulty connecting and things like that. […] We haven't felt that there's been such great support with this, exactly. During the actual time [at hospital] it was really good, but [not] now afterwards …" (partner 6).

The biggest support the partners received was from their spouse, but they said that they would have appreciated the chance to get professional help for themselves since difficult feelings caught up with them afterwards.

"So in a way it was actually more dramatic afterwards than what we experienced at the time [of birth]" (partner 2).

Talking to a psychologist was described as an opportunity for partners to preserve their own mental health but also as getting tools with which to better support their spouse. Partners whose babies were not admitted to the neonatal ward were not offered counselling during their stay in hospital. A few partners did, however, get an offer of such help from primary care, although the offer mainly targeted their spouse.

"It would certainly still have been beneficial to get to speak with someone sooner, who could have given us a bit more information about what to expect in terms of, maybe, mental health, along with a little bit about what you can do to maintain it as well" (partner 4).

Partners said that if their spouse was not feeling well mentally, it affected the whole family. It was therefore seen as imperative that care providers should provide care to every-one involved. Receiving counselling from the start was seen as an important step in that direction.

"Having a baby has a lot to do with some sort of final product, and it also has to do with making sure that the person feels good along the way, and that the entire group of people or the entire family is taken care of so that something good comes out of that as well" (partner 7).

Concerns about future pregnancies

When discussing a future pregnancy, there was hesitation. Before experiencing pre-eclampsia, all couples had planned to have more children, but they said that their experience had changed that. Partners who had experienced pre-eclampsia late in pregnancy worried less, as they felt safe during their hospital stay and had trust in the healthcare system. They also found comfort in the certainty that the women would be followed more closely during any future pregnancy because of their obstetric history. For those who had a baby born preterm, uneasiness about having more children was more palpable. They talked about needing time to heal before discussing the matter with their spouse and about struggling with the thought of potentially putting their spouse through another pregnancy. They also noted that if they were to try again, it would be a different journey as they now had a baby to care for, which was considered important in the decision making.

"But it will be difficult – I definitely believe that. The transition will be a lot more difficult, with the uncertainty, and you'll have a lot more thoughts about the time, and so on – like, what week are we in now, and what does that mean, and what difference does it make?" (partner 4).

Regarding a possible future pregnancy, the partners discussed having a plan concerning hospital care if the mother were to be diagnosed with pre-eclampsia again. That involved ensuring that the partner knew exactly what information their spouse wanted and about her wishes regarding treatment. This was considered vital, so that the partner would be able to speak on her behalf, if she found herself in a situation in which she might have difficulty expressing her needs. First and foremost, however, the thought of a new pregnancy was stressful, and it was essential to allow time for healing.

"Very reserved attitude, if I'm completely honest. Reservations. I certainly can't say that I will be one of those happy pregnant men, saying "Wow, another kid", but rather there will clearly be a nervousness from the start" (partner 3).

Discussion

This study described partners' experience of having a spouse whose pregnancy was complicated by pre-eclampsia in Sweden. Four categories emerged from the analysis of our in-depth interviews: *unexpected and unfamiliar situation*, *feeling emotionally stretched*, *having a split focus*, and *needing time to process and heal*.

The diagnosis of pre-eclampsia placed the partners *in an unexpected and unfamiliar situation* characterised by an information void. Without adequate information from care providers, they turned to Internet searches. This void of information caused partners to try to read subtle signs in an effort to understand what was happening. Even when partners were present at the medical appointments, they did not always understand what was happening. This reading of signs is supported by a previous Swedish qualitative interview study finding that it can be difficult for partners to comprehend medical dialogue, making them interpret facial expressions and gestures in an attempt to interpret what the care providers are trying to communicate [16]. The fact that the partners are not patients, and not in focus during consultations, might contribute to the difficulty in communication. However, even women who have experienced pre-eclampsia have described receiving inadequate and fragmented information [17,18]. Taking previous research and the present findings into account, clear and concise communication with both parents is vital when a pre-eclampsia diagnosis is suspected or confirmed.

Partners reported *feeling emotionally stretched*. This was described as feeling like an outsider, with partners referring to themselves as an appendage to their spouse. They had a complicated role trying to balance supporting their spouse while addressing their own worry. This has been described in previous literature on the father's role in maternity care as the 'not-patient' and 'not-visitor' dilemma [19]. Furthermore, a scoping review of the Nordic countries confirmed that partners are often not treated as parents-to-be when in contact with maternity care [20]. Being viewed as an observer as opposed to an active parent could affect the father's mental and physical well-being [21]. The partners in our study tried hard to support their spouse but despite their best efforts, some of them felt that they had not done enough. A similar experience of inadequacy in providing support has been described in first-time fathers [22]. In addition, they were trying to support every-one around them, stretching themselves even further. Pregnancy has been found to be the most stressful time in fathers' psychological transition to fatherhood [23]. Considering this, targeted professional support could help alleviate emotional stress in partners of women with pre-eclampsia.

After birth, the partners experienced *having a split focus* between their spouse and baby, resulting in complex emotions. This was particularly noticeable in partners who became parents of babies admitted to the neonatal intensive care unit, which hindered them from caring for both their baby and spouse. In Sweden, when babies are admitted to the neonatal intensive care unit, parents are encouraged to be with them and to participate in their care as much as possible. This is not always possible, however, because of a shortage of beds for parents [24] or, as in the present cases, because the mother is too unwell to be discharged from the labour ward. Having a baby born preterm has previously been described, by fathers, as being on an emotional roller-coaster [25]. This coincides with our results, in which partners described meeting their preterm baby for the first time as traumatic, with some wishing they had had a specific care provider to support them. However, no provisions are made for healthcare providers whose job is to support partners in unpredictable circumstances during birth, leaving partners feeling lost and abandoned when care providers focus solely on the mother and baby in dire situations [21].

Our findings also highlighted that the partners had concerns about their spouse who was ill with pre-eclampsia and still recovering in the labour ward all alone. Partners finding themselves in such a situation rely on professional support to cope. A systematic review found that Swedish fathers' needs are not well supported in labour and birth or post-natal wards, nor fully in neonatal wards, meaning that partners may not receive the support they need [26]. Respectful and sensitive care provider attitudes toward partners are essential to support their transition to parenthood [25]. Some of the emotional turmoil caused by the separation of the mother and her baby could likely be avoided if co-care was practiced. Co-care, where the mother and baby are cared for as a unit, has been described as having a positive effect on mothers' confidence and feelings of control. Whilst being separated from one's baby may result in a drawn-out bonding process affecting the feeling of being a mother negatively. Co-care requires co-operation and organisation between delivery, maternity and neonatal wards [27] to work. It can be limited by hospital design and organisational factors when both mother and baby require care from different teams, as is often the case for women who give birth preterm due to pre-eclampsia. Yet, there are some examples where this has been achieved, for example through the introduction of a post-natal ward liaison neonatal nurse [29]. For partners, co-care could probably solve some of the dilemma of their split focus after birth, at least they would not be physically separated from their spouses as they cared for their babies, allowing the shared experience that they experienced during pregnancy to continue.

The studied partners reported *that they needed time to process their experience and to heal*. They also expressed a need for professional support. To them, it was important to recognise what signs they should look for in order to cope with the situation and preserve their own mental health, and to be able to meet their spouse's needs. Partners described not fully understanding, until later, how greatly the experience had affected their spouses' mental health, in congruence with previous findings suggesting that women with a history of pre-eclampsia might benefit from mental health screening [28]. This is especially true, for women who were separated from their babies after birth since separation may complicate the process of attachment [29], another argument for evaluating co-care in this group.

When it came to looking ahead, partners expressed concerns about possible future pregnancies as a result of their experience with pre-eclampsia. They were hesitant, explaining the need to process their experience, which could be perceived as trauma. Fathers who have experienced a traumatic birth need professional support to cope with the trauma [30], but the support offered, in the healthcare setting, is primarily directed to the birthing woman [19]. This is also reported by partners to women with other severe complications during pregnancy. It highlights the potential long-term emotional effects their experience can have and emphasizes the lack of support available to them as well as acknowledgment of their emotional distress [31]. It has also been suggested that the lack of support by health care providers, especially during a complicated birth, can have a negative impact on the non-birthing parent, again emphasizing the importance of provided support, to help with their ability to cope and better be able to support their spouse [32]. That in itself is peculiar, as, just like their spouses, they are becoming parents and are exposed to events that can be experienced as distressing [33].

Strengths and limitations

This qualitative study provides unique insights into how partners of women diagnosed with pre-eclampsia experience their situation. The results of this study, which was conducted in a single institution, may be transferable to groups in similar settings with similar experiences, but may not be generalisable to other populations or geographical locations. Eight interviews were conducted and the in-depth nature of these interviews provided rich data imbued with variations and nuances. This is in line with what Malterud et al. [34] have described as information power, suggesting that the more information a sample holds, the fewer participants are needed. Further, seven of eight participants were first-time parents, however, pre-eclampsia is more common during a first pregnancy [11]. LT contacted the partners and conducted the interviews. LT is a midwife and PhD student and has six years' experience

of caring for women whose pregnancies were classified as complicated or high-risk, before becoming a PhD student. All authors are professionally familiar with the care of women with pre-eclampsia. However, LT, conducting the interviews, did not provide care to the participants prior to the interviews. The analysis was conducted by midwives (LT, KL, VN and HE).

The findings are strengthened by the fact that the analyses were first performed by LT and VN, and then confirmed by KL and HE. Of the eight partners, three had become parents during the Covid-19 pandemic restrictions, affecting their experiences. We considered this carefully in the data analysis, focusing on aspects of their narrative closely related to their experience of pre-eclampsia. Nevertheless, the pandemic context cannot be completely disregarded when interpreting the findings. So is the risk for recall bias, which cannot be completely disregarded as the interviews were conducted up to 21 months after birth. The partners did give rich and detailed descriptions of their experiences, however when the information depends on the partners ability to recall, there is a risk for imprecise responses [35]. The consolidated criteria for reporting qualitative research was considered when reporting our results [36].

Conclusion

Having a spouse who is diagnosed with pre-eclampsia was characterised by being in an unexpected and unfamiliar situation, feeling emotionally stretched, having a split focus and needing time to process and heal. The findings demonstrate a need of professional support for partners to women whose pregnancy was complicated by pre-eclampsia to facilitate their transition to parenthood. Healthcare providers may ease the situation by providing clear and concise communication with both parents when pre-eclampsia diagnosis is suspected or confirmed. As well as offer professional support to alleviate emotional stress in partners of women with pre-eclampsia since they are likely extra vulnerable and exposed. Our findings suggest a need to develop a model of care for women with pre-eclampsia that includes their partner, the other parent. Such a care model should include the possibility of co-care of the mother and baby when neonatal care is needed.

Funding

This work was supported by the Foundation of the Health and Medical care committee of the Region of Västra Götaland, Sweden (VGFOUREG- 851391, VGFOUREG-930918, VGFOUREG-940260).

Ethical statement

The study was approved by the regional ethical review board in Gothenburg on December 28th, 2018 (approval number 955–18).

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We would like to thank the partners who participated in this study, and their spouses who were included in the GO-PROVE study.

Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.srhc.2023.100847.

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