Prevalence of Obstetric Violence in Europe: Exploring Associations with Trust, and Care-Seeking Intention

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Abstract

Introduction: Obstetric violence describes the mistreatment of mothers during childbirth and can have severe adverse consequences such as postnatal post-traumatic stress disorder, postpartum depression, and parenting impairment. In prior research, the geographical focus was set on low- and middle-income, non-European countries, while the prevalence and consequences of obstetric violence in high-income, European, countries have not been extensively explored yet.

Objectives: Within the current study the prevalence rate of obstetric violence in Germany and the Netherlands was explored. It was investigated whether obstetric violence might have consequences for mother and child regarding trust in conventional medical care, and intention to seek care, in relation to time since obstetric mistreatment.

Methods: The study was a cross-sectional survey design. Participants were 422 women, recruited via social media, convenience sampling, and snowball sampling. A large majority of participants were German. Obstetric violence and its subtypes were measured with a preliminary scale developed by the author which was tailored to the context of high-income countries. Common scales used were the Trust in Physician Scale (Anderson & Dedrick, 1990), the Medical Mistrust Index (Laveist et al., 2009), and a reformulated version of the Mental Health Seeking Intention Scale (Hammer & Spiker, 2018). Descriptive statistics, mediation models, and moderated mediation models were used to investigate prevalence and hypothesized associations.

Results: The results illustrate that 76,3% of the general sample experienced obstetric violence during birth. Additionally, the most prevalent types of obstetric violence in Germany were 'poor rapport between women and providers' and 'failure to meet professional standards of care'. It was found that experiencing obstetric violence decreases trust in medical care and willingness to seek medical care, concerning both: general medical care and childbirth-related medical care. Time since obstetric mistreatment did not influence these effects but intensified the negative association of obstetric violence and willingness to seek general medical care.

Conclusions: Obstetric violence was shown to have adverse consequences for not only the women who experience it but their children as well via influencing trust and care-seeking intention. These adverse consequences appear to persist over time and can intensify further the more time passes. The current study highlights the need for creating awareness about obstetric violence in high-income, European countries in general and Germany in particular as it appears to be a pressing and relevant societal problem that requires further investigation and solutions.

Keywords: obstetric violence, violence against women, intention to seek care, trust in medical care, long-term trauma, Europe

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Giving birth is a unique experience in a woman's life. Notably, during birth, the mother is in a vulnerable position and dependent on the medical staff to take care of her needs to ensure that the birth will go well. However, births can become traumatic for women if the medical staff acts disrespectful and abusive towards the mothers during birth (Beck, 2018). This is known as obstetric violence (OV), which can make women feel belittled, humiliated, and dehumanized (Bohren et al., 2015) as is reflected in the following statements of women who experienced OV:

> "About 20 male students came in the room without my permission […]while I was on all fours I was trying to cover my bottom holding the gown and a nurse took my hands from the gown. So I felt raped and my dignity was taken from me." (Beck, 2018,p.101)

> "[…]she grabbed my cervix and pinched it. She would not let go until I consented to letting her break my water. I was in tears from the pain, screaming, begging, and sobbing for her to let go and get her hand out of my vagina. She would not let go until I consented, which I finally did." (Reed et al., 2017, p.6)

> […] She (the midwife) was abusive and downright mean. I was refused food and water for 26 hours. I wasn't allowed to move out of bed to walk around. I felt like I lost my autonomy over my own body. […]These professionals broke my spirit." (Vedam et al., 2019, p.9)

Notably, the highest prevalence rates of OV appear to be present in low-income countries. A recent study reviewed prevalence from studies with diverging geographical focus (Perrotte et al., 2020). The highest overall prevalence rate within this review had Ethiopia with 78%. When comparing literature highest prevalence for OV is present in Pakistan with 99% and a district in Nigeria with 98% (Azhar et al., 2018; Okafor et al., 2015). Generally, healthcare systems in high-income countries are considered well-funded, functioning, and adequate in standards of care (Zanconato et al., 2006). Thus, the assumption that OV might not be as prevalent in high-income countries appears logical at first glance which could explain the extensive focus on low-income countries in prior literature.

However, research shows that developed and high-income countries are in no way immune to OV. In fact, OV is a global issue (Jewkes & Penn-Kekana, 2015; Miller & Lalonde, 2015; Perrotte et al., 2020; Sadler et al., 2016; Shakibazadeh et al., 2018). In a recent Polish study 81% of women experienced at least one abuse through medical staff during birth (Baranowska et al., 2019). Moreover, a study in Spain found the percentage of OV to be 67% (Martínez-Galiano et al., 2020). In the United Kingdom, 34% fulfilled the requirements for a traumatic birth many of which characteristics overlap with OV (Bohren et al., 2015; Soet et al., 2003). Last, in Switzerland, 26% of mothers are informally

coerced into medical procedures during childbirth (Oelhafen et al., 2021). Additionally, various self-help groups for traumatic birth exist in Germany and the Netherlands (GerechteGeburt, 2014; StichtingBevallingstrauma, 2015). The existence of such groups points into the direction of OV being an issue in these countries. Overall, this shows that OV is a worldwide issue and may be present in high-income countries such as Germany and the Netherlands as well.

Prior research shows an imbalance on three levels that this study aims to balance out. First, as described, the majority of prior studies sets focus on low- and middle-income countries while high-income countries are seldomly investigated (Amroussia et al., 2017; Azhar et al., 2018; Beck, 2018; Bhattacharya & Sundari Ravindran, 2018; Bohren et al., 2019; Murray De Lopez, 2018; Okafor et al., 2015; Sando et al., 2016; Sheferaw et al., 2016; Silveira et al., 2019). Additionally, the focus of prior research lies on non-European countries (Miller et al., 2002; Murray De Lopez, 2018; Okafor et al., 2015; Perera et al., 2018; Perrotte et al., 2020; Sando et al., 2016; Sheferaw et al., 2016). Last, a majority of studies focus on qualitative assessment rather than on quantitative assessment of OV (Amroussia et al., 2017; Ayers, 2007; Baker et al., 2005; Beck, 2018; Chalmers & Omer-Hashi, 2002; Degni et al., 2014). It can be concluded that there exists a gap in literature regarding quantitative studies about the prevalence, nature, and impact of OV in European, high-income countries. Therefore, the aim of the current study is to address these gaps in literature by investigating prevalence rates of OV in Germany and the Netherlands and the consequences of this OV.

Regarding these consequences, OV is associated with several adverse psychological outcomes. This includes adverse psychological outcomes for the mother but for the child as well. For example, prior research has shown that OV can decrease the number of children a woman wants to have, negatively influences family relationships, can induce postnatal PTSD and postpartum depression, and thereby create feelings of parenting impairment (Elmir et al., 2010; Gottvall, 2002; James, 2015; Miller & Lalonde, 2015; Muzik et al., 2017; Reed et al., 2017; Silveira et al., 2019). Therefore, understanding and investigating OV is crucial as it can have detrimental consequences for the mothers, the child, and the whole family. Consequences that OV might have on trust in conventional medical care and willingness to seek such care in high-income countries have not been investigated thus far. Although prior research points into the direction of OV, trust, and willingness being associated with each other, few studies have exclusively focussed on potential relations between these factors (Esposito, 1999; Gao et al., 2010; Hall et al., 2001; LoCurto & Berg, 2016; Röösst et al., 2009, Wassihun & Zeleke, 2018). Furthermore, the focus of former research lies on trust and willingness to seek care that is directly childbirth-related while potential associations between OV, trust in care, and care-seeking in a childbirth unrelated context were not yet investigated, which is therefore unique to the current study. A further novel element that distinguishes the current study is the differentiation between willingness to seek care for oneself and willingness to seek care for one's child. Notably, regarding the time since mistreatment, OV has been qualitatively documented to impact women many years later still (Simkin, 1991, 1992). Nevertheless, this aspect of OV has been overlooked since and no quantitative studies have focussed on

how long-lasting the consequences of OV are until now. Thus, investigating OV is relevant because it has severe consequences, and the current study entails multiple novel elements that are required for a thorough scientific investigation of OV.

Different Types of OV

There remains a lack of consensus on operational definitions for mistreatment of women during childbirth (Savage & Castro, 2017). This is reflected in several prominent papers that show diverging definitions (Diaz-Tello, 2016; Freedman & Kruk, 2014; Mena-Tudela et al., 2020; Murray De Lopez, 2018). Nevertheless, various aspects within these definitions emerge throughout the majority of literature regarding the involvement of medical staff, the intention behind abuse, human rights violations, structural violence, and dehumanization. By taking all the scanned literature and prior definitions into account OV within the current study will be defined as the following: "A form of structural, gender-based, normalized violence that is directed exclusively towards mothers and expresses itself in dehumanization, abuse, bullying and coercion through medical staff during birth".

Several categorizations of what behaviour constitutes OV exist, one of which appears to be most recent and utilized in a majority of literature. Namely, a frequently utilized typology of OV behaviours includes physical abuse, verbal abuse, sexual abuse, stigma and discrimination, failure to meet professional standards of care, poor rapport between women and providers, and health system conditions and constraints (Bohren et al., 2015).

To illustrate, the authors of the typology give various examples of how each type of OV expresses itself (Bohren et al., 2015). First, physical abuse entails all physical mistreatment behaviours such as slapping, pinching, gagging, and restraining the woman during delivery. The OV type of verbal abuse describes verbal mistreatment such as threatening, blaming, humiliating or judging the mother. Sexual abuse describes being raped or sexually molested by a health care worker during birth. Discrimination and Stigma entails differential treatment and neglect due to personal characteristics during the stay in the hospital. Failure to meet professional standards of care includes all behaviours of health care staff that are unprofessional and not in line with their care-taking duty, such as refusal to provide pain relief, not asking for consent before performing procedures, breaching confidentiality, neglect, abandonment, and long delays in care. The OV type of poor rapport between women and providers is concerned with dysfunctional communication and treatment, such as the medical staff not informing the mother adequately, mechanical and dehumanized interaction, denying birth position wishes, objectification of mothers, and not allowing a birth companion. Last, the health system conditions and constraints entail all OV behaviours that occur due to care system limitations such as a lack of privacy, a lack of formal complaint procedures, and treatment by unskilled medical staff. Overall, these types portray an extensive overview in which ways OV might express.

Associations with Care-Seeking Intention, Trust, and Time

Potentially, experiencing OV could influence willingness to seek care. Specifically, prior research focused on low-income countries shows that experiencing OV negatively influences future care-seeking behaviours (Bohren et al., 2015). For example, by keeping women from seeking childbirth care in hospitals and instead seeking care in non-conventional birthing facilities or giving birth at home (Esposito, 1999; Gao et al., 2010, Wassihun & Zeleke, 2018). Naturally, OV is a traumatic event that can result in dissatisfaction with care since the woman is not in control and her birth expectation is not met (Ayers, 2007; Goberna-Tricas et al., 2011; Goodman et al., 2004). Such patient dissatisfaction can then predict intention to seek care, whereby a lower satisfaction reduces the intention to seek care (Zoller et al., 2001). Moreover, since OV is a structural issue it can be understood as an institutional betrayal (Jewkes & Penn-Kekana, 2015; Murray De Lopez, 2018; Perrotte et al., 2020). A recent study showed that such institutional betrayal could lead to mothers decreasing their overall utilization of health care (Smith, 2017). Thus, in the current study, it is predicted that experiencing OV will decrease a mother's willingness to seek care from medical staff and health care facilities not solely for childbirth-related issues but also for general medical issues.

Furthermore, researchers argue that institutional and individual betrayal can decrease trust in individual physicians and the whole healthcare system which leads to the assumption of trust being a potential mediator (Klest et al., 2019; Smith, 2017). Experiences of OV might be able to influence the trust mothers have in the health care system and medical staff. Specifically, past medical experiences shape the trust of patients (LoCurto & Berg, 2016). Moreover, studies demonstrate that experiencing OV might decrease the trust women have towards health facilities (Bohren et al., 2015; Rööst et al., 2009). In addition, multiple studies show that prior conflict situations, such as adverse events during maternity care can negatively affect the trust of patients in individual medical staff members and the whole medical profession (Balkrishnan et al., 2003; Hall et al., 2002; Shoemaker & Smith, 2019). This reflects in a qualitative statement taken from a study by Chalmer and Omer-Hashi (2002) in which a victim of OV stated: “I don’t trust doctors and hospitals anymore”.

As this quote illustrates, trust in the medical setting can be directed towards various individual actors such as nurses, doctors, or midwives as well as towards systemic actors such as hospitals, or the overall health care system (Anderson & Dedrick, 1990; Hall et al., 2001; Krajewska-Kułak et al., 2019). However, the different types of individual and systemic trust are strongly associated and shape each other (Hall et al., 2002). In fact, some researchers claim that trust in the medical setting is unidimensional (Hall et al., 2001). By combining prior literature an extensive definition for trust in medical care can be created, which will be used in the current study: “Putting oneself in a risky position where one is dependent on and vulnerable towards physicians, nurses, and the health care system, based on a belief that these parties are reliable, well-meaning and non-harmful” (Anderson & Dedrick, 1990; Bhattacharya et al., 1998; Mayer et al., 1995; Radwin & Alster, 1999; Thom et al., 2011). Thus, in prior studies trust appears to be unidimensional and suggestions about adverse maternity care events shaping

trust into the medical profession are made. Based on this, it can be assumed that experiencing OV decreases trust in care for both: childbirth-related care and general medical care. Additionally, prior studies suggest that this trust in care can influence the willingness to seek care (Hall et al., 2001; Trachtenberg et al., 2005). Therefore, it is expected that experiencing OV decreases trust in care which in turn decreases women's willingness to seek medical care.

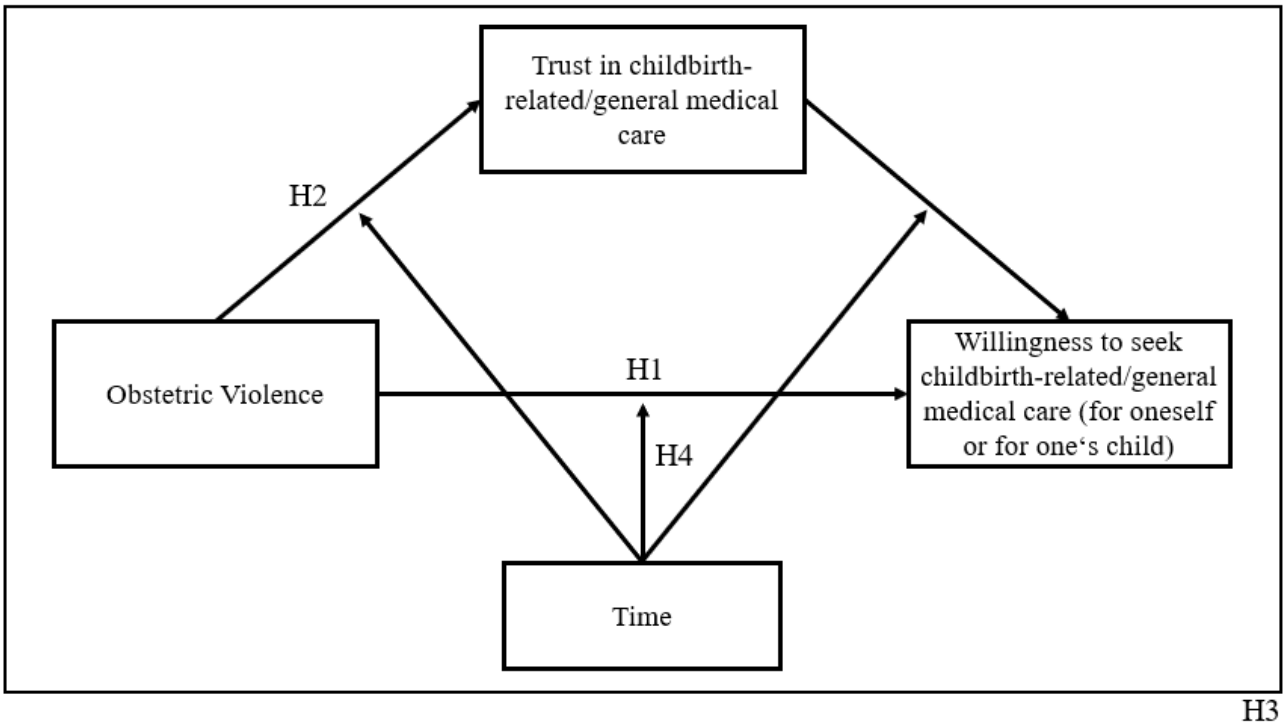
Last, within society, there exists the saying "time heals all wounds". Nevertheless, some studies claim that the experience elicited by a traumatic birth and resulting memories remain constantly vivid over years and that the birth experience leaves a lasting impression on women for decades (Bossano et al., 2017; Simkin, 1991, 1992). Additionally, there are plentiful negative consequences of OV that can persist long-term (Elmir et al., 2010; James, 2015; Miller & Lalonde, 2015; Reed et al., 2017; Silveira et al., 2019). Thus, in the current study, it will be explored whether time influences the hypothesized associations of OV, trust in conventional medical care, and willingness to seek care.

Current Study

Propositions made throughout the introduction show that the prevalence of OV and its subtypes in Germany and the Netherlands has not yet been investigated. Thus, the first aim of the current study is to examine prevalence rates for general OV and for each type of OV: physical abuse, verbal abuse, sexual abuse, discrimination and stigma, failure to meet professional standards of care, poor rapport between women and providers, and health system conditions and constraints (Bohren et al., 2015). To fill the gap in literature the second aim of this study is to investigate the potential associations between OV, trust in conventional medical care, and willingness to seek conventional care for both: childbirth-related care and general medical care. Last, the third aim is to investigate whether the hypothesized associations between OV, trust in care, and willingness to seek care are affected by time. To ensure that these complex questions are adequately addressed different research questions and hypotheses have been created a graphic overview of which is presented in Figure 1.

Figure 1

Graphic Overview of Hypotheses



Question1. What is the prevalence of OV and its subtypes in Germany and the Netherlands?

Hypothesis 1. Experiencing OV decreases the willingness to seek childbirth-related medical care, general medical care for oneself, and general medical care for one's child.

Hypothesis 2. Experiencing OV decreases trust in childbirth-related and trust in general medical care.

Hypothesis 3. Trust in childbirth-related and trust in general medical care mediate the association between experiencing OV and willingness to seek childbirth-related medical care, general medical care for oneself, and general medical care for one's child.

Hypothesis 4. Time as a moderator will be explored.

Methods

Participants

Overall, 600 participants took part in the study. Inclusion criteria for participants were being over 18 years old, have given birth to at least one child in Germany or the Netherlands, finishing the questionnaire, giving informed consent, and passing all attention check items. 178 participants were excluded due to not meeting these inclusion criteria. Thus, the final number of participants was 422. The main methods of recruitment were social media posts, convenience sampling, and snowball sampling. People of many different ages participated (M_{age}= 38.99 years, SD = 7.51, age range: 21-70 years). In terms of nationality, a majority of participants was of German nationality while a comparatively small minority was of Dutch or other nationality. Furthermore, regarding ethnicity, most participants were white, and comparatively few participants were of Black, African American, Asian, or other ethnicity. A majority of the sample considered their gender to be female and one participant identified as agender. All participants had given birth to at least one child ($M_{numofbirth}$= 1.8, SD = 0.81, range: 1-6 births). Of the participants who experienced at least one form of OV 90.5 % of the births had been in a conventional hospital and 1.5 % in a non-conventional birth facility. 24.2 % were unplanned caesarean sections, 7.7 % were planned caesarean sections and 60.1 % percent were vaginal births. Comparatively few participants had been recruited via self-help groups while the majority of participants were recruited via different channels and therefore belonged to the general sample. The exact demographic characteristics are portrayed in the following table (Table 1).

Table 1

Overview of Demographic Characteristics with Total Number of Participants (n) in Percent (%)

Characteristic	n	%
Nationality		
German	400	94.8
Dutch	10	2.4
Other	12	2.8
Ethnicity		
White	414	98.1
Black or African American	2	.5
Asian	1	.2
Other	1	.2
Prefer not to say	4	.9
Gender		
Female	421	99.8
Other	1	.2
Number of Births		
One	151	35.8
Two	197	46.7
Three	60	14.7
Four	12	2.8
Five	1	.2
Six	1	.2
Self-help group Membership		
Yes	16	3.8
No	404	96

Design and Procedure

To begin, the study was approved by the Behavioural Ethics Committee of the University of Twente. The questionnaire was created in Qualtrics and published on different social media websites including Twitter, Instagram, WhatsApp, Facebook, Reddit, and LinkedIn. Additionally, participants were recruited via convenience and snowball sampling by addressing mothers in proximity and asking them to forward the questionnaire to their friends and family to participate as well. A poster with the study access information was created (Appendix A). Eight of these posters were hung in the waiting rooms of gynaecologists and paediatrician offices in two German towns. Additionally, the questionnaire was put on the Sona platform of the University of Twente. This way, mothers at the university could participate in the study, for which they gained 0.25 SONA credits. In addition, the questionnaire was sent to self-help groups via mail with the request to distribute it to their members. Self-help groups shared the questionnaire with their members on their preferred channels. Overall, data collection lasted from the 20th of March until the 9th of April. The approximate duration of the survey was ten minutes. Due to lower English proficiency in the senior population and the intent to reach as many women as possible, the original English questionnaire was made available in German as well.

First entering the survey, the participants received a trigger warning about the nature of the study and were able to give their informed consent. Notably, links to a counselling hotline and further information were already provided in case of the participant dropping out due to reactivated trauma before finishing the questionnaire. After the consent page, questions about general demographic information such as age, nationality, number of children, having given birth in a hospital, and membership in a self-help group for OV or traumatic birth were posed to the participants. Afterwards, participants answered questions about the level of OV they had experienced during any of their births. Following, the participants who had experienced any of the OV behaviours answered how much time had passed since their last experience with OV and for what type of births the OV was present. Participants who did not experience any OV were immediately directed to the questions about trust in care. For the trust questions, all participants gave answers about their trust in childbirth-related medical care and general medical care. Last, the participants were asked about their willingness to seek medical care for childbirth-related and general medical concerns in conventional facilities. Due to the nature of the study, links to a counselling hotline and contact data of self-help groups for OV were offered at the end of the study once more to address potential resurfacing negative birth memories and trauma. The full questionnaire is shown in the appendix (Appendix B).

Materials

The main materials that were utilized within this study were a self-devised Obstetric Violence Scale (OV-scale) mainly based on Bohren et al. (2015), a reformulated version of the Mental Health Seeking Intention Scale (MHSIS) to measure the willingness to seek care (Hammer & Spiker, 2018), and two general trust scales which were distinct due to the care facilities they were directed towards:

childbirth-related care facilities and general medical care facilities. Additionally, a single item for assessing the time since obstetric mistreatment was included. All corresponding items and scales with the respective scoring are listed in detail in the appendix (Appendix C).

Obstetric Violence Scale (OV-scale)

A scale for measuring the level of OV that participants experienced was developed based on the scanned literature. The final OV-scale consisted of 22 items. The answer to the items was polar in the sense that the participants could either answer 'yes' if they experienced the OV item or 'no' if they did not experience it. By assigning 'no' a value of zero and 'yes' a value of one, a sum score for experienced OV was created. Thereby, a higher score indicated a higher level of experienced OV. Since a prior study measured the perception of OV on a continuous scale this was deemed fitting for the current study as well (Mena-Tudela et al., 2020). Subscales for assessing the prevalence of the different types of OV were calculated the same way by solely including the subscale that corresponds to a certain type of OV and summing the respective items to receive a sum score.

The main source for the items of this OV-scale was a frequently cited global systematic review about mistreatment during childbirth (Bohren et al., 2015). Specifically, selected second-order categories from this prior study such as "lack of supportive care" were utilized by transforming them into items. For example, in this case, the developed item was: "During my birth, medical staff showed a lack of supportive care". Notably, the global review contains many studies from countries that did not match the European geographical focus of the current study. Thus, themes corresponding to the types of OV were solely included if the confidence in the evidence was high or moderate and there was either data from all geographical regions or solely from high-income countries for the specific theme. At least one item per theme was included to offer complete coverage of OV behaviours.

Some additional themes were included despite not fulfilling these inclusion criteria if they were explicitly or implicitly mentioned in other studies with a high-income country or European focus. For example, Bohren et al. (2015) did not find physical restraints to be part of OV in high-income countries while other researchers listed that physical fixation was performed on mothers in Poland (Baranowska et al., 2019). Notably, the scientific wording from the global systematic review was deemed too abstract to be understood with ease by participants. Thus, qualitative literature was utilized to enrich the items with examples and less scientific wording to be comprehensive for participants (Baranowska et al., 2019; Beck, 2018; Vedam et al., 2017, 2019). Overall, the items correspond to the seven types of OV (Bohren et al., 2015): physical abuse, verbal abuse, sexual abuse, discrimination and stigma, failure to meet professional standards of care, poor rapport between women and providers, and health system conditions and constraints. An exploratory factor analysis was performed for the self-constructed OV-scale to assess whether the scale adequately measured the construct of OV. The OV-scale items were suitable for factor analysis as the Kaiser-Meyer-Olkin measure for sampling adequacy was .85 and Bartlett's test of sphericity was significant ($\chi^2(1960.42) = 231$, $p < .001$). The principal axis factoring

extraction method and an oblimin (oblique) rotation were utilized. The created OV-scale showed a seven-factor solution which explained 57,81% of the variance and showed good reliability (n = 22, *a* = .84). An overview of factor loadings can be found in the appendix (Appendix D) and all items are presented in Table 2.

Table 2

Items of the Obstetric Violence Scale in Relation to Type and Item Number

Subscale	No.	Item
Physical Abuse	1	Physical force was used against you during birth (for example: poking, aggressive physical contact and/or other)
	2	Medical staff physically restrained you during birth (for example: you were tied to the delivery bed and/or other)
Verbal Abuse	3	The medical staff used harsh and/or rude language when interacting with you (for example: shouting, scolding and/or other)
	4	You were threatened in any form during childbirth (for example: threatened to withhold treatment, threatened to take your baby away, threatened to induce pain and/or other)
	5	The medical staff blamed you for poor health outcomes of your newborn.
	6	The medical staff mocked you (for example: laughing at you, joking about your pain, and/or other).
Sexual Abuse	7	The medical staff sexually abused and/or raped you during childbirth (for example: penetrating you with an object without your consent, being molested by medical staff, etc.)
Stigma and Discrimina-tion	8	You were discriminated against because some of your personal attributes (for example: ethnicity, age, religion, nationality, socioeconomic status and/or other)
Failure to meet professional standards of care	9	Some examinations and procedures were performed on you without you giving consent.
	10	Some examinations and procedures were performed on you despite you saying no.
	11	You were refused pain relief medication.
	12	Medical staff ignored you, refused your requests for help or failed to respond to requests in a reasonable amount of time.
Poor rapport between women and providers	13	During delivery health care personal did not give adequate information, explanations, and reasons about what procedures would be performed on you in a comprehensible way so that you did not feel adequately informed at all times.
	14	You were denied the company of your preferred birth companion during delivery (e. g. husband, friend, family member, etc.)
	15	You were not allowed to give birth in your preferred position solely because the medical staff did not prefer it.
	16	There was a lack of supportive care from medical staff.
	17	The medical staff did not respect your autonomy and right to self-determination.
	18	The medical staff pressured you to agree to interventions that you did not want.
	19	There were language and interpretation issues between you and the medical staff.
Health System Conditions/ Constraints	20	Some of the medical staff that treated you were not skilled and/or not qualified to do so.
	21	Your physical privacy was violated (for example being uncovered, having no curtain or blanket, or having people in the delivery room without your consent).
	22	You did not feel save to express your opinion and concerns throughout the childbirth.

Physical Abuse. This OV type is concerned with all actions of medical staff that fall under physical mistreatments, such as using force and physically incapacitating the mother. The first two items were concerned with such behaviour. The examples for item 1 were derived from prior studies (Baranowska et al., 2019; Vedam et al., 2019). Due to being a two-item subscale, the reliability of this scale was assessed with a bivariate Pearson's correlation. The correlation coefficient indicates a good discrimination ($r = .30$, $p < .001$).

Verbal Abuse. Item 3 to 6 are concerned with verbal abuse, such as scolding, mocking, or threatening the mother verbally. The wording of Vedam et al. (2019) was used to offer examples for items 3 and 4. Notably, item 6 concerning mocking and joking about the mothers' pain was not included in the typology of the global review but was added due to the categorization of Bowser & Hill (2010) and enriched by the wordings of two other studies (Baranowska et al., 2019; Beck, 2018). The reliability of this subscale was questionable ($n = 4$, $a = .64$).

Sexual Abuse. For reasons of theme completeness solely one item for sexual abuse during childbirth was included although no sufficient evidence for sexual abuse in high-income countries was found (Bohren et al., 2015). No reliability coefficient can be determined as one-item reliability cannot be assessed without test-retest reliability.

Discrimination and Stigma. Discrimination during birth based on ethnicity, nationality and religion was present in all investigated countries while other forms of discrimination were not prevalent in high-income countries (Bohren et al., 2015). Thus, item 8 was formulated in such a way that it assessed discrimination based on personal characteristics. The wording was inspired by Sheferaw et al. (2016), who investigated discrimination-free treatment in maternity care and achieved a factor loading of .82 with this wording. Once more, no reliability coefficient can be determined as one-item reliability cannot be assessed without test-retest reliability.

Failure to Meet Professional Standards of Care. Item 9 to 12 were concerned with shortcomings of medical staff in terms of professionalism in caring for the mothers. According to Bohren et al. (2015), this includes disrespecting consent. For the current study, a further distinction was made between not giving explicit consent and actively protesting against procedures. For example, item 9 reads: "Some examinations and procedures were performed on me without me giving consent" while item 10 states: "Some examinations and procedures were performed despite me saying no". Neglect and abandonment were assessed with item 12, derived from a prior study (Vedam et al., 2019). The reliability of this subscale was poor ($n = 4$, $a = .55$).

Poor Rapport between Women and Providers. This theme contained most items that might be of relevance to this study. Namely, items 13 to 19 were concerned with issues due to lacking consensus between mothers and medical staff. All items besides items 13, 17 and 18 were solely informed by Bohren et al. (2015). The wording of items 13 and 17 was informed by various studies (Baranowska et al., 2019; Beck, 2018; Vedam et al., 2017). Additionally, item 18 was based on a recent

Swiss study in which it was stated that women are informally coerced into unwanted procedures while giving birth (Oelhafen et al., 2021). The reliability of this subscale was questionable (n = 7, a = .67).

Health System Conditions and Constraints. Factors of OV that are tied to the conditions of the facilities and health system were assessed with items 20 to 22. The wording of item 21 was taken from Vedam et al. (2019) and enriched with examples from Bohren et al. (2015). The reliability of this subscale was unacceptable (n = 3, a = .43).

Trust Scales

Different trust scales were created. First, it was differentiated between two general trust scales: one for general medical care and one for childbirth-related medical care. Notably, each trust scale consisted of three abbreviated subscales: the first assessing trust towards individual physicians, the second assessing trust into the medical profession, and the third assessing trust in the healthcare system (Anderson & Dedrick, 1990; Dugan et al., 2005; Laveist et al., 2009). Together, these three scales presented an accurate picture of the overall trust of participants on a personal and systemic level.

General Medical Care vs Childbirth-Related Care Scale. The general medical care scale and the childbirth-related care scale were identical in terms of items but differ slightly in wording. Namely, for the childbirth-related care scale instead of ‘doctor’ the term ‘obstetrician’ was used and ‘health care organizations’ was substituted with ‘obstetric health care organizations’. The same technique was used by other researchers who successfully developed a valid and reliable scale for trust in nurses out of the trust in physicians scale with this strategy (Anderson & Dedrick, 1990; Krajewska-Kułak et al., 2019). All scale items were answered on a 5-point Likert scale that ranged from ‘strongly disagree’ to ‘strongly agree’. Since each subscale consisted of three items, the general medical care scale, and the childbirth-related care scale each had nine items, the values of which were then summarized for each scale to receive a sum score between 9 and 45. Thus, a higher score indicated higher trust in the respective care system. For the childbirth-related care scale Cronbach’s alpha showed an acceptable reliability (n = 9, α = .75). For the general medical care scale Cronbach’s alpha showed a questionable reliability (n = 9, α = .67). A list of all items in correspondence with their subscale can be found in Table 3.

Table 3

Items for Trust in General Medical Care and Childbirth-Related Care per Subscale

Subscale	No.	Item
Trust in Individual	1	I trust my obstetrician's/doctor's judgements about my childbirth-related care/medical care.
	2	My obstetrician/doctor is a real expert in taking care of childbirth/medical problems.
	3	I trust my obstetrician/doctor so much that I always follow his/her advice.
Trust in System	4	Sometimes obstetricians/doctors care more about what is convenient for them than about their patients' medical needs
	5	Obstetricians/Doctors would never mislead you about anything.
	6	All in all, you trust obstetricians/doctors completely
Trust in Institution	7	Patients have sometimes been deceived or misled by (childbirth-related) health care organizations.
	8	Sometimes I wonder if (childbirth-related) health care organizations really know what they are doing.
	9	When (childbirth-related) health care organizations make mistakes, they usually cover it up.

Note. For reasons of conciseness, both scales are presented in one table although the participants answered these separately. For the scale of trust in childbirth care, the term before the slashes and the term in the bracket is used while for the general medical care scale the term after the slashes is used and the term in the brackets is excluded.

1st Subscale: Trust in Physician (Individual). To assess the level of trust that the mothers have in their physician a valid and reliable scale was required. The trust in physician scale of Anderson and Dedrick (1990) was selected as this scale was shown to have good internal consistency, could be successfully replicated, and is still utilized in recent literature (Boulware et al., 2003; Krajewska-Kułak et al., 2019). Overall, the original scale consisted of 11 items. As this would go beyond the time scope of the questionnaire the 3 items with the highest factor loadings were selected. Notably, one of these items read: "My doctor is usually considerate of my needs and puts them first". This item might not be ideal to assess the trust in obstetricians as during birth obstetricians often place the infant life above the mother (Perrotte et al., 2020). The item with the fourth-highest factor loading was considered more adequate and included instead as it reads: "I trust my doctor so much that I always try to follow his/her advice.". The answer possibility 'strongly disagree' received the value of 1 while 'strongly agree' received the value of 5.

2nd Subscale: Trust in Medical Profession (System). Additionally, a scale to assess the level of trust that the mothers have in the medical profession in general was needed. Notably, a scale with acceptable internal consistency (n = 5, *a* = .77) was devised in prior literature (Dugan et al., 2005). The prior scale consisted of five items that are applicable for measuring the trust of the mother in the medical profession. Solely, three items were selected due to keeping the questionnaire concise thereby increasing the chance of participants finalizing their answers. As no factor loadings were documented, the most clearly worded item was included, and two others were selected at random. The answer possibility 'strongly disagree' received the value of 1 while 'strongly agree' received the value of 5.

3rd Subscale: Trust in Health Care Organizations (Institution). There exists a scale to assess trust in health care organizations called the Medical Mistrust Index (MMI) (Laveist et al., 2009). This scale was shown to have adequate construct validity as it correlates with well-probed measures such as the Trust in Physicians Scale (Anderson & Dedrick, 1990). The MMI consists of seven items with which the level of mistrust towards health care organizations can be measured. Once again, the items with the three highest factor loading were selected. However, the item with the third-highest factor loading, "Health care organizations have sometimes done harmful experiments on patients without their knowledge", was excluded as it was suspected that the wording would rather assess conspiracy theory affinity than actual trust. The item with the fourth-highest factor loading was selected instead. A higher score on this scale indicates a higher level of mistrust while a lower score indicates a lower level of mistrust (Laveist et al., 2009). Since the researchers did not give an exact indication of how to score this scale the same 5-point Likert scale procedure as in the prior subscales was used. As this subscale is concerned with mistrust, items were reversed so that 'strongly disagree' received the value of 5 while 'strongly agree' received the value of 1. After reversing, a higher score indicates a higher trust of the mother in health care institutions.

Willingness to Seek Conventional Medical Care

The willingness to seek medical care was assessed with the MHSIS developed by Hammer and Spiker (2018). According to these researchers, this scale is reliable as it shows internal consistency. Furthermore, the MHSIS appears to possess predictive validity as it was able to correctly classify seventy percent of participants in a prior evaluation study (Hammer & Spiker, 2018). Notably, the mental health-related wording of the three items in this scale was adjusted once again to fit the purpose of this research. For example, one of the original items states: "If I had a mental health concern, I would try to seek help from a mental health professional". For assessing willingness to seek medical care in a childbirth-unrelated context this item was reformulated to: "If I had a medical concern (regarding my child), I would try to seek help from a conventional medical facility.". Naturally, for the childbirth context this item was adjusted to: "If I had a childbirth-related concern, I would try to seek help from a conventional childbirth facility". The reformulated items can be found in the following table (Table 4). All items were answered on a 7-point Likert scale that ranged from 'extremely likely' to 'extremely unlikely'. Thereby, extremely unlikely received the value of 1 while extremely likely received the value of 7. The values of all three subscale items were then summarized to receive a sum score that lies between 3 and 21. A higher score, therefore, indicates a higher willingness to seek care.

Table 4
Items for Willingness to Seek Care per Subscale

Subscale	No.	Item
Childbirth-related medical care	1	If I had a childbirth-related concern, I would *intend* to seek help from a conventional childbirth facility.
	2	If I had a childbirth-related concern, I would *try* to seek help in a conventional childbirth facility.
	3	If I had a childbirth-related concern, I would *plan* to seek help in a conventional childbirth facility.
General Medical Care (oneself)	1	If I had a medical concern, I would *intend* to seek help from a conventional medical facility.
	2	If I had a medical concern, I would *try* to seek help in a conventional medical facility.
	3	If I had a medical concern, I would *plan* to seek help in a conventional medical facility.
General Medical Care (child)	1	If I had a medical concern regarding my child, I would *intend* to seek help from a conventional medical facility.
	2	If I had a medical concern regarding my child, I would *try* to seek help in a conventional medical facility.
	3	If I had a medical concern regarding my child, I would *plan* to seek help in a conventional medical facility.

General Medical Care Scales vs Childbirth-Related Care Scale. Overall, willingness to seek general medical care and willingness to seek childbirth-related medical care were assessed with the same three items each that differed from the original items only in wording details. Furthermore, for willingness to seek general medical care it was differentiated between the willingness to seek care for oneself and one's child. Thus, overall, the willingness to seek care was assessed with three subscales that consisted of three items each. For the scale about willingness to seek childbirth-related care, Cronbach's alpha showed excellent reliability ($n = 3$, $\alpha = .95$). For the scale about willingness to seek general medical care for oneself Cronbach's alpha showed excellent reliability ($n = 3$, $\alpha = .94$). For the scale about willingness to seek general medical care for one's child Cronbach's alpha showed excellent reliability as well ($n = 3$, $\alpha = .94$).

Time since Obstetric Mistreatment

Time since mistreatment was assessed with one item by asking the participants: "When was the last time you experienced one or more of the behaviours listed above?". Naturally, this item was solely presented to participants who answered at least one of the items on the OV-scale with "yes" and had therefore experienced some form of OV. The 11 answer possibilities ranged from "0 months to 12 months ago" to "10 or more years ago". Only one answer could be selected.

Data Analysis

Prevalence of Obstetric Violence

For assessing the prevalence of OV, data of participants who were recruited via self-help groups was split off to allow the investigation of the general sample consisting of lay people separately from the self-help-group sample. This way it was ensured that the prevalence would not be exaggerated due to targeted recruitment in self-help groups. Additionally, dummy variables were created for the overall OV-score and the subtypes of OV in order to be able to assess prevalence with descriptive statistics.

Correlations

Bivariate correlation analyses with the Pearson's r coefficient were utilized to determine the associations between different variables. Specifically, the correlations between OV and the different trust types, the correlations between OV and the types of willingness to seek care, and the correlations of types of trust and types of willingness to seek care were investigated. The remaining analyses for mediation and moderated mediation were only conducted for the variables that correlated with each other.

Hypothesis 1, 2, and 3

To assess whether OV is associated with willingness to seek care and whether trust mediates the relationship between experiencing OV and willingness to seek care, process macro mediation analyses were conducted. Process Macro was developed by Hayes and is suited for statistical analyses of hypothesized mediation effects (Hayes, 2013; Preacher & Hayes, 2004). Specifically, model 4 was used. All variables were of continuous nature. The independent variable in the analysis was OV, the mediator was trust in care and the dependent variable was willingness to seek care.

Hypothesis 4

To test the hypothesis that time acts as a moderator for the relationship between OV and willingness to seek care three additional process macro analyses were performed for each moderated mediation model. Notably, process macro includes measures to statistically investigate a moderated mediation effect (Hayes, 2013). The specific model that was used was model 59. As it was hypothesized that time might act as a moderator for the associations between OV, trust in care, and willingness to seek care, the different answers to the time since mistreatment items were used as a continuous moderator variable. The OV-scale was used as the independent variable, willingness to seek care was used as the dependent variable, and trust in care was used as the mediator variable.

Results

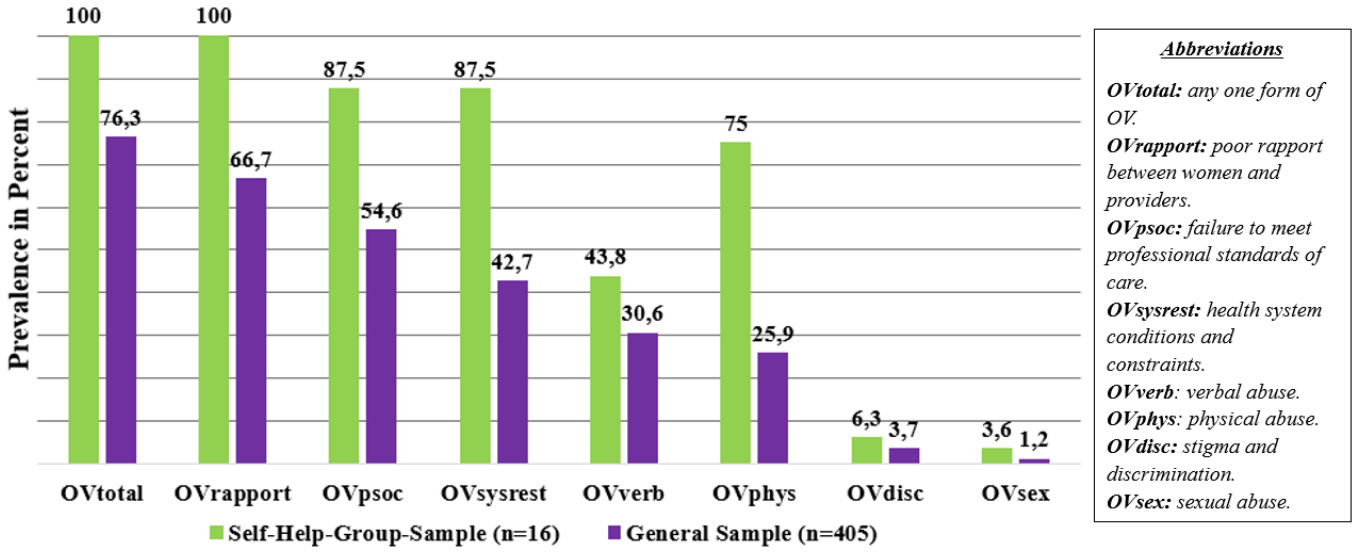
Prevalence of Obstetric Violence

Overall, approximately 8 out of 10 women in the general sample experienced one or more forms of OV during their births (n=309). 105 participants experienced physical OV. Verbal OV was experienced by 124 participants (n=124). 5 participants experienced sexual OV. A total of 15 participants experienced OV in form of discrimination. The medical staff's failure to meet a professional standard of care was experienced by 221 participants. Additionally, 270 participants stated that there was poor rapport between health care staff and them. Furthermore, 173 participants stated that there was at least one facility-based issue during their birth. The two OV types that were most prevalent were 'poor rapport between women and providers' and 'failure to meet professional standards of care' while the least prevalent forms of OV were 'sexual abuse' and 'discrimination and stigma'.

Regarding participants that were recruited via self-help groups, all participants had experienced some form of OV (n=16). 12 participants experienced physical OV, and 7 participants experienced verbal OV. 1 participant experienced sexual OV. Additionally, 1 participant experienced OV in form of discrimination. 14 participants experienced OV in form of a failure to meet professional standards of care. All self-help group participants stated that there was poor rapport between health care staff and them (n=16), while 14 participants stated that there were facility issues during their birth. Thus, the two most and least prevalent types of OV are identical in the general sample and self-help group sample. Below a graphic depiction of the percentages is portrayed (Figure 2).

Figure 2

Prevalence of Obstetric Violence Types shown by Group



Note. Self-help-Group-Sample includes people recruited via self-help groups while the general sample contains people who were not recruited via self-help groups.

Correlations

OV and Willingness to seek care

OV correlated negatively with willingness to seek childbirth related care ($r = -.28, p < .001$), with willingness to seek general medical care for oneself ($r = -.23, p < .001$). and with willingness to seek general medical care for one's child ($r = -.13, p = .006$).

OV and trust

OV correlated negatively with trust in childbirth related care ($r = -.62, p < .001$), and trust in general medical care ($r = -.36, p < .001$).

Trust and Willingness to seek care

For childbirth-related care, trust correlated positively with willingness to seek care ($r = .31, p < .001$). For general medical care, trust correlated positively with willingness to seek general medical care for oneself ($r = .35, p < .001$), and with willingness to seek general medical care for one's child ($r = .29, p <. 001$).

Mediation 1: OV, Trust in Childbirth Care, and Willingness to Seek Childbirth Care

The analysis showed that the mediation model with OV as an independent variable and trust in childbirth-related care as a mediator accounts for a significant amount of variance in the dependent variable of willingness to seek childbirth-related care (see table 5).

Table 5

Model Descriptions for Mediation 1 Concerning OV, Trust in Childbirth-Related Care, and Willingness to Seek Childbirth-Related Care.

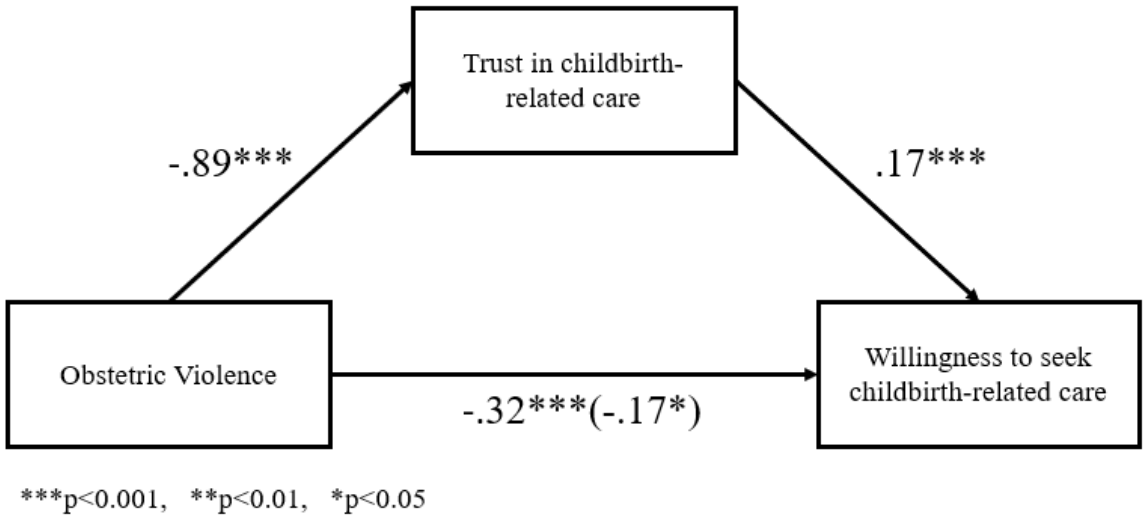
Model	*R*	*R-sq*	MSE	*F*	*df1*	*df2*	*p*
Model predicting Trust	.62	.38	19.85	258.27	1	417	.000
Model predicting Willingness	.33	.11	17.41	25.45	2	416	.000
Total Effect Model	.28	.08	17.91	36.698	1	417	.000

Note. *N=419. Model predicting Trust has OV as DV. Model predicting willingness has OV and trust as DV. Total effect model describes the influence of OV on willingness when mediation is considered.*

Specifically, the total effect of OV on willingness to seek childbirth-related care was negative and significant b= -.32, t(417) = -6.06, p<.001 as was the direct effect of OV on willingness to seek childbirth-related care, b= -.17, t(416)=-2.59, p=.010. Therefore, experiencing OV appears to decrease willingness to seek childbirth-related care. The effect of OV on trust in childbirth-related care was negative and significant b= -.89, t(417)=-16.07, p<.001. Thus, experiencing OV appears to decrease trust in childbirth-related care. Additionally, the effect of trust in childbirth-related care on willingness to seek childbirth care was positive and significant, b= .17, t(416)=-3,62, p<.001. This shows that apparently lesser trust in childbirth-related care decreases the willingness to seek childbirth-related care. Overall, trust in childbirth-related care mediates the effect between OV and willingness to seek childbirth-related care, due to an indirect effect = -.15, *SE*= .05, 95% CI [-.24,-.06]. An illustration of association and effect sizes is shown in Figure 3.

Figure 3

Effect Sizes and Associations for Mediation 1



Mediation 2: OV, Trust in General Medical Care, and Willingness to Seek General Medical Care for Oneself

The analysis showed that the mediation model with OV as an independent variable and trust in general medical care as a mediator accounts for a significant amount of variance in the dependent variable of willingness to seek general medical care for oneself (see table 6).

Table 6

Model Descriptions for Mediation 2 Concerning OV, Trust in General Medical Care, and Willingness to Seek General Medical Care for Oneself.

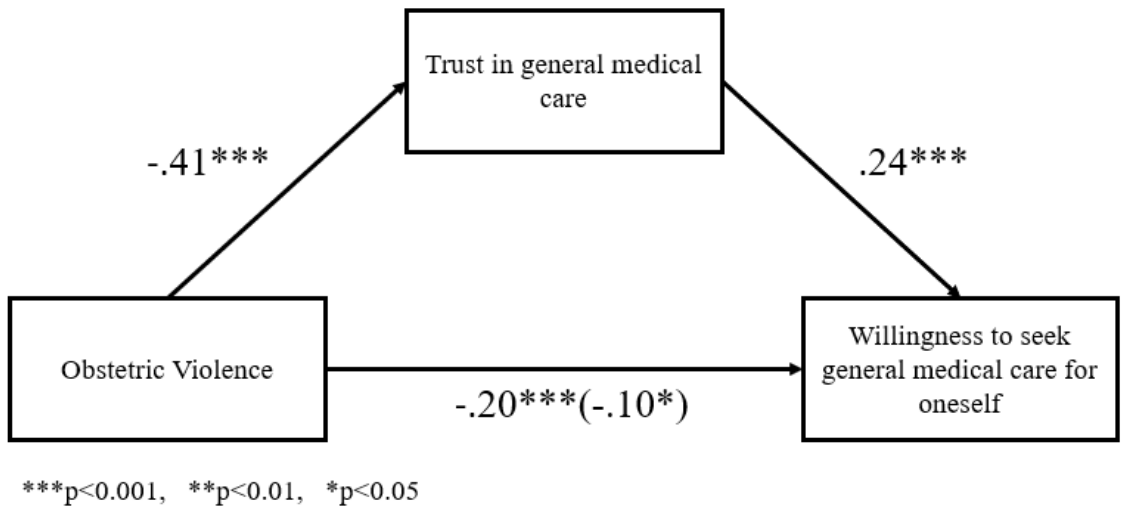
Model	*R*	*R-sq*	MSE	*F*	*df1*	*df2*	*p*
Model predicting Trust	.37	.14	16.73	65.57	1	418	.000
Model predicting Willingness	.36	.13	10.04	32.24	2	417	.000
Total Effect Model	.23	.05	10.95	23.78	1	418	.000

Note. N=420. Model predicting Trust has OV as IV. Model predicting willingness has OV and trust as IV. Total effect model describes the influence of OV on willingness when mediation is considered.

Specifically, the total effect of OV on willingness to seek general medical care for oneself was negative and significant b= -.20, t(418)= -4.89, p<.001 as was the direct effect, b= -.10, t(417)= -2.45, p=.015. Therefore, experiencing OV appears to decrease the willingness to seek general medical care for oneself. The effect of OV on trust in general medical care was negative and significant b= -.41, t(418)= -8.10, p<.001. Thus, experiencing OV appears to decrease the trust in general medical care. Additionally, the effect of trust in general medical care on willingness to seek general medical care for oneself was positive and significant, b= .24, t(417)=6.21, p<.001. This shows that presumably lesser trust in general medical care decreases the willingness to seek general medical care. Overall, trust in general medical care mediates the effect between OV and willingness to seek general medical care for oneself, due to an indirect effect = -.10, *SE*= .02, 95% CI[-.15,-.06]. An illustration of association and effect sizes is shown in Figure 4.

Figure 4

Effect Sizes and Associations for Mediation 2



Mediation 3: OV, Trust in General Medical Care, and Willingness to Seek General Medical Care for One's Child

The analysis showed that the mediation model with OV as an independent variable and trust in general medical care as a mediator accounts for a significant amount of variance in the dependent variable of willingness to seek general medical care for one's child (see table 7).

Table 7

Model Descriptions for Mediation 3 Concerning OV, Trust in General Medical Care, and Willingness to Seek General Medical Care for One's Child.

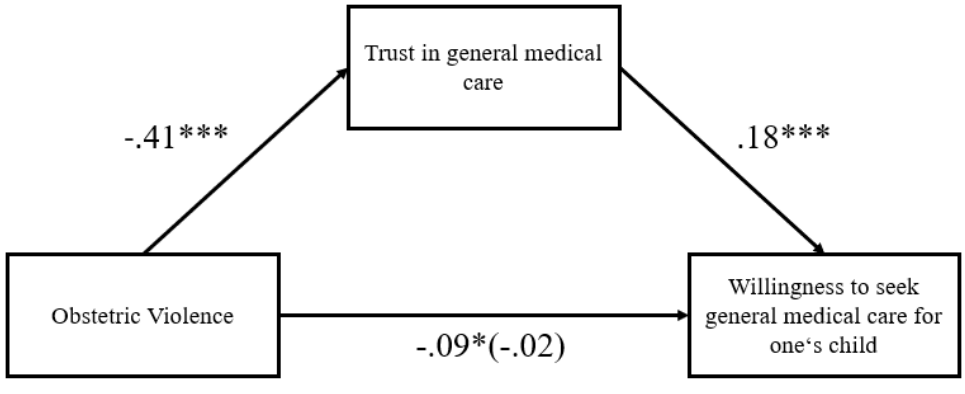
Model	*R*	*R-sq*	MSE	*F*	*df1*	*df2*	*p*
Model predicting Trust	.37	.14	16.69	65.57	1	419	.000
Model predicting Willingness	.29	.09	19.52	19.52	2	418	.000
Total Effect Model	.13	.02	7.56	7.58	1	419	.006

Note. N=421. Model predicting Trust has OV as IV. Model predicting willingness has OV and trust as IV. Total effect model describes the influence of OV on willingness when mediation is considered.

Specifically, the total effect of OV on willingness to seek general medical care for one's child was negative and significant b= -.09, t(419)= -2.75, p=.006. However, the direct effect of OV on willingness to seek general medical care for one's child was negative but not significant, b= -.02, t(418)=-.61, p=.545. Thus, experiencing OV does not appear to decrease the willingness to seek general medical care for one's child directly. Nevertheless, experiencing OV can still decrease the willingness to seek general medical care for one's child via decreasing the trust in general medical care. To elaborate, the effect of OV on trust in general medical care was negative and significant b= -.41, t(418)= -8.10, p<.001. Thus, experiencing OV appears to decrease the trust in general medical care. Following, the effect of trust in general medical care on willingness to seek general medical care for one's child was positive and significant, b= .18, t(418)=5.56, p<.001. This shows that lesser trust in general medical care appears to decrease the willingness to seek general medical care. Overall, trust in general medical care mediates the effect between OV and willingness to seek general medical care for one's child, due to an indirect effect = -.07, SE= .01, 95% CI[-0.11,-0.4]. An illustration of association and effect sizes is shown in Figure 5.

Figure 5

Effect Sizes and Associations for Mediation 3



Summary of Mediations

To conclude, it can be stated that trust mediates the relationship between OV and willingness no matter the type. Additionally, OV appears to negatively influence all types of willingness and all types of trust. However, a direct effect is only present for mediation 1 and mediation 2 while for mediation 3 OV solely influences willingness via a total effect.

Moderated Mediation 1: OV, Trust in Childbirth Care, Willingness to Seek Childbirth Care, and Time

The analysis showed that the moderated mediation model with OV as an independent variable, trust in childbirth-related care as a mediator and time as a moderator accounts for a significant amount of variance in the dependent variable of willingness to seek childbirth-related care (see table 8).

Table 8
Model Descriptions for Moderated Mediation 1 Concerning OV, Trust in Childbirth-Related Care, Willingness to Seek Childbirth-Related Care, and Time.

Model	*R*	*R-sq*	MSE	*F*	*df1*	*df2*	*p*
Model predicting Trust	.58	.33	20.48	52.18	3	316	.000
Model predicting Willingness	.37	.14	10.36	12.19	5	317	.000

Note. *N=320. Only includes participants who experienced OV. Model predicting Trust has OV as IV. Model predicting willingness has OV and trust as IV.*

The interaction effect between time and OV on willingness to seek childbirth care is negative but not significant, b= -.03, t(314)= -1.38, p=.167. Thus, this indicates that the negative effect of OV on willingness to seek childbirth care is stable over time. Additionally, the interaction effect between time and OV on trust in childbirth-related care is negative but not significant, b= -.01, t(316)= .74, p=.457. Therefore, the effect of OV on trust in childbirth-related care appears to be stable over time as well. Last, the interaction effect between time and trust in childbirth-related care on willingness to seek childbirth-related care is negative but not significant as well, b= -.02, t(314)= 1.43, p=.153. Thus, this effect appears to be stable over time as well. Overall, all associations of mediation 1 appear to persist no matter if the birth had been one year or more than ten years ago.

Moderated Mediation 2: OV, Trust in General Medical Care, Willingness to Seek General Medical Care for Oneself, and Time

The analysis showed that the moderated mediation model with OV as an independent variable, trust in general medical care as a mediator and time as a moderator accounts for a significant amount of variance in the dependent variable of willingness to seek general medical care for oneself (see table 9).

Table 9

Model Descriptions for Moderated Mediation 2 Concerning OV, Trust in General Medical Care, and Willingness to Seek General Medical Care for Oneself, and Time

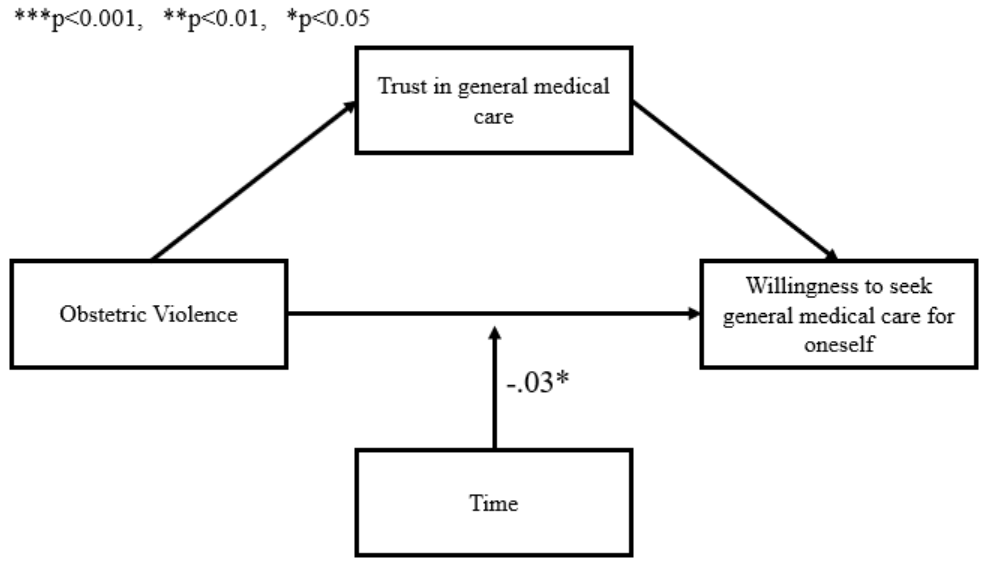
Model	*R*	*R-sq*	MSE	*F*	*df1*	*df2*	*p*
Model predicting Trust	.32	.10	17.12	12.31	3	319	.000
Model predicting Willingness	.40	.16	17.41	25.45	2	416	.000

Note. *N=323. Only includes participants who experienced OV. Model predicting Trust has OV as IV. Model predicting willingness has OV and trust as IV.*

The interaction effect between time and OV on willingness to seek general medical care for oneself is negative and significant, b= -.03, t(317)= -2.01, p=.046. Thus, the negative effect of OV on willingness to seek general medical care for oneself appears to become stronger over time. Additionally, the interaction effect between time and OV on trust in general medical care is positive but not significant, b= .02, t(319)= 1.05, p=.291. This indicates that the effect of OV on trust in general medical care is stable over time. Last, the interaction effect between time and trust in general medical care on willingness to seek general medical care for oneself is positive but not significant as well, b= .01, t(317)= .71, p=.480. Thus, this effect appears to be stable over time as well. Overall, the mediation 2 pathway appears to be unaffected by time while the negative association between OV and willingness to seek general medical care for oneself becomes more negative the more time passes. An illustration of association and effect sizes is shown in Figure 6.

Figure 6.

Effect Sizes and Associations of Moderated Mediation 2



Moderated Mediation 3: OV, Trust in General Medical Care, Willingness to Seek General Medical Care for One's Child, and Time

The analysis showed that the moderated mediation model with OV as an independent variable, trust in general medical care as a mediator and time as a moderator accounts for a significant amount of variance in the dependent variable of willingness to seek general medical care for one's child (see table 10).

Table 10

Descriptions for Moderated Mediation 3 concerning OV, Trust in General Medical Care, and Willingness to Seek General Medical Care for One's Child, and Time

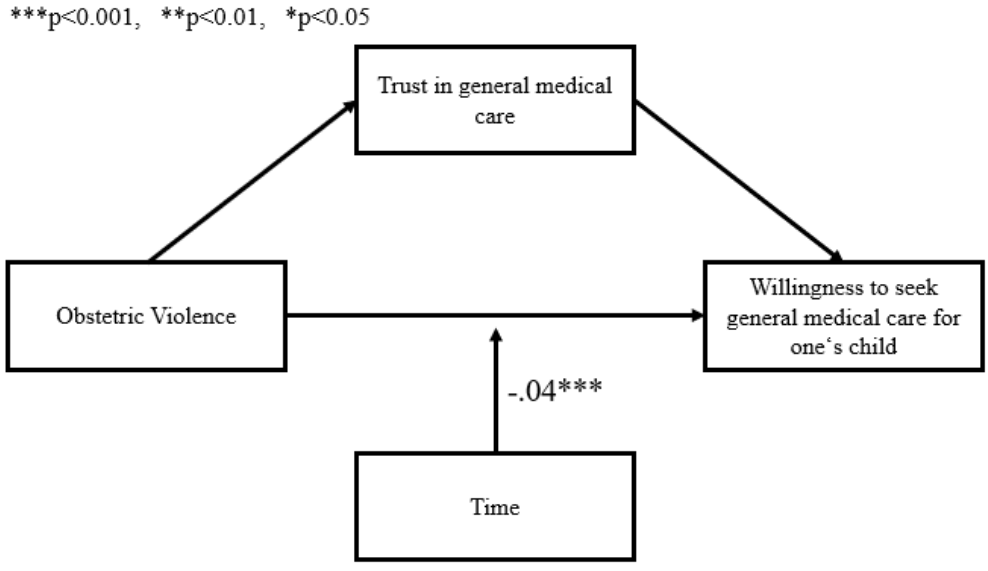
Model	*R*	*R-sq*	MSE	*F*	*df1*	*df2*	*p*
Model predicting Trust	.32	.10	17.12	12.31	3	319	.000
Model predicting Willingness	.44	.19	5.59	14.80	5	317	.000

Note. N=323. Only includes participants who experienced OV. Model predicting Trust has OV as IV. Model predicting willingness has OV and trust as IV.

The interaction effect between time and OV on willingness to seek general medical care for one's child is negative and significant, b= -.04, t(317)= -3.72, p<.001. Thus, the negative effect of OV on willingness to seek general medical care for one's child appears to become stronger over time. Additionally, the interaction effect between time and OV on trust in general medical care is positive but not significant, b= .02, t(319)= 1.05, p=.291. This indicates, that the effect of OV on trust in general medical care is stable over time. Last, the interaction effect between time and trust in general medical care on willingness to seek general medical care for one's child is positive but not significant as well, b= -.001, t(317)= .71, p=.921. Thus, this effect appears to be stable over time as well. Overall, the mediation 3 pathway appears to be unaffected by time while the negative association between OV and willingness to seek general medical care for one's child becomes more negative the more time passes. An illustration of association and effect sizes is shown in Figure 7.

Figure 7

Effect Sizes and Associations of Moderated Mediation 3.



Summary of Moderated Mediations

Overall, it can be concluded that time does not appear to influence the mediation pathway for all types of trust and willingness. Additionally, time does not appear to affect the association between OV and willingness to seek childbirth-related care. However, time does appear to further decrease a negative effect OV has on willingness to seek general medical care for oneself and for one's child.

Discussion

The current study aimed to investigate the prevalence of OV in Germany and possible consequences of OV regarding trust in medical care, and care-seeking intention in relation to time since obstetric mistreatment. Regarding the first research question, approximately 8 out of 10 women (76,3 %) of the general sample reported having experienced OV. The two types of OV that were most prevalent were 'poor rapport between women and providers', and 'failure to meet professional standards of care'. For example, this includes performing procedures without the consent of the women, performing procedures despite the women's explicit disapproval, refusing to provide the women with pain relief medication, ignoring requests for help and failing to respond in a reasonable amount of time, not giving the women adequate information about the procedures that are performed on them, a lack of supportive care, not respecting the women's autonomy and self-determination, and pressurizing mothers into procedures that they do not want. Notably, there was not a single OV type or item that no one of the participants had experienced despite more obvious and crude forms of OV such as mocking and threatening the woman, being tied to a delivery bed, or being sexually molested during birth being included in the questionnaire as well. This shows that subtle and crude forms of OV exist within the sample. Thus, OV appears to be a societal problem that affects Germany to a more substantial degree than originally expected.

In line with Hypothesis 1, it can be concluded that women who experience OV are less willing to seek conventional medical care for themselves. Women who experience OV not only are less willing to seek conventional medical care for childbirth but are less willing to seek conventional medical care in case they themselves face general medical issues that are not childbirth-related as well. OV did not directly reduce the willingness to seek care for one's child. However, regarding Hypothesis 2 and 3, it was confirmed that OV can decrease the trust women have in individual caretakers, the medical profession, and the healthcare system for childbirth-related and general medical care. Additionally, this decrease in trust influences all types of willingness to seek medical care. Thus, if a woman experiences OV her trust decreases which then leads not solely to a further decrease in willingness to seek care for childbirth-related issues but to a further decrease in willingness to seek general medical care for oneself and for one's child as well. This illustrates how OV not only influences the women themselves but also creates the conditions for a negative effect on the children whose mother's experience OV. Next, for Hypothesis 4 regarding time, the results were partially unexpected. The findings support the notion that

the impact of OV remains the same regardless of whether a mother experienced OV one or ten years ago. Thus, this finding points into the direction of OV being harmful to women and their children in the long term. Surprisingly, for people who experienced OV the willingness to seek general medical care for themselves and their child appears to reduce further the more time passes.

In line with prior literature, Germany appears to belong to the high-income, European countries in which comparatively high prevalence rates of OV are present (Baranowska et al., 2019; Beck, 2018; Martínez-Galiano et al., 2020; Oelhafen et al., 2021). In the current study, it was found that women with an OV experience are less willing to seek conventional childbirth-related medical care. This finding is supported by prior research (Bohren et al., 2015; Esposito, 1999; Gao et al., 2010). As a novel finding the current study added to this notion that this finding must not only applies to low-income countries but can apply to high-income countries as well. The finding that OV experiences decrease willingness to seek general medical care is novel. Notably, previous research had identified multiple adverse consequences of OV (James, 2015; Reed et al., 2017; Silveira et al., 2019). This study supports the addition of two other adverse consequences: less trust in general medical care and childbirth care, and less willingness to seek care for oneself and one's child. Regarding the influence of time, the current study supports the notion that the lowered trust and willingness in people who experienced OV is stable over time. Therefore, agreeing with former studies in the claim that trauma and its consequences persist long-term (Elmir et al., 2010; Miller & Lalonde, 2015; Simkin, 1992). This further decrease in willingness the more time passes is unexpected.

As a first potential explanation for this, it must be considered that the more time passes the more opportunity women might have to become aware of their mistreatment. Specifically, some researchers suggest that there is low awareness about OV and it usually stays invisible due to being normalized (Baranowska et al., 2019; Mena-Tudela et al., 2020). Thus, women might only realize explicitly that they have been mistreated when talking with other women about their birth or learning about OV from other women. Becoming explicitly aware of the obstetric abuse might explain the further decrease in willingness over time. Second, due to the nature of the question, it might be the case that the degree of OV was different for the time groups. Specifically, a study by Shaw and colleagues (2016) showed that the mortality rate for births has become lower since the 90s. Potentially, this could reflect an increase in standards of care which results in women with recent births facing less OV than women who gave birth ten years ago and therefore showing fewer decrease in trust and willingness. Thus, the finding could be due to the nature of the question and a therefrom resulting bias of OV severity in different time groups.

Furthermore, researchers show how breastfeeding and skin to skin contact with one's child can lead to increased oxytocin levels in the mother which shapes brain activity, positive emotions towards the child, and mother-infant bonding (Bick et al., 2013; Kim et al., 2011; Rilling, 2013; Üvnas-Moberg & Prime, 2013). As independence of the child increases over the years and skin contact reduces, the involvement and bonding with the child might decrease which could explain the further decrease in willingness to seek general medical care for one's child as the mother becomes less likely to involve

herself. Moreover, a possible explanation for the further decrease of willingness to seek general medical care relates to the halo effect. There exists a halo effect that is specific to birth in which the mother experiences an emotional high after the birth of the child and regards the birth and behaviour of medical staff behind a veil of positivity due to the relief about the successful childbirth and the joy about the child itself overshadowing all negative experiences (Bennett, 1985; Simkin, 1992). The more time passes the weaker this halo effect becomes, which can result in women seeing their own births realistically after some years have passed, realizing the full extent of their OV experiences, and attributing more significance to the trauma. Should this apply then the current study would be one of the first to quantitatively document this phenomenon.

Practical and Theoretical Implications

Despite emerging research on the topic, such as the current study, the severity of OV is occasionally still contested. A recent example of this is a letter by the presidents of Italian health care associations in which they spoke out against an OV study in their country since they considered it to be ruining the reputation of the obstetric professionals due to the women in the sample reporting mistreatment which according to them could not be proven to be true (Scambia et al, 2018). Thus, it appears that defensiveness and doubts are surrounding the topic as medical staff does not want to be seen as violent and names concern for the woman's life as an argument for not respecting the mother's choices and wishes during childbirth. The question of whether disrespecting consent and dignity of the mother to save her life is ethically justifiable would go beyond the scope of the discussion. Nevertheless, it must be noted that not all OV behaviours can be framed as an attempt to save the mother's life. Specifically, claiming that OV behaviours such as verbal abuse or not communicating with the mother are medical necessity is neither tenable nor logical.

Following this, one must state that OV is a structural issue. Therefore, the OV behaviour of medical staff is not necessarily malevolent or intentional (Bohren et al., 2015; Jewkes & Penn-Kekana, 2015; Perera et al., 2018; Perrotte et al., 2020). For example, the abuse can sometimes be a product of straining work conditions, focus on protecting infant life, and normalization in the medical field (De Aguiar et al., 2013; Diaz-Tello, 2016; Perrotte et al., 2020; Reed et al., 2017; Savage & Castro, 2017). Normalization of mistreatment further complicates the issue because some medical actions and the way they are carried out are considered standard by medical staff. This is linked to an overall trend of dehumanization of the patient and the technocratic paradigm in the medical field which entails that the medical staff is the one in power and holds all responsibility while the patient is considered a passive machine (Davis-Floyd, 2001; Haque & Waytz, 2012). Thus, OV is a complex issue with many layers.

Nevertheless, since the current and prior studies show that OV can have severe adverse consequences it is crucial to acknowledge OV and to stop considering it a contested term. Moreover, practical implications should be formulated to become active against OV. First, awareness interventions for OV must be conducted as to solve this issue it must first be recognised by society. Second, in case

that a woman experienced OV, trauma-informed care and therapy should be provided to her (Shaw et al., 2016). Last, medical institutions should formulate official regulations and rules that prevent OV from occurring. In addition, training of medical staff on how to provide respectful maternity care is needed. Regarding theoretical implications, it must be noted that the developed scale can provide a foundation for further research, as can the created definition of OV. Additionally, the unexpected factor structure of the OV-scale could be an indication of different types of OV being present in the investigated high-income countries that have not been discovered in research yet.

Strengths, Limitations, and Future Research

It is deemed sensible to elaborate on the strengths and limitations of the current study. Regarding strengths, an adequate sample size of 422 participants was achieved. Additionally, participants were recruited via analogue methods (posters, snowballing) as well as digital methods (social media platforms) in order to reach people regardless of their age or social media affinity. Moreover, all scales were based on literature, and for willingness and trust scales validated and reliable scales were used for construction. Furthermore, statistical assessment was used at all points to exclude the possibility of human error as far as possible. In addition, attention check items were used to filter out participants who answered randomly to the questions which increases confidence in the findings. Another strength was the literature-based creation of the new OV items that not solely measure obvious and crude forms of OV but more subtle forms of OV as well, as they were derived from studies about high-income countries. This means that the developed items and OV-scale potentially contribute to the further exploration of this topic as it allows to assess OV behaviours that might be specific to high-income countries. Last, this study itself might have created more awareness for the topic in itself. For example, one participant gave the feedback that she was not aware that what she had experienced at her birth was actually a form of violence against women and only realized through this study that she was mistreated during birth. Thus, this study might have set the foundation for awareness about OV for the participants.

Coming to limitations, the most relevant was that the order of questions potentially could have influenced the participants. Specifically, the study first asked for OV experiences and then for trust in doctors. Notably, this order might have activated negative memories and therefore influenced the answers to the trust scale in a negative way. Secondly, the term “obstetric violence” was listed as the title on the poster and the posts with which participants were recruited. Although it was explicitly mentioned that all women should participate no matter whether they experienced OV or not this title might have attracted participants who had experiences with the topic and therefore led to an imbalanced and less random sample. The randomness of the sample might be corrupted by the convenience and snowball sampling elements in the study of asking familiar participants to forward this study to people they know as well. Moreover, the sample is not diverse as it is predominantly made up out of German white women. Thus, the types and consequences of OV experiences of people other than German white women are not adequately portrayed within this study. Additionally, the study had a dropout rate of

29,7% as originally 600 participants took part but 178 had to be excluded due to not finishing the questionnaire or not meeting the inclusion criteria. Thus, the sample does not include people who might have had to drop out due to trauma reactivation or other factors. Furthermore, the self-constructed, literature-based OV-scale showed good reliability but an unexpected factor structure, which might mean that the scale did not measure the multidimensional construct validly enough. Additionally, the OV subscales showed insufficient internal consistencies and should therefore be revised (George & Mallery, 2003). Thus, various limitations were present in this study that should be corrected in further research.

Following from the current study, various suggestions for future research emerge. Notably, replication is needed to maximise confidence in the findings before engaging in these further research suggestions. Further research should explore not only care-seeking intention but actual care-seeking behaviour. Additionally, OV should be investigated in a more diverse population that does not solely focus on white women. This is especially relevant as OV might express differently for women with other ethnicities and certain types of OV like discrimination might affect them more (Bohren et al., 2015; Chalmers & Omer-Hashi, 2002; Small et al., 2002). Moreover, the OV-scale utilized in the current study should be revised, restructured, and validated further to develop a scale with higher validity, reliability, and clear factor structure. Additionally, the fact that the factor structure of the OV-scale did not show the expected factors in combination with the low subscale alpha values could be an indication that there exist different types of OV in Germany than in other countries, which research could further explore. For this, the here developed scale can act as a starting point.

Given that the findings of this study can be successfully replicated further research directions emerge. As this study is about conventional care, further studies could explore whether women who are less willing to seek conventional medical care seek for alternative medical care such as homeopathy instead. Moreover, research on interventions that can reduce OV and helping people to cope with traumatic OV experiences could be conducted to work on resolving the societal issue of OV. Further, the research on trust in medical care and how it can be restored after a traumatic birth might be of use as well. Regarding trust in care, it might be relevant to investigate whether trust that has been damaged by OV, influences other factors such as the doctor-patient relationship. Additionally, further exploration on how to best provide trauma-informed care to the women who experienced OV might be of use (Shaw et al., 2016). All this could contribute to a reduction of OV itself and adverse OV consequences for mothers and their children.

Conclusion

Conclusively, this study showed that OV in Europe is unexpectedly prevalent and is a societally relevant problem that needs to be addressed. Germany and the Netherlands appear to belong to the high-income countries in which OV is an issue. Thus, awareness about this topic needs to be created. Notably, OV might express in obvious forms as well as in rather subtle forms. OV can decrease willingness to seek medical care and trust in medical care, no matter if it concerns general medical care or childbirth-

related care. Therefore, OV was shown to have adverse consequences for women who experience it and the children of these women as well. These adverse consequences appear to persist over time and can intensify further the more time passes, which is why this study supports the notion that time does not heal all wounds. In fact, time might scar people with OV experiences more when the halo effect fades, and the women realize the extent of the trauma and mistreatment they faced at birth. Practical implications to reduce OV include interventions for raising awareness about OV, trauma-informed care for women with OV experiences, and respectful childbirth care training for medical staff.

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APPENDIX A

Poster for Participant Recruitment

Erfahrungen mit geburtshelferischer Gewalt

+++

Teilnehmerinnen für 10-minütigen anonymen online Fragebogen gesucht

Für meine Bachelorarbeit in Psychologie beschäftige ich mit geburtshelferischer Gewalt. Ich benötige insgesamt 400 Teilnehmerinnen. Sehr gerne dürfen sie den Fragebogen daher auch an Freundinnen weiterleiten. Ihre Teilnahme wird dabei helfen Aufmerksamkeit auf dieses Thema zu lenken. Bitte tippen Sie den angegebenen Link ein oder scannen Sie den entsprechenden QR-Code, um teilzunehmen.

Für eine Teilnahme ist es NICHT notwendig, dass man geburtshelferische Gewalt erfahren hat. Man muss lediglich bereits eine Geburt gehabt haben.

+++

Deutsche Version:

www.bit.ly/geburtsgewalt

Englische Version:

www.bit.ly/violenceandbirth

+++

Vielen Dank für Ihre Teilnahme!

Marie Luise Reuther - bachelorgeburtsgewalt@gmail.com

APPENDIX B
Questionnaire

PROJECT TITLE: Experiences with Obstetric Violence in Germany and Netherlands

INVESTIGATORS: This study is being conducted by Marie Luise Reuther (B.Sc. Psychology Student) and Dr. Pelin Gül, at the Department of Psychology, Health, and Technology, University of Twente, Netherlands. This study is conducted in the context of a B.Sc. thesis project.

TRIGGER WARNING: Some elements of this study are concerned with mistreatment of women during childbirth. This means that there will be statements about abusive behaviour of medical staff during childbirth on which you have to indicate whether you experienced them. If you do not feel comfortable with this, feel free to not participate in this study. Should you want to quit during the questionnaire at any point you can simply stop and withdraw from answering the rest of the questions without needing to give any reason.

PURPOSE The aim of this study is to identify the extent of mistreatment and abuse during childbirth in Germany and the Netherlands, and trust toward medical staff and willingness to seek medical care. You are being asked to participate in this study because we are interested in these aspects in a wide variety of people, and you were a social media contact or in the social network of one of the researchers involved in this project **We are seeking individuals who are at least 18 years old AND have given childbirth in the Netherlands, or Germany. If you do not meet these conditions, please do not participate.**

PROCEDURES Your participation in this study is entirely voluntary. If you agree to be in this study, you will be asked to respond to a series of questions about your experiences of mistreatment and abuse from medical staff during childbirth, your trust towards medical care and your willingness to seek medical care. We will also ask you the time since your birth(s) and the type of birth(s), and to provide demographic information about yourself (age, nationality, ethnicity, etc.) In the end, you will receive more information about the topic of this study. Your participation will last approximately 10 minutes. People who participate via SONA Systems will be compensated with 0.25 credits.

PARTICIPANT RIGHTS Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to leave the study early or choose not to participate, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

BENEFITS Your participation will make an important contribution to our understanding of experience of mistreatment and abuse during childbirth, which might inform future interventions to reduce and eliminate obstetric violence in Germany and the Netherlands. For student participants, participation in psychological research can be a good vehicle for exposing students to the methods and procedures used by psychologists to build our knowledge base. All students who may take part in this study will be enrolled in courses in psychology or a related field. Accordingly, their participation will directly benefit them by providing an educational opportunity to be exposed to a range of research methods in their fields of study.

RISKS The risks of participation in this study are minimal. However, some participants may experience discomfort due to the sensitive nature of the questions we ask. If this is the case, you may skip questions you do not wish to answer. Also, remember that your participation in this study is voluntary, meaning you are free to stop at any time, and will be compensated for your time accordingly. You are also free to discontinue your participation at any time. If you expect that participating in this study may trigger traumatic memories of abusive birth experiences, please do not participate in this study. If you participate and find yourself experiencing any strong discomfort, below we provide you with information to assist you in dealing with any resurfacing trauma. This information is also presented at the end of the survey.

- **24h help-hotline:** 08000 116 016
- **Websites:** https://stichtingbevallingstrauma.nl/ and https://www.gerechte-geburt.de/links/verarbeitung-von-schweren-geburten/

CONFIDENTIALITY Confidentiality will be maintained by having the study filled out anonymously. There will be no way to link your personal information to the survey. The results of this study may be used in aggregate in reports, presentations, or publications but your name will not be known. Initially, only the research team (student: Marie Luise Reuther and supervisor: Dr. Pelin Gül) will have access to collected data which will be stored in encrypted password-protected electronic databases or on encrypted password-protected computers. De-identified information collected about you during this study may be shared with other researchers or used for future research studies. We will not obtain additional informed consent from you before sharing the de-identified data. If the results are published, the de-identified data may be shared with other researchers for the purposes of verification, but your identity will remain confidential because no identifiable information will be collected. It is not likely that other researchers who have access the data would be able to indirectly identify you via deductive disclosures. We will mitigate this risk by recoding demographic data with small groups < 3. This de-identified data sharing will be accomplished by uploading the data to an online repository (such as the Open Science Framework). For participants coming from SONA: The SONA system is used solely for signing up for the study and awarding credit and is not linked to your survey responses.

Your personal identifying information is kept confidential via the SONA system. To ensure confidentiality to the extent permitted by law, the following measures will be taken: Qualtrics anonymizes participants' responses and no identifying information will be collected during the study.

QUESTIONS For further information about this study, you may contact Marie Luise Reuther via m.l.reuther@student.utwente.nl, or Dr. Pelin Gül via p.gul@utwente.nl, the persons in charge of this research study. If you would like to talk with someone other than the researchers to discuss problems or concerns, to discuss situations in the event that a member of the research team is not available, or to discuss your rights as a research participant, or if you have any questions about the rights of research participants, please contact the Ethical Review Committee of the Behavioural and Management Sciences Faculty, University of Twente, Netherlands, ethicscommittee-bms@utwente.nl.

CONSENT AND AUTHORIZATION PROVISIONS You may or may not choose to participate in this study. If you choose to participate, please read the following statements, and acknowledge your consent by clicking on each box below.

- I have read and understood the information given above
- I understand that I can refuse to answer questions and that I can withdraw from the study at any point of time without giving a reason.
- I give my voluntary consent to participate in the study.

<u>Demographics</u>

What is your nationality? (german, dutch, other)

What is your ethnicity? (White Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, Other, prefer not to say)

What is your age? (open answer)

What is your gender? (female, male, other, prefer not to say)

How many births did you have? (0,1,2,3,4,5,6,7 or more)

Are you currently or have you ever been part of a self-help group for traumatic birth and/or mistreatment during childbirth? (yes/no)

OV-scale

Here, a number of behaviours of medical staff are presented which you may or may not have experienced during giving birth. **Medical staff** in this case means any person that helped you with delivering your child [obstetricians (e.g., doctors that are responsible for childbirth), nurses, midwifes, gynaecologists, etc.]. Please select **'yes/true/applies'** if you ever experienced this behaviour during any of your childbirths and **'no/false/does not apply'** if you did not experience this kind of behaviour during any of your childbirths.

1. Physical force was used against you during birth (for example: poking, aggressive physical contact and/or other)
2. Medical staff physically restrained you during birth (for example: you were tied to the delivery bed and/or other.)
3. The medical staff used harsh and/or rude language when interacting with you (and/or shouting, scolding and/or other)
4. You were threatened in any form during childbirth (for example: threatened to withhold treatment, take your baby away, threatened to induce pain and/or other)
5. The medical staff blamed you for poor health outcomes of your newborn.
6. The medical staff mocked you (for example: laughing at you, joking about your pain, and/or other)
7. The medical staff sexually abused and/or raped you during childbirth.
8. You were discriminated against because some of your personal attributes (for example: ethnicity, age, religion, nationality, socioeconomic status and/or other)
9. Some examinations and procedures were performed on you without you giving consent.
10. Some examinations and procedures were performed on you despite you saying no.
11. You were refused pain relief medication.
12. Medical staff ignored you, refused you requests for help or failed to respond to requests in a reasonable amount of time.
13. During delivery health care personal did **not** give adequate information, explanations, and reasons about what procedures would be performed on you in a comprehensible way so that you did not **feel** adequately informed at all times.
14. You were denied the company of your preferred birth companion during delivery (e.g. husband, friend, family member, etc.)
15. You were **not** allowed to give birth in your preferred position solely because the medical staff did not prefer it.
16. There was a lack of supportive care from medical staff.
17. The medical staff did **not** respect your autonomy and right to self-determination.

18. The medical staff pressured you to agree to interventions that you did not want
19. There were language and interpretation issues between you and the medical staff.
20. Some of the medical staff that treated you were **not** skilled and/or **not** qualified to do so.
21. Your physical privacy was violated (i.e., being uncovered, having no curtain or blanket, or having people in the delivery room without your consent)"
22. You did **not** feel save to express your opinion and concerns throughout the childbirth.

Time question (only shown if at least 1 OV item was experienced)

For the behaviours of medical staff that you just answered the questions about, when was the last time you experienced one or more of these behaviours?

- 0 months to 12 months ago
- 1 year-2 years ago
- 2-3 years ago
- 3 to 4 years ago
- 4-5 years ago
- 5-6 years ago
- 6-7 years ago
- 7-8 years ago
- 8-9 years ago
- 9-10 years ago
- 10 or more years ago

Prevalence Question (only shown if at least 1 OV item was experienced)

During how many of your births did such a behaviour occur?

- 1
- 2
- 3
- 4
- 5
- 6
- 7 or more

Place (only shown if at least 1 OV item was experienced)

At which type of birth(s) were any of these behaviours present? (Multiple options can be selected)

- Birth in a conventional medical facility (e.g. hospital, clinic, delivery unit, etc.)
- Birth that was not in a conventional medical facility (e.g. home birth)
- Planned C-section
- Unplanned C-section
- Vaginal Birth
- Other

Childbirth-related trust scale

Now we would like to know what your opinion on **childbirth related medical care** in your country is. This includes all services by obstetricians (= doctors that are responsible for childbirth), nurses and midwifes in childbirth facilities such as hospitals, clinics, delivery rooms, maternity wards and similar facilities. Below you see statements with answer possibilities that range between strongly agree to strongly disagree. For each statement, please select the answer that you consider most fitting.

1. I trust my obstetrician's judgements about my childbirth related care.
2. My obstetrician is a real expert in taking care of childbirth.
3. I trust my obstetrician so much that I always follow his/her advice.
4. Sometimes obstetricians care more about what is convenient for them than about their patients' medical needs.
5. Obstetricians would never mislead you about anything.
6. All in all, you trust obstetricians completely.
7. Patients have sometimes been deceived or misled by childbirth related health care organizations.
8. Sometimes I wonder if childbirth related health care organizations really know what they are doing.
9. When childbirth related health care organizations make mistakes, they usually cover it up.

General medical trust scale

Now we would like to know what your opinion on medical care that is **NOT childbirth related** is. This includes all regular medical staff (such as doctors and nurses) and conventional medical services such as doctor's visits, surgeries, emergency care, etc. (for everything besides childbirth). Below you see statements with answer possibilities that range from strongly agree to strongly disagree. For each statement, please select the answer that you consider most fitting.

1. I trust my doctor's judgements about my medical care.
2. My doctor is a real expert in taking care of medical problems
3. I trust my doctor so much that I always follow his/her advice

4. Sometimes doctors care more about what is convenient for them than about their patients' medical needs.
5. Doctors would never mislead you about anything.
6. All in all, you trust doctors completely.
7. Patients have sometimes been deceived or misled by health care organizations.
8. Sometimes I wonder if health care organizations really know what they are doing.
9. When health care organizations make mistakes, they usually cover it up.

Willingness to seek care

Childbirth-related Care:

Please indicate your willingness to seek medical care in **conventional childbirth facilities** (such as hospitals, clinics, delivery units, etc.), when it comes to **childbirth related concerns** (e.g., birth-related check-ups or tests, or giving birth, etc.).

1. If I had a childbirth related concern, I would *intend* to seek help from a conventional childbirth facility.
2. If I had a childbirth related concern, I would *try* to seek help in a conventional childbirth facility.
3. If I had a childbirth related concern, I would *plan* to seek help in a conventional childbirth facility.

General Medical Care:

Please indicate your willingness to seek medical care in **conventional medical facilities** (such as hospitals, clinics, treatment centers, etc.), when it comes to **medical concerns that are NOT childbirth related** (such as pain, illness, etc.).

General Medical care for oneself

1. If I had a medical concern, I would *intend* to seek help from a conventional medical facility.
2. If I had a medical concern, I would *try* to seek help in a conventional medical facility.
3. If I had a medical concern, I would *plan* to seek help in a conventional medical facility.

General Medical Care for one's child

1. If I had a medical concern regarding my child, I would *intend* to seek help from a conventional medical facility.

2. If I had a medical concern regarding my child, I would *try* to seek help in a conventional medical facility.
3. If I had a medical concern regarding my child, I would *plan* to seek help in a conventional medical facility.

Finalization

Thank you for participating in this study!

Please indicate whether we may use your answers for our research

- Yes you may use my answers
- No, you may not use my answers (I want to withdraw from the study)

In case you want to get additional information about the topic or want to receive assistance for dealing with resurfacing trauma following sources are provided.

This counselling hotline for violence against women is available 24 hours and has multiple interpreters ready for various languages (e.g. German, Turkish, Russian, French, English, Spanish, Portuguese, Italian, Polish, Serbo-Croatian, Chinese, Bulgarian, Romanian, Arabic, Persian and Vietnamese) **08000 116 016**

To gain more information about the topic following websites are available, which also list help possibilities besides phone counselling: Germany: https://www.gerechte-geburt.de/links/verarbeitung-von-schweren-geburten/ Netherlands: https://stichtingbevallingstrauma.nl/

APPENDIX C
Scales and Scoring

Obstetric Violence Scale

Table C1

Items of the Obstetric Violence Scale in Relation to Type and Item Number

Subscale	No.	Item
Physical Abuse	1	Physical force was used against you during birth (for example: poking, aggressive physical contact and/or other)
	2	Medical staff physically restrained you during birth (for example: you were tied to the delivery bed and/or other)
Verbal Abuse	3	The medical staff used harsh and/or rude language when interacting with you (for example: shouting, scolding and/or other)
	4	You were threatened in any form during childbirth (for example: threatened to withhold treatment, threatened to take your baby away, threatened to induce pain and/or other)
	5	The medical staff blamed you for poor health outcomes of your new-born.
	6	The medical staff mocked you (for example: laughing at you, joking about your pain, and/or other).
Sexual Abuse	7	The medical staff sexually abused and/or raped you during childbirth (for example: penetrating you with an object without your consent, being molested by medical staff, etc.)
Stigma and Discrimina-tion	8	You were discriminated against because some of your personal attributes (for example: ethnicity, age, religion, nationality, socioeconomic status and/or other)
Failure to meet professional standards of care	9	Some examinations and procedures were performed on you without you giving consent.
	10	Some examinations and procedures were performed on you despite you saying no.
	11	You were refused pain relief medication.
	12	Medical staff ignored you, refused your requests for help or failed to respond to requests in a reasonable amount of time.
Poor rapport between women and providers	13	During delivery health care personal did not give adequate information, explanations, and reasons about what procedures would be performed on you in a comprehensible way so that you did not feel adequately informed at all times.
	14	You were denied the company of your preferred birth companion during delivery (e. g. husband, friend, family member, etc.)
	15	You were not allowed to give birth in your preferred position solely because the medical staff did not prefer it.
	16	There was a lack of supportive care from medical staff.
	17	The medical staff did not respect your autonomy and right to self-determination.
	18	The medical staff pressured you to agree to interventions that you did not want.
	19	There were language and interpretation issues between you and the medical staff.
Health System Conditions and Constraints	20	Some of the medical staff that treated you were not skilled and/or not qualified to do so.
	21	Your physical privacy was violated (for example being uncovered, having no curtain or blanket, or having people in the delivery room without your consent).
	22	You did not feel save to express your opinion and concerns throughout the childbirth.

Note. The two answer options for each item were "yes/true/applies" which was coded with 1 and "no/false/does not apply" which was coded with 0. Per participant, for all items a sum score was calculated.

Trust Scales

Table C2

Items for Trust in Childbirth-related Medical Care per Subscale

Subscale	No.	Item
Trust in Individual	1	I trust my obstetrician's judgements about my childbirth-related care.
	2	My obstetrician is a real expert in taking care of childbirth problems.
	3	I trust my obstetrician so much that I always follow his/her advice.
Trust in System	4	Sometimes obstetricians care more about what is convenient for them than about their patients' medical needs
	5	Obstetricians would never mislead you about anything.
	6	All in all, you trust obstetricians/doctor's completely
Trust in Institution	7	Patients have sometimes been deceived or misled by childbirth-related health care organizations.
	8	Sometimes I wonder if childbirth-related health care organizations really know what they are doing.
	9	When childbirth-related health care organizations make mistakes they usually cover it up.

Note. Items were scored on a 5-point Likert scale with the answer possibilities 'strongly disagree' coded as 1, 'disagree' coded as 2, 'neutral' coded as 3, 'agree' coded as 4, and 'strongly agree' coded as 5. For item 7, 8, and 9 scoring was reversed. Per participant, for all items a sum score was calculated.

Table C3

Items for Trust in General Medical Care per Subscale

Subscale	No.	Item
Trust in Individual	1	I trust my doctor's judgements about my childbirth-related care.
	2	My doctor is a real expert in taking care of medical problems.
	3	I trust my doctor so much that I always follow his/her advice.
Trust in System	4	Sometimes doctors care more about what is convenient for them than about their patients' medical needs
	5	Doctors would never mislead you about anything.
	6	All in all, you trust doctors completely
Trust in Institution	7	Patients have sometimes been deceived or misled by health care organizations.
	8	Sometimes I wonder if health care organizations really know what they are doing.
	9	When health care organizations make mistakes they usually cover it up.

Note. Items were scored on a 5-point Likert scale with the answer possibilities 'strongly disagree' coded as 1, 'disagree' coded as 2, 'neutral' coded as 3, 'agree' coded as 4, and 'strongly agree' coded as 5. For item 7, 8, and 9 scoring was reversed. Per participant, for all items a sum score was calculated.

Willingness to Seek Care Scales

Table C4

Items for Willingness to Seek Childbirth-related Medical Care

Subscale	No.	Item
Childbirth-related medical care	1	If I had a childbirth related concern, I would *intend* to seek help from a conventional childbirth facility.
	2	If I had a childbirth related concern, I would *try* to seek help in a conventional childbirth facility.
	3	If I had a childbirth related concern, I would *plan* to seek help in a conventional childbirth facility.

NOTE. Items were scored on a 7- point Likert scale with the answer possibilities 'extremely unlikely' coded as 1, 'unlikely' coded as 2, 'somewhat unlikely' coded as 3, 'neither likely nor unlikely' coded as 4, 'somewhat likely' coded as 5. 'likely' coded as 6, and 'extremely likely' coded as 7.

Table C5

Items for Willingness to Seek General Medical Care for Oneself

Subscale	No.	Item
General medical Care (oneself)	1	If I had a medical concern, I would *intend* to seek help from a conventional medical facility.
	2	If I had a medical concern, I would *try* to seek help in a conventional medical facility.
	3	If I had a medical concern, I would *plan* to seek help in a conventional medical facility.

NOTE. Items were scored on a 7- point Likert scale with the answer possibilities 'extremely unlikely' coded as 1, 'unlikely' coded as 2, 'somewhat unlikely' coded as 3, 'neither likely nor unlikely' coded as 4, 'somewhat likely' coded as 5. 'likely' coded as 6, and 'extremely likely' coded as 7.

Table C6

Items for Willingness to Seek General Medical Care for One's Child

Subscale	No.	Item
General medical Care (child)	1	If I had a medical concern regarding my child, I would *intend* to seek help from a conventional medical facility.
	2	If I had a medical concern regarding my child, I would *try* to seek help in a conventional medical facility.
	3	If I had a medical concern regarding my child, I would *plan* to seek help in a conventional medical facility.

NOTE. Items were scored on a 7- point Likert scale with the answer possibilities 'extremely unlikely' coded as 1, 'unlikely' coded as 2, 'somewhat unlikely' coded as 3, 'neither likely nor unlikely' coded as 4, 'somewhat likely' coded as 5. 'likely' coded as 6, and 'extremely likely' coded as 7.

APPENDIX D

Factor Loading Table for Obstetric Violence Scale

Table D1

Factor Loadings per Item in Relation to Original Type of OV

Type	Item	Loading	Factor						
			1	2	3	4	5	6	7
Physical	1. Physical force was used against you during birth (for example: poking, aggressive physical contact and/or other)	.57					**.73**		
	2. Medical staff physically restrained you during birth (for example: you were tied to the delivery bed and/or other)	.23					**.24**		.22
Verbal	3. The medical staff used harsh and/or rude language when interacting with you (for example: shouting, scolding and/or other)	.48		**.50**		-.23			
	4. You were threatened in any form during childbirth (for example: threatened to withhold treatment, threatened to take your baby away, threatened to induce pain and/or other)	.35			**.45**				
	5. The medical staff blamed you for poor health outcomes of your new-born.	.44		.22				**.59**	
	6. The medical staff mocked you (for example: laughing at you, joking about your pain, and/or other).	.54		**.58**		-.21			
Sexual	7. The medical staff sexually abused and/or raped you during childbirth (for example: penetrating you with an object without your consent, being molested by medical staff, etc.)	.40			**.64**				
Discrimination	8. You were discriminated against because some of your personal attributes (for example: ethnicity, age, religion, nationality, socioeconomic status and/or other)	.37		**.56**					
Failure to meet professional standard of care	9. Some examinations and procedures were performed on you without you giving consent.	.41	**.43**				.29		
	10. Some examinations and procedures were performed on you despite you saying no.	.28	**.53**						
	11. You were refused pain relief medication.	.37				**-.52**			.22
	12. Medical staff ignored you, refused your requests for help or failed to respond to requests in a reasonable amount of time.	.53				-.27			**.54**
Poor rapport between women and provider	13. During delivery health care personal did not give adequate information, explanations, and reasons about what procedures would be performed on you in a comprehensible way so that you did not feel adequately informed at all times.	.51	.27				.23		**.43**
	14. You were denied the company of your preferred birth companion during delivery (e. g. husband, friend, family member, etc.)	.21						**.43**	
	15. You were not allowed to give birth in your preferred position solely because the medical staff did not prefer it.	.48	**.59**			.26			
	16. There was a lack of supportive care from medical staff.	.47							**.66**
	17. The medical staff did not respect your autonomy and right to self-determination.	.69	**.76**						
	18. The medical staff pressured you to agree to interventions that you did not want.	.31	**.27**					.26	
	19. There were language and interpretation issues between you and the medical staff.	.04							
Health System Conditions/Constraints	20. Some of the medical staff that treated you were not skilled and/or not qualified to do so.	.06							
	21. Your physical privacy was violated (for example being uncovered, having no curtain or blanket, or having people in the delivery room without your consent).	.30					**.31**		
	22. You did not feel save to express your opinion and concerns throughout the childbirth.	.50	.28						**.46**