Women and Birth 35 (2022) e487–e493

Contents lists available at ScienceDirect

Women and Birth

journal homepage: www.sciencedirect.com/journal/women-and-birth

# Midwives and sexual violence: A cross-sectional analysis of personal exposure, education and attitudes in practice

Hannah W. de Klerk *, Janneke T. Gitsels, Ank de Jonge

*Amsterdam UMC, Vrije Universiteit Amsterdam, Midwifery Science, AVAG, Amsterdam Public Health Research Institute, Van der Boechorststraat 7, 1081 HV, Amsterdam, Netherlands*

ARTICLE INFO

*Keywords:*
Gender-based violence
sexual violence
midwives
pregnancy
professional education

ABSTRACT

*Background:* Around one in three women experience sexual violence during their lifetime. They may need trauma-sensitive maternity care that takes sexual trauma triggers into account. Midwives are similarly likely to have experienced sexual violence in their lifetime. It is unknown whether midwives with a personal sexual violence history have a different professional approach to the topic than their colleagues without such history.
*Aim:* To explore whether midwives with a personal sexual violence history are more likely to have received or need education about sexual violence and whether they approach sexual violence differently in practice.
*Methods:* An exploratory online survey was conducted amongst practicing midwives in high resource countries. Odds ratios were calculated for differences between midwives with and without a personal sexual violence history.
*Findings:* Of the 288 participating midwives, 48.6% disclosed a personal sexual violence history. Midwives with a personal sexual violence history showed higher uptake of post-graduate education (OR 2.05, 95% CI 1.23–3.44), more accurate prevalence estimation (OR 3.42, 95% CI 2.10–5.57) and more confidence to identify sexual violence history (OR 1.94, 95% CI 1.19–3.15). We found no differences in requiring future education, screening practices, other aspects of confidence or time and discomfort barriers.
*Conclusions:* As fellow survivors, midwives with a personal sexual violence history have a unique standpoint towards sexual violence in maternity care practice that may make them more sensitive to the issue.

**Statement of Significance**

**Issue**

Midwives and clients may share a sexual trauma history. It is unclear whether midwives with a personal sexual violence history have a different professional approach to the topic than their colleagues.

**What is already known**

Health care professionals with a personal history of *domestic* violence were more likely to have received post-graduate education and screen for domestic violence.

**What this paper adds**

Midwives with a personal sexual violence history were more likely to have received post-graduate education about sexual violence, estimate sexual violence prevalence correctly and felt more confident to identify sexual violence in their clients.

## 1. Introduction

### 1.1. Background

Sexual violence (SV) is considered a major public health concern with both short and long-term effects on physical and mental health [1]. Prevalence rates of SV are hard to estimate due to different definitions across studies and the sensitive nature of the subject that may lead to non-disclosure. In a Dutch population study [2], the overall reported prevalence of SV when asked a single general question was 34%. When participants were subsequently asked a series of specific questions, 22% reported rape or forced oral or manual sex and 56% reported at least one type of SV, including non-contact abuse such as being forced to undress.

* Corresponding author.
*E-mail address:* h.deklerk@amsterdamumc.nl (H.W. de Klerk).

https://doi.org/10.1016/j.wombi.2021.12.004
Received 14 March 2021; Received in revised form 14 November 2021; Accepted 15 December 2021
Available online 4 January 2022

Taking the difficulties of defining SV into consideration, lifetime SV for women in high-income countries is estimated to be around one in three women in large population studies [2–4]. Young girls and women are especially vulnerable to SV. Prevalence studies show little difference in prevalence between women under and over 40 years old, indicating that most SV took place before or during the childbearing years [3,5]. Consequently, a large proportion of women receiving maternity care have regrettably been victims of SV. While the perpetrator of sexual child abuse most often is a family member, the perpetrator is most likely to be a partner or former partner for adult women. SV within a relationship is a form of domestic violence (DV) that may be ongoing in pregnancy.

Not all women with a history of SV are similarly affected and the experience may not be considered relevant in the childbearing period to some women. However, pregnancy, birth, becoming a parent and maternity care can hold specific triggers that women with a history of SV associate with the abuse they experienced in the past. Common triggers are physical examinations, particularly the vaginal digital examination, but also blood pressure monitoring, verbal cues, such as being told to relax or being naked in front of others. Specific triggers vary from woman to woman. Women with a history of SV may avoid maternity care out of fear of triggers, while others show higher attendance than average [6]. Several studies found that women with a history of SV experienced higher rates of fear of childbirth [7,8], dissociation during childbirth [9,10], postpartum depression [11] and post-traumatic stress disorder after birth [12,13]. Differences were also found in pregnancy complications and birth outcomes including hospitalization [14,15], cervical shortening [14], antepartum bleeding 15,16], premature contractions [14,17], induction of labour [18], assisted birth 16,19] and caesarean section [18,19].

Various qualitative studies have examined the needs of women with a history of SV in maternity care and showed that women require individualized maternity care that considers relationship-building between the healthcare provider and the woman, providing a sense of control and reducing the risk of dissociation and triggers for flashbacks or re-traumatization [20–22]. As the main care provider of many pregnant women, midwives can play a pivotal role in providing such trauma-sensitive care. However, do midwives feel sufficiently equipped to deal with the complex effects a sexual trauma history can have on the women in their care? One study found that in a sample of UK midwives the majority did not feel adequately prepared to deal with a disclosure of sexual abuse. Community midwives showed more confidence to deal with the subject than hospital-based midwives. Most midwives had not received any education on the topic [23]. Research on sexual-health education among midwives in Canada also described minimal education about SV. It was usually only covered in general terms and 18% received no education at all [24].

Another factor that may influence how midwives approach SV in practice is a midwives' personal history of SV. Midwives may have experienced similar sexual trauma as their clients, known as shared trauma, and the effects on midwives' practice have not been given much attention in the literature. In psychology, shared trauma is defined as "a similar event in the lives of both a client and a counselor that has caused trauma. Shared trauma may occur between a client, counselor, and unidentified others through separate but similar traumatic experiences, such as rape or child abuse" [25]. Although shared sexual trauma is not likely to be known to a client, midwives may be aware of and affected by it. Garrett [26] described the views and work experiences of midwives who had been sexually abused as a child themselves. The midwives described what they considered to be good practice when taking care of women with a history of SV as care that offers choice and control, good communication, treating women as individuals and with continuity of care. The midwives felt that their personal experiences made them especially equipped to provide trauma-sensitive care while at the same time they acknowledged that the hospital environment sometimes made it hard to provide this care. They saw it as their role to advocate for and protect women with a shared history of SV.

To our knowledge, there is no literature that quantitatively explores associations between midwives' SV history and the way they approach care for women with sexual trauma. There is some literature on the shared trauma of DV within primary care, another form of gender-based violence that affects women disproportionately and is often addressed within maternity care. American family physicians with a past history of physical or sexual abuse were more confident to screen for partner violence and follow-up after a disclosure; time was less often experienced as a barrier to screening [27]. Australian health professionals, including midwives, with a history of DV were more likely to have attended education about DV and to access DV information for patients [28]. Both studies concluded that a shared trauma history acted as a facilitator, rather than a barrier, in practice.

### 1.2. Current study

Gender-based violence rates in midwives, nurses and general practitioners are found to be at least similar to or higher than the general population [27,29]. Consequently, a large proportion of midwives share an SV history with their clients. There is a gap in the available literature about whether midwives' personal history of SV is associated with their professional approach to SV. More knowledge on how a personal history of SV can influence practice can be incorporated into education about SV in maternity care to improve trauma-sensitive care for clients and midwives alike. This study aims to answer the research question of whether a personal history of SV is associated with uptake of education, screening, awareness, confidence and barriers towards dealing within maternity care. We hypothesized that midwives with a personal history of SV would: (1) have a higher uptake of additional education after graduation and would feel more need for additional education in the future; (2) screen for SV routinely more often; (3) are more likely to estimate the prevalence of SV correctly; (4) are more likely to consider awareness of SV important; (5) to be more confident in dealing with SV professionally and (6) to experience less barriers to address SV professionally. Age is considered to be a potential confounding influence since the societal discourse on SV has changed over the past decades, for example due to the *#metoo* movement. The change in societal discourse may simultaneously influence the likelihood to disclose a personal SV experience and the availability of education, perception of prevalence and screening practices and attitudes towards SV.

## 2. Participants, ethics and methods

### 2.1. Study design and data collection

An exploratory survey with a mixture of fixed and open questions was developed by the authors. Two researchers not involved in the project but with expertise about the subject and survey research reviewed the questions and the survey was adjusted accordingly. Subsequently, six practising midwives tested the survey. Some mistakes and unclear phrasings were identified and adjusted. Data collection took place between May 2019 and February 2020. In May 2019, two researchers used a stand at the Congress of the Nordic Federation of Midwives in Reykjavik to invite attendees at the congress to complete the survey either hard-copy or digitally via email invitation. The initial strategy yielded little response, despite two email reminders, and therefore, the survey was made available online in November 2019 with a direct link through social media. The online survey was shared in closed Facebook groups from different national midwifery organizations, midwifery-related open pages and on Twitter by individuals and midwifery-related organizations. The criterion for participation was to be practising as a midwife in a high-resource country when filling out the survey.

### 2.2. Participants

Out of the 723 participants of the Congress of the Nordic Federation of Midwives, 45 respondents completed the survey after two email reminders. It was not possible to assess an exact response rate, since a proportion of the attendees did not meet the inclusion criteria. An additional 283 midwives completed the survey after social media sharing. Since the survey was shared widely, we were unable to assess a response rate, but consider it to be very low. Eventually, a total of 328 respondents completed the digital survey. We excluded 40 respondents because they did not meet the inclusion criteria, high resource country of practice (one respondent from Ghana and three from India), profession or work status (two obstetricians, three registrars, one physician, one doula, five teaching midwives, one midwife advocate, one retired midwife and 21 midwifery students) or work experience (one respondent without work experience). The final sample consisted of 288 midwives practising in a high-resource country at the time of filling out the questionnaire.

### 2.3. Measurements

#### 2.3.1. Background of participating midwives

Participants were asked their age in years, country of employment, work setting (community/hospital), work experience (0–2 years, 2–5 years, 5–10 years or more than 10 years), whether they had experienced sexual violence (yes/no) and whether they received education during and after graduation. Participants were assigned 'any education' when they had either received education before graduation, after graduation, or both. Lifetime SV was defined as *childhood abuse, rape, sexual assault or any other non-consented sexual acts*.

#### 2.3.2. Estimation of prevalence and screening for SV

Participants were asked to estimate the prevalence of lifetime SV amongst women in a fixed question (*how many women in your country do you think experienced SV at any time in their life (this includes childhood abuse, rape, sexual assault or any other non-consented sexual acts)*) with six ordinally scaled answer categories (one in 100, one in 25, one in ten, one in four, one in three and one in two). Following Lazenbatt et al. [30] we dichotomized the answer categories between below estimate (one in 100, one in 25 and one in ten) and near the mark (one in four, one in three and one in two) with a large gap between one in ten and one in four. Answer categories one in four, one in three and one in two can be considered accurate depending on the exact definition of SV as described in the introduction.

Participants were asked about their screening for SV by agreeing or disagreeing with the statements 'I never discuss sexual violence with my clients', 'I discuss sexual violence when my client brings up the topic', 'I discuss sexual violence when I have a suspicion my client is affected by it' and 'discussing or screening for SV is part of my routine care'.

#### 2.3.3. Importance, confidence and barriers regarding SV in daily practice

Importance, confidence and barriers concerning SV were assessed by six statements. Agreement with the statements was measured on a four-point Likert scale with the categories 'strongly disagree', 'disagree', 'agree' and 'strongly agree'. Open fields allowed participants to clarify their answers if they wished.

### 2.4. Analysis

Descriptive statistics were used to calculate sample characteristics, perceptions of prevalence, screening and attitudes towards importance, confidence and barriers. For comparisons between midwives with and without a personal history of SV, the unadjusted odds ratios were first calculated using a simple logistic regression model. Secondly, we adjusted the model for age as it was theorized this could be a confounding variable.

Statistical analysis was performed in IBM SPSS Statistics for Windows, Version 25.0. Adjusted and unadjusted odds ratios and the corresponding confidence intervals and p values were calculated for the differences between midwives with and without a personal history of SV for all domains. Results were considered statistically significant below a probability of 0.01 rather than the commonly used 0.05, to account for multiple testing in this study.

### 2.5. Post hoc sensitivity analysis

Since the participating midwives are from a broad range of countries (Fig. 1), it was *post hoc* decided to perform sensitivity analyses to assess whether the results of the primary analysis can be considered robust across different countries. Due to the number of countries and relatively small sample size, it was not possible to include all countries separately to the models. Alternatively, we have performed a post hoc sensitivity analysis for the 75th percentile of countries with the largest number of participants. The five countries left were the Netherlands, the UK, Sweden, Australia and Germany, making up 72% of the total sample (N = 208). We performed the analyses again, controlling for country effects through dummy variables for each country separately.

### 2.6. Post hoc mediation analysis

After reviewing the results of the initial analyses, mediation analyses were conducted to gain better insight in the statistically significant relationships. It was hypothesized that personal SV exposure had an indirect effect on both accurate estimation of prevalence of SV and confidence to identify SV in clients through additional education about SV. For this analysis, causation had to be assumed. It was deemed improbable that the effects could be reversed, that is, that a higher uptake of education or the outcome variables could cause an SV experience. Therefore, for the purpose of this analysis, the assumption of causation was accepted. Following Valeri and Vanderweele [31], since the variables are binary and outcomes were not rare, the odds ratios could not be used to calculate mediation. Therefore we used generalized linear regression models with a binomial distribution and log link to calculate the B coefficients. The B coefficients and corresponding standard deviations were used to calculate the proportion of mediation and perform Sobel tests.

## 3. Findings

Background characteristics for the 288 included midwives are reported in Fig. 1 and Table 1. Approximately half of the participating midwives had a personal SV history. Tables 2, 3 and 4 report the crude and adjusted odds ratios for differences between midwives with and midwives without a personal SV experience. Adjustment for age had no substantial effect on the direction or magnitude of any of the reported odds ratios.

### 3.1. Education

Table 2 shows that midwives with a history of SV had received more additional education about SV after graduation. The difference in the need for future education was not statistically significant at the $\alpha = 0.01$ level.

### 3.2. Estimation of prevalence and screening for SV

Midwives with a personal history of SV were more likely to accurately estimate the prevalence of SV. No differences in addressing and screening for SV were found between midwives with and without a self-reported history of SV (Table 3).

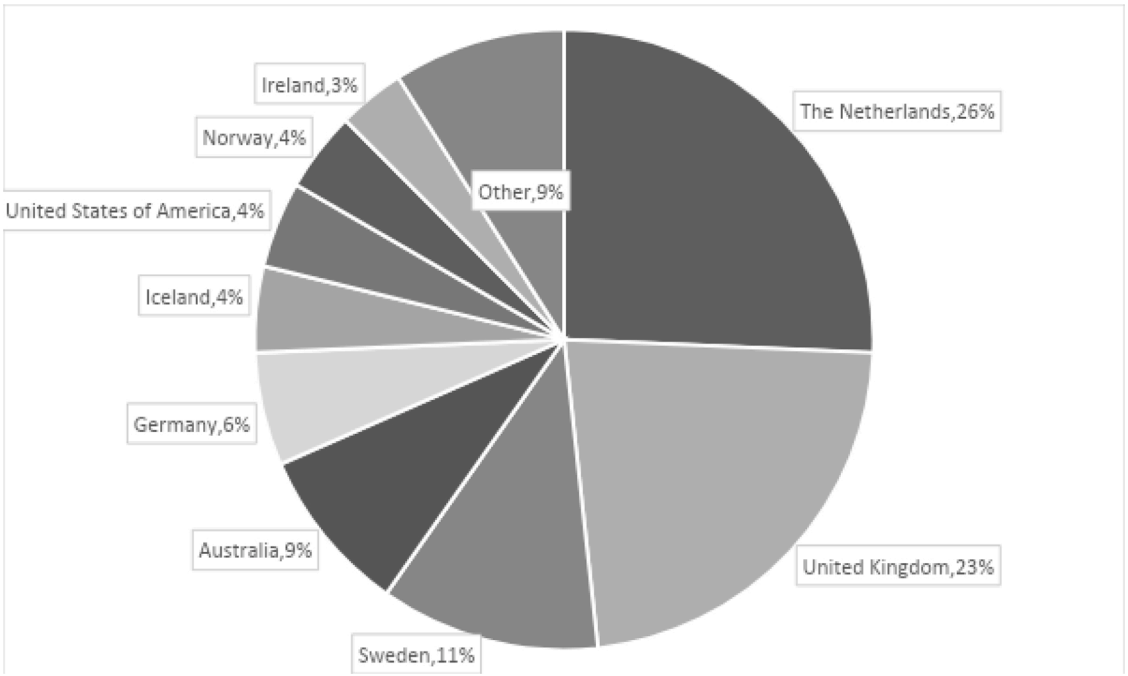


**Fig. 1.** Country of practice for all participants (N = 288).
*Other countries are Austria, Canada, Denmark, Faroe Islands, Finland, Hungary, Israel, New Zealand, Spain and Switzerland.

**Table 1**
Background characteristics of participating midwives (N = 288).

| | Mean ± SD | n(%) |
|---|---|---|
| Age | 40.4 ± 11.06 | |
| Work setting | | |
| Hospital | | 151 (52.4) |
| Community | | 135 (46.9) |
| Both | | 2 (0.7) |
| Work experience | | |
| 0–2 years | | 38 (13.2) |
| 2–5 years | | 58 (20.1) |
| 5–10 years | | 58 (20.1) |
| 10 or more years | | 134 (46.5) |
| Experience of sexual violence | | 140 (48.6) |
| Education about sexual violence | | |
| During midwifery programme | | 154 (53.5) |
| After graduation | | 107 (37.2) |
| Received any education | | 213 (74) |

### 3.3. Importance, confidence and barriers

Almost all midwives agreed it is important to be aware of a woman's history of SV in maternity care (Table 4). Therefore, it was not possible to perform logistic regression analysis, as the cell count was too low. Some midwives elaborated when they disagreed with the statement by saying that regardless of disclosure they would treat women similarly, taking into account the possibility of a history of SV for every woman (e.g. "every woman should be treated with respect and control in every situation" (Germany, reported SV) and "I hope that I provide a service to all women that is respectful no matter what their background" (United Kingdom, reported no SV)). Midwives with a personal SV history were more confident in identifying SV in clients, but there was no difference in confidence to bring up the subject or knowing what to do after a disclosure. Also, we found no statistically significant differences between midwives with or without a personal SV history for the barriers time and discomfort.

### 3.4. Post hoc sensitivity analysis

The direction and magnitude of the odds ratios in the analyses for the five countries with the most participants were consistent with the primary analyses and led to similar conclusions. The results are reported in Supplement A.

### 3.5. Post hoc mediation analysis

The results of the mediation analyses are reported in Figs. 2 and 3. The assumptions of a mediating effect are met in both models; the paths from the exposure to the mediator and from the mediator to the outcome variables were statistically significant in both models and the effect sizes of the exposures on the dependent variables became smaller after including education as a mediator to the models. There was a marginally significant indirect effect (t = 1.84, p = 0.06) on estimation of prevalence of SV through additional education. Additional education could account for 15% of the effect of personal SV exposure on accurate

**Table 2**
Received and required education about SV comparing midwives with and without a self-reported history of SV (N = 288).

| | Total (N = 288) | No self-reported SV (N = 148) (n(%)) | Self-reported SV (N = 140) (n(%)) | Crude OR (95% CI) | p | OR adjusted for age (95% CI) | p |
|---|---|---|---|---|---|---|---|
| Received additional education about SV after graduation | 107 (37.2) | 43 (29.1) | 64 (45.7) | 2.06 (1.26–3.34) | 0.003 | 2.05 (1.23–3.44) | 0.006 |
| Requires additional education about SV | 239 (83) | 130 (87.8) | 109 (77.9) | 0.49 (0.26–0.92) | 0.024 | 0.50 (0.27–0.96) | 0.037 |

**Table 3**
Addressing SV in practice and estimation of prevalence comparing midwives with and without self-reported history of SV (N = 288).

| | Total (N = 288) | No self-reported SV (N = 148) (n(%)) | Self-reported SV (N = 140) (n(%)) | Crude OR (95% CI) | p | OR adjusted for age (95% CI) | p |
|---|---|---|---|---|---|---|---|
| Never addresses SV | 4 (1.4) | 2 (1.4) | 2 (1.4) | [a] | | [a] | |
| Only addresses SV when client brings up the subject | 12 (4.2) | 7 (4.7) | 5 (3.6) | 0.92 (0.33–2.61) | 0.88 | 0.96 (0.34–2.73) | 0.94 |
| Only addresses SV when suspicion | 39 (13.5) | 19 (12.8) | 20 (14.3) | 1.13 (0.58–2.22) | 0.72 | 1.11 (0.56–2.18) | 0.77 |
| Screening part of routine care | 200 (69.4) | 103 (69.6) | 97 (69.3) | 0.99 (0.60–1.63) .9 | 0.96 | 0.99 (0.60–1.64) | 0.98 |
| Accurate estimate of prevalence SV | 158 (54.9) | 60 (40.5) | 98 (70.0) | 3.42 (2.10–5.57) | 0.000 | 3.42 (2.10–5.57) | 0.000 |

[a] Analysis not possible due to low cell count.

**Table 4**
Importance, confidence and barriers regarding care for women with a history of SV comparing midwives with and without a self-reported history of SV (N = 288).

| | Total (N = 288) | No self- reported SV (N = 148) (n(%)) | Self-reported SV (N = 140) (n(%)) | Crude OR (95% CI) | p | OR adjusted for age (95% CI) | p |
|---|---|---|---|---|---|---|---|
| Importance | | | | | | | |
| It is important to be aware of a woman's history of sexual violence in maternity care | 271 (94.1) | 144 (97.3) | 127 (90.7) | [a] | | [a] | |
| Confidence | | | | | | | |
| I feel confident to bring up the subject of sexual violence with my clients | 224 (77.8) | 111 (75) | 113 (80.7) | 1.40 (0.80–2.45) | 0.24 | 1.34 (0.76–2.37) | 0.32 |
| I feel confident to identify a history of sexual violence in my clients | 176 (61.1) | 79 (53.4) | 97 (69.3) | 1.97 (1.22–3.19) | 0.006 | 1.94 (1.19–3.15) | 0.008 |
| I know what to do when a client discloses a history of sexual violence | 237 (82.3) | 115 (77.7) | 122 (87.1) | 1.95 (1.04–3.65) | 0.04 | 1.89 (0.99–3.60) | 0.06 |
| Barriers | | | | | | | |
| I have enough time to discuss sexual violence with my clients | 159 (55.2) | 81 (54.7) | 78 (55.7) | 1.04 (0.65–1.66) | 0.87 | 0.98 (0.61–1.59) | 0.94 |
| I feel uncomfortable to address sexual violence with my client | 84 (29.2) | 48 (32.4) | 36 (25.7) | 0.72 (0.43–1.20) | 0.21 | 0.75 (0.44–1.25) | 0.27 |

[a] Analysis not possible due to low cell count.

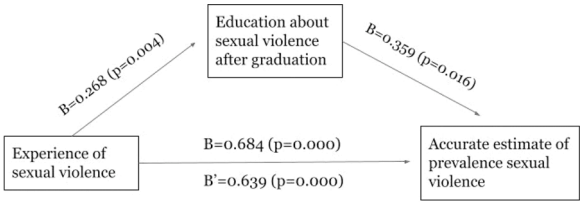


**Fig. 2.** Mediation model for personal experience of sexual violence on estimation of prevalence of sexual violence through additional education after graduation.

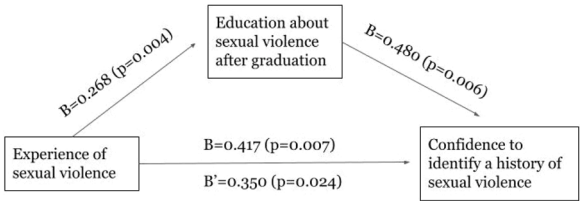


**Fig. 3.** Mediation model for personal experience of sexual violence on confidence to identify sexual violence in clients through additional education after graduation.

estimation of prevalence of SV. Likewise, there was a marginally significant indirect effect (t = 1.98, p = 0.047) on confidence to identify SV through additional education. Additional education could account for 37% of the effect of personal SV exposure on confidence to identify SV.

## 4. Discussion

This study addresses a gap in the existing literature by exploring whether midwives with a personal history of SV differ in their professional approach towards SV from their colleagues without a personal SV experience. As was hypothesized, the findings showed that midwives with an SV history had received more post-graduate education about SV, were more likely to estimate the prevalence of SV correctly and were more confident in identifying a history of SV in their clients. We found no difference however in the need for future education, confidence to bring up SV and knowing what to do after a disclosure, screening practices or experiencing time or discomfort barriers. The positive differences found were in line with previous research examining healthcare providers' personal violence experiences and professional practice [27, 28].

Since midwives with a personal SV history had a higher uptake of post-graduate education it was hypothesized that post-graduate education may be a mediating factor between personal SV experience and the two other significant differences; accurate estimation of prevalence and confidence to identify SV in a client. For both estimation of prevalence and confidence to identify SV we found a marginally significant partial indirect effect of a midwives' experience of SV through post-graduate education. However, in these models, most of the effect was direct from personal SV experience, reconfirming the hypotheses made at the onset of this paper. Furthermore, after controlling for country of practice, the differences between midwives with and without an SV history remained similar, indicating a difference that transcends cultural context.

Since the differences between midwives with and without an SV history in accurate estimation of prevalence and confidence to identify SV remained robust in the different models, SV experience can be considered an independent factor in professional approach towards SV. Lerner's just-world hypothesis [32] explains that people are inclined to

believe that the world is just and safe and will therefore generally underestimate injustice happening to good people, while experiencing injustice may change this perspective. Consequently, going through the experience of SV can lead to a more realistic view of the injustice of SV also happening to other women on a regrettably large scale. Similarly, feminist standpoint theory as coined by Harding [33], recognizes that knowledge is dependent on a person's subjective perspective. Midwives with a personal SV history are aware that a high number of their clients have experienced SV in the past. A heightened awareness of the high prevalence of SV may contribute to trauma-informed practice that considers the needs of potentially traumatized women, even when there was no disclosure [34].

Almost half of the midwives in our study disclosed lifetime SV, in line with research that showed sexual abuse and DV rates in midwives, nurses and general practitioners that are at least similar to the general population or higher [27,29]. Midwives with a personal SV history might be reassured by the findings of our study. A central aspect of recovering from an SV experience is 'reevaluating the self'. As Draucker et al. [35] explain, SV victims can experience low self-worth and self-confidence and may feel damaged by the experience. They seek to repair these feelings as part of the recovery process. A common strategy to restore a sense of self is to acquire skills such as work or educational competencies. Another part of recovering is 'cognitive restructuring' to improve self-worth and self-confidence and reduce feelings of being damaged. The results of this study may reassure midwives that they have a similar approach to SV professionally as their colleagues without an SV experience. Moreover, they are more aware of the problem, acquire work competencies through education and feel more confident to identify SV, confirming their worth as midwives and their potential added value to clients with an SV experience.

Midwives with post-graduate education about SV were also more aware of the prevalence of SV and were more confident to identify SV, underlining the importance of education about gender-based violence in healthcare professionals' education [28]. In this sample, 83% of the midwives required additional education about SV in the future and educational programmes should be available to any midwife who wishes to inform herself better about SV. Furthermore, education should include the different perspectives of midwives with and without an SV history and stimulate reflection and discussion on the basis of the current and previous research. Such reflections are ultimately likely to lead to a more trauma-informed work environment for midwives and maternity care for women alike.

Our study has some limitations. First, considering the method of data collection and the inclusion of midwives from a high number of countries, the response rate is low. For most countries in the sample, the number of participating midwives was less than twenty. Although the results remained robust for the sensitivity analysis with the five largest sample countries, country differences may apply for other countries with a more distinct practice. Secondly, the method of data collection may have caused selection bias. Midwives with a personal history of SV or with a special interest in the topic may be overrepresented in our research as they could have been more likely to respond to a survey about SV than midwives without such a history. Nevertheless, these overrepresentations are not expected to influence the differences between midwives with or without a personal history of SV. Furthermore, the mediation models were tested with nonexperimental data and can therefore not conclude a causal mediation effect of education on the relationship between SV and estimation of prevalence or confidence but only point to the possibility of an indirect effect. Lastly, we used a broad definition of SV which encompasses a wide range of SV experiences. Some of these experiences may be considered as SV by some women but not by others. Nevertheless, we chose a broad definition deliberately, because we believe it is up to the participant to indicate whether they have experienced SV. This means that there may be a more specific characteristic of SV that is defining for professional approach, such as the age when the SV experience happened or whether professional support was given to deal with the SV experience. This could not be established in this study.

To our knowledge, our study was the first to examine differences in professional approach towards SV between midwives with and without an SV history. Some differences were found and point to shared SV trauma within midwifery as a subject of interest for future research. Future research should be conducted in distinct countries, including low resource countries, to investigate whether different cultural contexts lead to different results. To further examine the relationships between midwives' SV experience, professional approach and education, an educational intervention study should be conducted to establish any causal or mediating relationships. Furthermore, future research on midwives' personal SV experiences should explore differences in SV experience and support and whether these factors relate differently to professional approach. Individual midwives may need additional support to cope with their SV history, as described in qualitative research [26]. Future research should assess what type of support midwives with a personal SV history may need.

## 5. Conclusion

Midwives with a personal SV experience were more likely to estimate the prevalence of SV correctly and felt more confident to identify SV in their clients than midwives without an SV experience. The midwives' unique standpoint as fellow SV survivors may make them more aware of the extent of the problem. Additionally, midwives with an SV history received more education about SV after graduation. A first exploration of the relationships between these factors showed that education may partially mediate the effects of SV experience. Midwives with a personal SV experience may be reassured that they have a similar professional approach to SV as their colleagues and have a unique perspective on SV that can contribute to trauma-informed care.

## Author agreement

This article is our original work and has not received prior publication nor is under consideration for publication elsewhere. All authors have seen and approved the manuscript. We abide by the copyright terms and conditions of Elsevier and the Australian College of Midwives.

## Conflict of interest

None declared.

## Funding

None declared.

## Ethical statement

On May 2nd 2019, the Medical Ethics Committee of the VU University Medical Centre Amsterdam (FWA00017598) stated in a letter that the Medical Research Involving Human Subjects Act (WMO) does not apply to our study (2019.218) and the study was exempt from official approval by the committee. Midwives consented to participate in the research by completing the survey, as described in the introduction to the survey. They were able to stop the survey at any time, and answers were not linked to any personal information such as IP address or email address.

## Data statement

The data are available on request from the corresponding author, HdK. The data are not publicly available due to the sensitive nature of the topic and personal disclosure of trauma.

## CRediT authorship contribution statement

**Hannah W. de Klerk:** Conceptualization, Data curation, Project administration, Investigation, Methodology, Formal analysis, Writing - original draft. **Janneke T. Gitsels:** Investigation, Supervision, Writing - review & editing, Validation. **Ank de Jonge:** Methodology, Supervision, Writing - review & editing.

## Acknowledgements

We would like to thank the midwives who participated in our study and are especially grateful that so many were willing to disclose their history of sexual violence, which we know can be unsettling, in spite of taking part anonymously. Furthermore, we would like to thank Prof. Dr. Toine Lagro and Dr. Elsa Montgomery for the expertise they shared with us to help set up our study.

## Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.wombi.2021.12.004.

## References

[1] R. Jina, L.S. Thomas, Health consequences of sexual violence against women, Best Pract. Res. Clin. Obstet. Gynaecol. 27 (1) (2013) 15–26.
[2] S. de Haas, W. van Berlo, F. Bakker, I. Vanwesenbeeck, Prevalence and characteristics of sexual violence in the Netherlands, the risk of revictimization and pregnancy: results from a national population survey, Violence Vict. 27 (4) (2012) 592–608.
[3] T. Andersson, G. Heimer, S. Lucas, Violence and Health in Sweden: A National Prevalence Study on Exposure to Violence among Women and Men and its Association to Health [Cited 2021 January 23]. 94p. Available from:, National Centre for Knowledge on Men's Violence Against Women, Uppsala, 2014 https://kunskapsbanken.nck.uu.se/nckkb/nck/publik/fil/visa/464/Violence_and_health.pdf.
[4] K.C. Basile, S.G. Smith, M.D. Breiding, M.C. Black, R. Mahendra, Sexual Violence Surveillance: Uniform Definitions and Recommended Data Elements. Version 2.0 [Cited 2021 January 23]. 127p. Available from:, National Center for Injury Prevention and Control, Atlanta, 2014 https://www.cdc.gov/violenceprevention/pdf/sv_surveillance_definitionsl-2009-a.pdf.
[5] H. de Graaf, C. Wijsen, Sexual Health in The Netherlands 2017 [Cited 2021 January 23]. 107p. Dutch. Available from:, Rutgers, Utrecht, 2017 https://www.rutgers.nl/sites/rutgersnl/files/PDF-Onderzoek/Seksuele_Gezondheid_in_NL_2017_23012018-aangepast.pdf.
[6] J.T. Gitsels – van der Wal, L.A. Gitsels, A. Hooker, B. van Weert, L. Martin, E. I. Feijen – de Jong, Determinants and underlying causes of frequent attendance in midwife-led care: an exploratory cross-sectional study, BMC Pregnancy Childbirth 19 (1) (2019) 203.
[7] L. Henriksen, B. Schei, M. Lukasse, Lifetime sexual violence and childbirth expectations – a Norwegian population based cohort study, Midwifery 36 (May) (2016) 14–20.
[8] M. Lukasse, S. Vangen, P. Øian, B. Schei, Fear of childbirth, women's preference for cesarean section and childhood abuse: a longitudinal study: fear of childbirth and childhood abuse, Acta Obstet. Gynecol. Scand. 90 (January (1)) (2011) 33–40.
[9] K.R. Choi, J.S. Seng, Predisposing and precipitating factors for dissociation during labor in a cohort study of posttraumatic stress disorder and childbearing outcomes, J. Midwifery Womens Health 61 (1) (2016) 68–76.
[10] B. Leeners, G. Görres, E. Block, M.P. Hengartner, Birth experiences in adult women with a history of childhood sexual abuse, J. Psychosom. Res. 83 (April) (2016) 27–32.
[11] R. Gottfried, R. Lev-Wiesel, M. Hallak, N. Lang-Franco, Inter-relationships between sexual abuse, female sexual function and childbirth, Midwifery 31 (November (11)) (2015) 1087–1095.
[12] R. Lev-Wiesel, S. Daphna-Tekoah, M. Hallak, Childhood sexual abuse as a predictor of birth-related posttraumatic stress and postpartum posttraumatic stress, Child Abuse Negl. 33 (12) (2009) 877–887.
[13] N. Verreault, D. Da Costa, A. Marchand, K. Ireland, H. Banack, M. Dritsa, S. Khalifé, PTSD following childbirth: a prospective study of incidence and risk factors in Canadian women, J. Psychosom. Res. 73 (October (4)) (2012) 257–263.
[14] B. Leeners, R. Stiller, E. Block, G. Görres, W. Rath, Pregnancy complications in women with childhood sexual abuse experiences, J. Psychosom. Res. 69 (November (5)) (2010) 503–510.
[15] L. Henriksen, S. Vangen, B. Schei, M. Lukasse, Sexual violence and antenatal hospitalization, Birth 40 (December (4)) (2013) 281–288.
[16] A. Gisladottir, M.A. Luque-Fernandez, B.L. Harlow, B. Gudmundsdottir, E. Jonsdottir, R.I. Bjarnadottir, A. Hauksdottir, T. Aspelund, S. Cnattingius, I. A. Valdimarsdottir, Obstetric outcomes of mothers previously exposed to sexual violence, PLoS One 11 (March (3)) (2016) e0150726.
[17] K. Stenson, G. Heimer, C. Lundh, M.-L. Nordström, H. Saarinen, A. Wenker, Lifetime prevalence of sexual abuse in a Swedish pregnant population: lifetime prevalence of sexual abuse, Acta Obstet. Gynecol. Scand. 82 (June (6)) (2003) 529–536.
[18] L. Henriksen, B. Schei, S. Vangen, M. Lukasse, Sexual violence and mode of delivery: a population-based cohort study, BJOG Int. J. Obstet. Gynaecol. 121 (September (10)) (2014) 1237–1244.
[19] H. Nerum, L. Halvorsen, B. Straume, T. Sørlie, P. Øian, Different labour outcomes in primiparous women that have been subjected to childhood sexual abuse or rape in adulthood: a case–control study in a clinical cohort, BJOG Int. J. Obstet. Gynaecol. 120 (March (4)) (2013) 487–495.
[20] E. Montgomery, Feeling safe: a metasynthesis of the maternity care needs of women who were sexually abused in childhood, Birth 40 (June (2)) (2013) 88–95.
[21] L. Halvorsen, H. Nerum, P. Øian, T. Sørlie, Giving birth with rape in one's past: a qualitative study, Birth 40 (September (3)) (2013) 182–191.
[22] J.A. LoGiudice, A systematic literature review of the childbearing cycle as experienced by survivors of sexual abuse, Nurs. Womens Health 20 (December (6)) (2016) 582–594.
[23] K.B. Jackson, D. Fraser, A study exploring UK midwives' knowledge and attitudes towards caring for women who have been sexually abused, Midwifery 25 (June (3)) (2009) 253–263.
[24] A. Byers-Heinlein, A. McCallum, E.S. Byers, C. Pukall, Sexual health-related training of Canadian midwives and its association with practice outcome, Women Birth 33 (April (2)) (2020) e199–e207.
[25] C. Bell, E. Robinson, Shared trauma in counseling: information and implications for counselors, J. Ment. Health Couns. 35 (3) (2013) 310–323.
[26] L. Garrett, CSA and midwives: the impact on midwives' practice. Survivors of Childhood Sexual Abuse and Midwifery Practice: CSA, Birth and Powerlessness, Routledge, Londen, 2011, pp. 113–123.
[27] L.M. Candib, J.A. Savageau, L. Weinreb, G. Reed, Inquiring into our past: when the doctor is a survivor of abuse, Fam. Med. 44 (June (6)) (2012) 416–424.
[28] E. McLindon, C. Humphreys, K. Hegarty, Is a clinician's personal history of domestic violence associated with their clinical care of patients: a cross-sectional study, BMJ Open 9 (2019), e029276.
[29] E. McLindon, C. Humphreys, K. Hegarty, "It happens to clinicians too": an Australian prevalence study of intimate partner and family violence against health professionals, BMC Womens Health 18 (June) (2018) 113.
[30] A. Lazenbatt, J. Taylor, L. Cree, A healthy settings framework: an evaluation and comparison of midwives' responses to addressing domestic violence, Midwifery 25 (December (6)) (2009) 622–636.
[31] L. Valeri, T.J. Vanderweele, Mediation analysis allowing for exposure-mediator interactions and causal interpretation: theoretical assumptions and implementation with SAS and SPSS macros, Psychol. Methods 18 (June (2)) (2013) 137–150.
[32] M.J. Lerner, The Belief in a Just World: A Fundamental Delusion, 1st ed., Springer, Boston, 1980.
[33] S.G. Harding, The Feminist Standpoint Theory Reader: Intellectual and Political Controversies, Routledge, London, 2003.
[34] M. Sperlich, J.S. Seng, Y. Li, J. Taylor, C. Bradbury-Jones, Integrating trauma-informed care into maternity care practice: conceptual and practical issues, J. Midwifery Womens Health 62 (6) (2017) 661–672.
[35] C.B. Draucker, D.S. Martsolf, R. Ross, C.B. Cook, A.W. Stidham, P. Mweemba, The essence of healing from sexual violence: a qualitative metasynthesis, Res. Nurs. Health 32 (August (4)) (2009) 366–378.