Midwifery 124 (2023) 103766

Contents lists available at ScienceDirect

Midwifery

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

The prevalence of obstetric violence experienced by women during childbirth care and its associated factors in Türkiye: A cross-sectional study☆,☆☆

Özlem Aşci[a,*], Meltem Demirgoz Bal[b]

[a] Zübeyde Hanım Faculty of Health Sciences, Division of Midwifery, Niğde Ömer Halisdemir University, Niğde, Turkey
[b] Faculty of Health Sciences, Division of Midwifery, Marmara University, Istanbul, Turkey

ARTICLE INFO

Article history:
Received 19 November 2022
Revised 20 June 2023
Accepted 21 June 2023

Keywords:
Childbirth
Obstetric violence
Türkiye
Women's health

ABSTRACT

Objective This study determined the prevalence of obstetric violence experienced by women during childbirth and related factors in Türkiye.

Design Cross-sectional study

Setting This study was conducted in the mother-child health and gynecology outpatient clinics of the training and research hospital in Türkiye.

Participants The study was completed with 513 women who gave birth in the last two years between January and May 2022.

Methods Data were collected using a questionnaire prepared by the researchers. Bivariate and multivariate logistic regression analyzed the relationship between obstetric violence and socio-demographic and obstetric characteristics.

Findings Obstetric violence was reported by 76.4% of the women: 44.4% physical abuse, 44.4% abandonment of care, 26.5% non-consented care, 25.1% non-dignified care, 3.3% non-confidential care, and 0.4% discrimination. Low income (OR=1.98), physician-attended birth (OR=2.91), vaginal birth (OR=6.04), and newborn admission to the neonatal care unit (OR=2.99) were associated with higher reporting of obstetric violence. Primiparous women (OR=0.51), whose pain was controlled by non-pharmacological methods (OR=0.34) and who received companion support (OR=0.24) were less likely to report experiencing obstetric violence ($p < 0.05$).

Key conclusions Approximately three out of four Turkish women report that they have been exposed to obstetric violence during childbirth. In Türkiye, vaginal birth is the type of childbirth with the highest rate of obstetric violence reporting. Women who are low-income and multiparous, who are deprived of midwife, companion, and pain control support during childbirth, are more likely to experience obstetric violence.

Implications for practice Supporting low-income women, protecting women from traumatic acts and unnecessary interventions in a vaginal birth, increasing births under the attendance of midwives, and providing pain control with non-pharmacological methods, and companion support during labor may be protective factors against obstetric violence.

Introduction

Although essential gains have been achieved with the developments in perinatal care globally, the problem of reproductive health inequality has still not been resolved in many countries (O'Brien and Rich, 2022). The World Health Organization reports that many women are subjected to disrespectful and ill-treatment in health facilities during birthing, violating their right to respectful care and threatening their right to life, health, and bodily integrity (World Health Organization, 2015). This important human rights violation and healthcare problem can be referred to in different ways, such as "abuse", "disrespect" and/or "mistreatment" and "obstetric violence". However, there is no consensus on these terms and no standardized definition (Leite et al., 2022). It is accepted that the trauma experienced by women during obstetric care meets all the criteria of the concept of "violence" (L. Katz et al., 2020).

☆ **Data Sharing Statement:** Data can be obtained from the corresponding author.
☆☆ Funding: No
* Corresponding author.
E-mail address: ozlemasci@ohu.edu.tr (Ö. Aşci).

https://doi.org/10.1016/j.midw.2023.103766
0266-6138/

In this context, it is thought that using the term "obstetric violence" and revealing the term as a reality is important in terms of contributing to the solution of the problem. The formulation of the concept of obstetric violence is new, but the experience is old. The genealogy of this concept is rooted in hospital reflexivity and feminist movements (Azcué and Tain, 2021). In addition, the first legal definition of the concept of "obstetric violence" was made in Venezuela in 2016. The law recognizes that women's bodies and reproductive processes are not the property of healthcare professionals (Jardim and Modena, 2018).

Obstetric violence, which is a gender-based expression of maltreatment and abuse during childbirth (Castro and Frías, 2020), is the type of violence that occurs during the childbirth of health services during pregnancy, childbirth, and the postpartum period (Katz et al., 2020). Action, behavior, or omission that may lead to inhuman and ill-treatment of a pregnant/puerperal woman during professional care, loss of free decision-making ability, and autonomy regarding body and sexuality, the pathologization of physiological processes is considered obstetric violence (Katz et al., 2020; Leite et al., 2022; Shrivastava and Sivakami, 2020).

Obstetric violence during childbirth is thought to arise from individual-level encounters between caregivers and women, disruptions in the healthcare system, and abusive institutional atmosphere and culture (Faheem, 2022). Birth in Türkiye has moved away from being a social and religious event choreographed by women at home, as in many cultures. Over time, it has turned into a medical event where the birth occurs in a health institution and is mostly managed by men (Kitzinger, 2000; Topçu, 2019). The rapid medicalization of childbirth and the replacement of traditional midwifery by male-dominated obstetricians deepens gender-based inequality. Physician-centered understanding of the childbirth process increases unnecessary and aggressive interventions that are routinely applied, preventing women from having a say about their bodies and health (O'Brien and Rich, 2022). It is stated that physicians' definitions of pregnancy/birth as a "disease" often cause them to use tools to understand the process, resulting in a medical environment that ignores/disregards the woman's control over pregnancy/birth (Prosen and Tavcar Krajnc, 2013). All of this causes women to be hurt and harmed by an experience in which they feel powerless (Kitzinger, 2000; Kulakaç, 2021; Topçu, 2019).

One review, it is reported that the prevalence of obstetric violence varies between 12 and 75%, depending on the countries, definition, and assessment of obstetric violence (Kaya and Şahin, 2021). It was stated that 17.1–63.6% of women's consent for care was ignored, 19.3–55.3% were subjected to condescending and humiliating remarks by health professionals, 13.4–46.9% were subjected to maltreatment such as slapping and hitting by health professionals, 8.5–10.6% were neglected in care, and 3.0–9.3% were subjected to negative discrimination while receiving care (Kaya and Şahin, 2021). In another study, it was reported that the prevalence of obstetric violence varied between 15 and 91%, depending on the country (Martínez-Galiano et al., 2021).

Although it is a common problem, there is limited information about obstetric violence and related factors. It is stated that more research is needed due to differences in obstetric violence patterns between countries (Kaya and Şahin, 2021) and inconsistent reports on factors associated with obstetric violence (Martínez-Galiano et al., 2021). Some studies have reported that obstetric violence is more common in women with social, economic, or health problems (Shrivastava and Sivakam, 2020) and is exacerbated by patient-caregiver conflict (Vedam et al., 2019). Other factors associated with obstetric violence include young age, low educational level, not attending a prenatal childbirth preparation course (Scandurra et al., 2022), a type of birth (Scandurra et al., 2022; Shrivastava and Sivakam, 2020), the structure of the birth center (Shrivastava and Sivakam, 2020), and the type of anesthesia used during childbirth (Kulakaç, 2021). It is stated that the presence of a birth plan that is adhered to and the provision of postpartum mother-infant contact may be protective factors against obstetric violence (Martínez-Galiano et al., 2021). It is also known that the physical and psychological effects of obstetric violence can last for a long time (Vacaflor, 2016; Martinez-Vázquez et al., 2022; Scandurra et al., 2022).

Obstetric violence against women during childbirth is a serious problem in the Turkish care system that negatively affects women's health (Avcı and Kaydırak, 2023). Considering obstetric violence together with different types of violence (Çetin et al., 2023) or examining its scope with limited experiences in the childbearing process also poses an obstacle to defining the current situation in Türkiye (Okyay et al., 2022). There is a need for a clear determination of the prevalence of obstetric violence and related factors to inform women, health officials, and policymakers (Avcı and Kaydırak, 2023; Martínez-Galiano et al., 2021). This study, it was aimed to examine the prevalence of obstetric violence experienced by women during childbirth and related factors in Türkiye. This study was expected to answer the following questions;

1 What are the prevalence and forms of obstetric violence experienced by women during childbirth in Türkiye?
2 What is the relationship between women's reporting of violence during childbirth and the sociodemographic and obstetric factors examined?

Methods

Samples and setting

This cross-sectional study was conducted with women who applied to the mother-child health and gynecology outpatient clinics of the training and research hospital in Türkiye for routine checkups of themselves or their children (postnatal control or infant-childhood follow-up). The hospital where the study was conducted is located in the Central Anatolia Region of Türkiye. In this hospital, an average of 900–1000 births occur monthly. Due to its location and equipment, the hospital serves a large number of women coming from neighboring provinces and different health facilities.

The inclusion criteria for this study were having given birth to a live baby (including postnatal infant and child death) in any health facilities in Türkiye within the last two years, being old enough to give consent for the study (≥18 age), not being pregnant, having no communication problems, being Turkish, being literate and agreeing to participate in the study. Women who met the inclusion criteria were recruited from a single hospital but had their birth experience in any hospital.

In this study, the recommendations of Bujang et al. (2018) were taken into consideration in deciding the sample size. Accordingly, in observational studies in which logistic regression will be performed, the minimum sample size is accepted as 500 considering the number of independent variables examined to obtain statistics representing the parameters. In the study, 542 women who met the inclusion criteria were reached using the convenience sampling method. However, 29 women were excluded from the study during data analysis because of inconsistent or missing data. The study was completed with the participation of 513 women.

Questionnaire

The study data were collected using a questionnaire based on the literature (Asefa and Bekele, 2015; Bowser and Hill, 2010; Castro and Frías, 2020; Khalil et al., 2022; Martínez-Galiano et al., 2021). The questionnaire consisted of two parts. The first part consists of a total of 27 questions assessing socio-demographic characteristics such as age, education, and economic status (8 questions);

Table 1
Obstetric violence categories and verification criteria.

Obstetric Violence	Description
Physical abuse	In the health facility where childbirth care is provided, subjecting the woman to physical force (slapping, pushing, pinching, tying, or threats of beatings), refusing pain control requests, forcing her to stay in an uncomfortable and painful position, cutting or suturing episiotomy incisions or perineal tears without anesthesia, applying fundal compression (Kristeller maneuver) (Bowser and Hill, 2010; Castro and Frías, 2020; Khalil et al., 2022), restriction of oral fluid or food intake during labor without any explanation (Khalil et al., 2022). At least one 'yes' answer in these criteria was considered physical abuse.
Non-consented care	In the health facility where childbirth care is provided, the woman's failure to obtain appropriate information about medical procedures from health professionals, her consent is not requested for medical procedures (cesarean section, episiotomy, augmentation of labor, vaginal examination, blood transfusion, enema, shaving, postpartum contraception or sterilization, birth position) and her decision-making power is limited (Asefa and Bekele, 2015; Bowser and Hill, 2010; Castro and Frías, 2020). At least one 'yes' answer in these criteria was considered as non-consented care.
Non-confidential care	In the health facility where childbirth care is provided, sharing the private information of the woman with people who are not related to care and treatment, overcrowded examination/giving birth without privacy barriers such as curtains and drapes (Asefa and Bekele, 2015; Bowser and Hill, 2010; Khalil et al., 2022). At least one 'yes' answer in these criteria was considered as non-confidential care.
Non-dignified care	Exposing the woman to one of the following by the health professionals in the health facility where she receives childbirth care; sarcastic attitude/rude treatment/imperative speech, shouting, scolding/insulting, offensive and derogatory remarks, being blamed for any reason (Bowser and Hill, 2010; Castro and Frías, 2020; Khalil et al., 2022), inhibiting emotional expression /not listening to what is said/ignoring questions about the birth process and the baby and not allowing the birth companion (Asefa and Bekele, 2015; Martínez-Galiano et al., 2021). At least one 'yes' answer in these criteria was considered as non-dignified care.
Discrimination	Discrimination or ill-treatment of a woman in the health facility where she receives childbirth care on any grounds such as language, social status, economic status, appearance, belief, culture, or health status (Asefa and Bekele, 2015; Bowser and Hill, 2010; Khalil et al., 2022). At least one 'yes' answer to these criteria was considered discrimination.
Abandonment of care	In the health facility where childbirth care is provided, the woman's not getting help for a long time, giving birth without a health professional, not getting the breastfeeding support she wants, or late intervention in any situation that may threaten her life (Asefa and Bekele, 2015; Bowser and Hill, 2010; Khalil et al., 2022). At least one 'yes' answer in these criteria was considered abandonment care.
Detention in facilities	Detention of the woman for various reasons in the health facility providing childbirth care, demanding gifts or unofficial money from the woman/relatives (Asefa and Bekele, 2015; Bowser and Hill, 2010; Khalil et al., 2022). At least one 'yes' answer to these criteria was considered as detention in facilities.

obstetric characteristics such as parity, birth time, and mode of childbirth, clinical procedures at childbirth, and health problems of mother and newborn (18 questions); and attendant support at childbirth (1 question).

The second part consists of 40 closed-ended statements that can be answered as dichotomous (yes/no) in the question stem "Do you think you have experienced any of the following in the health facility where you gave your last birth?". An open-ended question was added at the end of the questionnaire form so that women could make additional reports of obstetric violence. Before data collection, a preliminary study was conducted by the first author with 30 women who could not be included in the sample to assess the comprehensibility of the questionnaire. After the preliminary study, the form was finalized according to the suggestions of the women.

Data collection

Research data were collected between January and May 2022. Before starting the study, all women were verbally informed about the research topic, the purpose of the study was explained, and then their informed written consent was obtained. The questionnaire was given to women who met the inclusion criteria by the first researcher before the outpatient clinic visit. The women filled out the questionnaire in 15–20 min by themselves in the waiting rooms of the outpatient clinic.

Study variables

The main outcome variable of this study was obstetric violence, and the independent variables were socio-demographic and obstetric characteristics. The examined demographic variables were women and their spouse age, education, women working status, economic status, and social security. The obstetric variables examined included parity, participation in the prenatal preparation classes, place of birth, birth attendants, type of birth, induction usage at labor, pain control support, skin-to-skin contact, breastfeeding in the first hour postpartum, companion support, maternal health problems, and neonatal care unit need.

According to Bowser and Hill's (2010) report, obstetric violence is defined into seven categories. These are physical abuse, non-consented care, non-confidential care, non-dignified care, discrimination, abandonment of care, and detention in facilities. The categories of obstetric violence and verification criteria are presented in Table 1. A woman was considered to have experienced obstetric violence during childbirth care if she answered 'yes' to at least one of the verification criteria in Table 1. The assessment of obstetric violence based on at least one victimization through verification criteria has also been used by different researchers (Castro and Frías, 2020; Martínez-Galiano et al., 2021; Mihret, 2019).

Statistical analysis

Data were evaluated using the SPSS IBM (24.00) software. Number, percentage, mean, and standard deviation were used for descriptive statistics. Bivariate and multivariate analyses were performed between obstetric violence and sociodemographic and obstetric variables. In multivariate regression analysis, the backward elimination technique was used by setting $p = 0.15$ to select the independent variables from the model and $p = 0.10$ to remove them from the model. In this way, it was aimed to control the confounding effects of the associated factors on the outcome (Sun et al., 1996). In the multivariable model, variables with p-value < 0.05 in 95% CI were considered independent predictors of reporting obstetric violence.

Ethical considerations

This study was approved by *** University Ethics Committee with the decision dated 21/12/2021 and numbered 147,902.

Findings

Socio-demographic and obstetric characteristics

In this study, 513 women who declared that they had given birth to a live baby in a health facility in the last two years participated. There were no women with a history of a postpartum infant or child death. The time elapsed after the last childbirth was 0–6 months in 40.7% of the women, 7–12 months in 24.0%, 13–18 months in 22.4%, and 19–24 months in 12.9% of the women. The mean age of the women, all of whom reported that they were married, was 27.18±4.95 years, and the mean age of their spouses was 30.90±5.47 years. 66.1% of women and 68.2% of spouses had more than 9 years of education. 27.1% of women stated that they work in a job, 74.5% of them stated that their income is medium/high, and 84.8% of them have health insurance.%51.7% of the women reported that they were primiparous and 9.8% of women attended prenatal classes for the last birth. Most of the women stated that they gave their last birth in a state hospital (77.2%), with a physician (54.8%), and with normal vaginal birth (42.3%). The socio-demographic and obstetric characteristics of the women are shown in Table 2.

Although not shown in the table, of the women, 36.3% (n = 186) underwent labor induction with oxytocin, 32.0% (n = 164) pain control support with non-pharmacological methods, 37.8% (n = 194) regional analgesia, and 9.3% (n = 48) general anesthesia had been provided. 49.9% of women (n = 256) stated that their babies were dried and placed directly on their bare breasts after birth and that they could establish skin-to-skin contact with their babies for a while. The rate of women starting breastfeeding within the first hour after birth was 78% (n = 400). 61% (n = 313) of the women stated that they received companion support, 9.7% (n = 50) had health problems during childbirth, and 14.8% (n = 76) of them stated that their babies were admitted to the neonatal care unit.

Table 2
Women's socio-demographic and obstetric characteristics (n = 513).

Characteristics	n	%
Age (years)		
≤ 27	259	50.5
> 27	254	49.5
Spouse age (years)		
≤ 30	288	56.1
>30	225	43.9
Educational level (years)		
≤ 8	174	33.9
> 9	339	66.1
Spouse's educational level (years)		
≤ 8	163	31.8
> 9	350	68.2
Working status		
Yes	139	27.1
No	374	72.9
Economic status		
Low income	131	25.5
Middle-high income	382	74.5
Social insurance		
Yes	435	84.8
No	78	15.2
Parity		
Primiparous	265	51.7
Multiparous	248	48.3
Participation in the prenatal preparation classes		
Yes	50	9.8
No	463	90.2
Place of birth		
Private hospital	117	22.8
Public hospital	396	77.2
Birth attendants		
Midwife	214	41.7
Physician	217	42.3
Midwife/Physician	82	16.0
Type of birth		
Normal vaginal birth	86	16.8
Vaginal birth with episiotomy	195	38.0
Planned cesarean	148	28.8
Emergency cesarean	84	16.4

Prevalence and forms of obstetric violence

The prevalence of obstetric violence reported by women was 76.4%. The reported forms of violence were 44.4% physical abuse, 44.4% abandonment of care, 26.5% non-consented care, 25.1% non-dignified care, 3.3% non-confidential, and 0.4% discrimination. In the study, women did not report any form of "Detention in facilities". Forms and prevalence of obstetric violence are presented in Table 2. Of the 392 women who reported obstetric violence, 45.7% were exposed to one (n = 179), 30.4% to two (n = 119), 15.6% to three (n = 61), 6.6% to four (n = 26), 1.5% to five (n = 6) and 0.2% to six (n = 1) forms of violence. Statements including being slapped, pushed or pinched, or threatened with beatings by health professionals, or being forced to undergo sterilization or contraception were not identified. To the additional reporting question on obstetric violence, 26 women responded in the following context. These were: kind treatment (n = 10), emotional support (n = 7), receiving care in single rooms (n = 3), an environment favorable and comfortable to natural childbirth (n = 3), and a desire for simple and consistent advice (n = 3).

Correlates of obstetric violence

Univariate and multivariate analyses of the relationship between obstetric violence and sociodemographic and obstetric variables are presented in Table 3. When the automatic backward elimination procedure was used for variable selection, the following variables were included in the multivariate regression model: Economic status, parity, place of birth, birth attendants, type of birth, pain control support with non-pharmacological methods, breastfeeding in the first hour postpartum, companion support, and admission of the neonatal to care unit. In the presence of other variables, reporting of obstetric violence was associated with economic status, parity, birth attendants, type of birth, pain control support with non-pharmacological methods, companion support, and admission of the neonate to the care unit and shown in Table 4 ($p < 0.05$).

It was found that the odds of reporting obstetric violence was 1.98 times higher in low-income women (aOR = 1.98, 95% CI: 1.11- 3.52), 2.91 times more in women who gave birth attended by a physician (aOR = 2.91, 95% CI: 1.32 - 6.42), and 2.99 times in women whose babies were admitted to the neonatal care unit (aOR 2.99, 95% CI: 1.22–7.36). Compared to women who gave birth by cesarean section, the odds of reporting obstetric violence was 6.04 times higher in women who had a normal vaginal birth (aOR = 6.04, 95% CI: 2.30 - 15.87) and 2.72 times more in women who had a vaginal birth with episiotomy (aOR = 2.72, 95% CI: 1.21 - 6.08). Besides, women who were primiparous (aOR=0.51,%95 CI: 0.31 - 0.84), had pain control with non-pharmacological methods (aOR=0.34,%95 CI: 0.20 - 0.57) and received companion support (aOR=0.24,%95 CI: 0.14 - 0.42) were less likely to report experiencing obstetric violence ($p < 0.05$).

Discussion

This study, which determined the prevalence and related factors of obstetric violence experienced by women during childbirth, revealed that obstetric violence is a common problem in Türkiye with a rate of 76.4%. A study conducted in six European countries found that one in five pregnant women attending routine antenatal care experienced some form of lifetime abuse in health services

Table 3
Forms of obstetric violence and prevalence.

Forms of obstetric violence	n (%)
Physical Abuse	**228 (44.4)**
Forced to remain in an uncomfortable or painful position	145 (28.3)
Refusing anesthesia or painkillers to reduce pain without any explanation	21 (4.1)
Cutting or suturing episiotomy incisions or perineal tears without anesthesia*	4 (1.4)
Abdominal (fundal) compression to accelerate childbirth*	35 (12.4)
Restriction of oral fluid during labor*	66 (23.4)
Restriction of food intake during labor*	45 (16.0)
Non-Consented Care	**136 (26.5)**
Difficult to understand and inadequate information about medical interventions	15 (2.9)
Being forced to sign a piece of paper without being told what it is or what it is for	6 (1.2)
Ignoring preferred birth position*	9 (3.2)
Not asking for consent for cesarean section/not being informed about the reason for cesarean section**	9 (3.8)
Episiotomy without her consent*	28 (9.9)
Augmentation/induction of labor (oxytocin, amniotomy) without her consent	45 (16.0)
Repeated vaginal examinations by different health professionals without her consent	79 (15.4)
Other medical procedures (blood transfusions, enemas, shaving) without her consent	19 (3.7)
Non-Confidential Care	**17 (3.3)**
Sharing private information with people not involved in her care and treatment	2 (0.4)
Overcrowded examinations or giving birth without privacy barriers such as curtains and drapes	16 (3.1)
Non-Dignified Care	**129 (25.1)**
Sarcastic attitudes/rude treatment/imperative speech	56 (10.9)
Shouting, scolding/insults, offensive and derogatory remarks	55 (10.7)
Inhibiting she from expressing her feelings/not listening to what she say/ignoring the questions she ask	34 (6.6)
Blame for any reason, including the progress of labor, the health of the baby	7 (1.4)
Not allowing companionship during childbirth	50 (9.7)
Discrimination	**2 (0.4)**
Discrimination or ill-treatment on any grounds such as social status, economic status, appearance, belief, culture, health status	2 (0.4)
Abandonment of Care	**228 (44.4)**
Having to wait a long time for help	58 (11.3)
Giving birth without a health professional*	2 (0.7)
Not receiving the requested breastfeeding support after birth	182 (35.5)
Delay in intervention in any life-threatening situation	1 (0.2)
Obstetric violence (Any of the above)	**392 (76.4)**

*Percentage distribution is based on women who gave vaginal childbirth.
**Percentage distribution is based on women who had a cesarean childbirth.

(Lukasse et al., 2015). Given the long-term impact of the experience of giving birth on a woman's health and well-being (Avcı and Kaydırak, 2023; Karlström et al., 2015), the worldwide prevalence of obstetric violence is alarming (Jardim and Modena, 2018). Women's poor experiences with care providers and obstetric rights violations may lead them to avoid health facilities and opt for home births without healthcare professionals. This may lead to a rise in maternal and neonatal morbidity and mortality associated with obstetric violence.

In Eastern Mediterranean countries, six of seven forms of obstetric violence are reported to occur in about two-thirds of countries, regardless of the strength of health systems or country income (Khalil et al., 2022). In parallel, this study showed that women during childbirth care are exposed to all forms of obstetric violence except detention in facilities. In line with the literature (Jardim and Modena, 2018; Khalil et al., 2022; Mihret, 2019), non-consented care, non-dignified care, and physical abuse were identified as the most common forms of obstetric violence in this study. However, unlike previous studies (Mihret, 2019; Pazandeh et al., 2017), women's reports of non-confidential care and discrimination were relatively lower in this study. These differences may be because maternity care is free of charge at all levels of health care in Türkiye and the widespread religious belief that the female body should be closed is deeply rooted in society.

According to the legislation in Turkey, an individual must give free and informed consent for any intervention in the health field, except in cases of emergency or when the patient is unconscious. In this study, one out of every four women reported that their consent was not obtained during the procedures. Compared to other studies (Asefa and Bekele, 2015; Mihret, 2019; Okyay et al., 2022), women in this study reported relatively lower rates of non-consented care. However, failure to obtain informed consent correctly is an important problem in our country, and health professionals are frequently sued for this (Avcı and Kaydırak, 2023). Therefore, it is thought to be important to support both health professionals and women regarding patient rights and responsibilities.

In this study, women's most frequently reported expression of violence revealed important findings in understanding the extent of obstetric violence. Similar to previous studies (Avcı and Kaydırak, 2023; Castro et al., 2020; Martínez-Galiano et al., 2021), in this study, repeated vaginal examinations by different health professionals, being forced to stay in an uncomfortable and painful position, sarcasm/rude treatment/imperative speech, and shouting were among the most frequently repeated violations. Additionally, 'lack of postpartum breastfeeding support', which is rarely addressed by researchers as a criterion confirming obstetric violence (Avcı and Kaydırak, 2023; Brandão et al., 2018; Reis et al., 2012), stood out as an important element of neglected care in this study. This finding was consistent with the study by Brandão et al. (2018).

Evidence suggests that breastfeeding is extremely important in terms of infant mortality and morbidity (Ansari and Yeravdekar, 2021), that routine episiotomy is not effective in protecting against perineal trauma (Jiang et al., 2017), that fundal compression is a potentially unnecessary and harmful practice (Farrington et al., 2021). Also, for women at low risk of complications, there is no justification for restricting fluids and food during labor (Singata et al., 2013), and the use of continuous cardiotocography during labor does not make a clear difference in measures of neonatal well-being (Alfirevic et al., 2017). However, previous studies and this study show that women are frequently exposed to non-evidence-based practices during childbirth that are not recommended for routine use (Avcı and Kaydırak, 2023; Faheem, 2022;

Table 4
Univariate and multivariate analyses of the socio-demographic and obstetric factors associated with obstetric violence ($n = 513$).

Factors	Obstetric violence					
			Univariate		Multivariate	
	No	Yes	OR (95% CI)	p	aOR (95% CI)	p
Age (years)						
≤ 27	69 (26.6)	190 (73.4)	1 (ref)			
> 27	52 (20.5)	202 (79.5)	1.41 (0.93 - 2.12)	0.101		
Spouse age (years)						
≤ 30	80 (27.8)	208 (72.2)	1 (ref)			
>30	41 (18.2)	184 (81.8)	1.72 (1.12 - 2.64)	0.012		
Educational level (years)						
≤ 8	36 (20.7)	138 (79.3)	1 (ref)			
> 9	85 (25.1)	254 (74.9)	0.78 (0.51 - 1.21)	0.269		
Spouse's educational level (years)						
≤ 8	38 (23.3)	125 (76.7)	1 (ref)			
> 9	83 (23.7)	267 (76.3)	0.97 (0.63 - 1.51)	0.921		
Working status						
No	86 (23.0)	288 (77.0)	1 (ref)			
Yes	35 (25.2)	104 (74.8)	0.88 (0.56 - 1.39)	0.604		
Economic status						
Middle /high income	100 (26.2)	282 (73.8)	1 (ref)		1 (ref)	
Low income	21 (16.0)	110 (84.0)	1.85 (1.10 - 3.12)	0.019	**1.98 (1.11 - 3.52)**	0.020
Social insurance						
No	12 (15.4)	66 (84.6)	1 (ref)			
Yes	109 (25.1)	326 (74.9)	0.54 (0.28 - 1.04)	0.067		
Parity						
Multiparous	44 (17.7)	204 (82.3)	1 (ref)		1 (ref)	
Primiparous	77 (29.1)	188 (70.9)	0.52 (0.34 - 0.80)	0.003	**0.51 (0.31 - 0.84)**	0.008
Participation in the prenatal preparation classes						
No	106 (22.9)	357 (77.1)	1 (ref)			
Yes	15 (30.0)	35 (70.0)	0.69 (0.36 - 1.31)	0.263		
Time of birth according to the COVID-19 outbreak						
Before	17 (25.8)	49 (74.2)	1 (ref)			
After	104 (23.3)	343 (76.7)	1.14 (0.63 - 2.07)	0.656		
Place of birth						
Private hospital	23 (19.7)	94 (80.3)	1 (ref)		1 (ref)	
Public hospital	98 (24.7)	298 (75.3)	0.74 (0.44 - 1.23)	0.256	0.58 (0.31 - 1.07)	0.081
Birth attendants						
Midwife	63 (29.4)	151 (70.6)	1 (ref)		1 (ref)	
Physician	39 (18.0)	178 (82.0)	1.90 (1.20 - 3.00)	0.005	**2.91 (1.32 - 6.42)**	0.008
Midwife/Physician	19 (23.2)	63 (76.8)	1.38 (0.76 - 2.49)	0.282	1.70 (0.80 - 3.59)	0.161
Type of birth						
Planned cesarean	35 (23.6)	113 (76.4)	1 (ref)		1 (ref)	
Normal vaginal childbirth	14 (16.3)	72 (83.7)	1.59 (0.80 – 3.16)	0.184	**6.04 (2.30 - 15.87)**	0.000
Vaginal childbirth with episiotomy	58 (29.7)	137 (70.3)	0.73 (0.44 – 1.19)	0.209	**2.72 (1.21 - 6.08)**	0.015
Emergency cesarean	14 (16.7)	70 (83.3)	1.54 (0.77 - 3.08)	0.213	1.31 (0.60 - 2.84)	0.487
Induction of labor						
No	68 (20.8)	259 (79.2)	1 (ref)			
Yes	53 (28.5)	133 (71.5)	0.65 (0.43 - 0.99)	0.049		
Pain control support with non-pharmacological methods						
No	62 (17.8)	287 (82.2)	1 (ref)		1 (ref)	
Yes	59 (36.0)	105 (64.0)	0.38 (0.25 - 0.58)	0.000	**0.34 (0.20 - 0.57)**	0.000
Use of analgesia/anesthesia						
No	71 (26.2)	200 (73.8)	1 (ref)			
Regional analgesia	41 (21.1)	153 (78.9)	1.32 (0.85 - 2.05)	0.209		
General anesthesia	9 (18.8)	39 (81.2)	1.53 (0.71 - 3.33)	0.275		
Skin-to-skin contact						
No	56 (21.8)	201 (78.1)	1 (ref)			
Yes	65 (25.4)	191 (74.6)	0.81 (0.54 - 1.23)	0.337		
Breastfeeding in the first hour of postpartum						
No	17 (15.0)	96 (85.0)	1 (ref)		1 (ref)	
Yes	104 (26.0)	296 (74.0)	0.50 (0.28 - 0.88)	0.017	0.61 (0.32 - 1.16)	0.137
Companion support						
No	23 (11.5)	177 (88.5)	1 (ref)		1 (ref)	
Yes	98 (31.3)	215 (68.7)	0.28 (0.17 - 0.46)	0.000	**0.24 (0.14 - 0.42)**	0.000
Facing maternal health problems						
No	115 (24.8)	348(75.2)	1 (ref)			
Yes	6 (12.0)	44 (88.0)	2.42 (1.07 - 5.83)	0.048		
Admission of the neonatal to the care unit						
No	114 (26.1)	323 (73.9)	1 (ref)		1 (ref)	
Yes	7 (9.2)	69 (90.8)	3.47 (1.51 - 7.79)	0.002	**2.99 (1.22 - 7.36)**	0.017

*For bold values of aOR, $p < 0.05$.

Martínez-Galiano et al., 2021; Scandurra et al., 2022; Okyay et al., 2022).

In a hierarchical and patriarchal system, the power and autonomy of health professionals over women giving birth can lead to the objectification of women's bodies and the overuse of routine non-consensual interventions (Katz et al., 2020). On the other hand, obstetric violence may not only be related to health care providers and care recipients. Excessive workload, understaffing, lack of infrastructure, and hierarchy within the obstetric team are among the factors that create and nurture obstetric violence (Faheem, 2022). The responses of the women participating in this study to the additional reporting question on obstetric violence showed that women could not receive care in single rooms due to the infrastructure of the health institution, and that women could not give birth in an environment that allowed natural and comfortable vaginal birth. Similar findings are also found in other studies (Avcı and Kaydırak, 2023; Jardim and Modena, 2018; Khalil et al., 2022).

Considering the available information, it is difficult to explain the relationship between women's exposure to obstetric violence during childbirth and socio-demographic and obstetric characteristics. While studies are shown that obstetric violence is associated with variables such as age, economic level, and education (Scandurra et al., 2022), there are also studies reporting the opposite relationship (Martínez-Galiano et al., 2021). It is thought that as the socioeconomic level of women increases, knowledge about obstetric violence will increase, the ability to express a violent act as an act of violence will improve, and the likelihood of reporting the related problem will increase (Molla et al., 2022; Scandurra et al., 2022). Parallelly, this study showed that low-income women are more likely to experience obstetric violence. However, in this study, women's reports of obstetric violence did not show a significant difference in terms of other sociodemographic characteristics. This finding may be since that the behavioral patterns of health professionals in Türkiye are structured in such a way that they do not differentiate according to patient characteristics.

The differences in socioeconomic and health services of countries may affect the characteristics of the health facilities and the payment for childbirth (Asefa and Bekele, 2015; Jardim and Modena, 2018; Mesenburg et al., 2018). Disrespect and abuse during childbirth are often associated with payment by the public sector and labor before delivery (Mesenburg et al., 2018). In addition, parity is cited as an important factor associated with overall satisfaction during childbirth and the likelihood of being abused during childbirth (Ahmed, 2022). Similar to the findings of Martínez-Galiano et al. (2021), there were higher reports of obstetric violence in multiparous women in this study and place of birth was not associated with obstetric violence. This finding may be due to the past birth characteristics of multiparous women or their interactions with health professionals, and healthcare professionals' beliefs that primiparous women may experience more complications or need more support.

The findings of this study support the results of studies reporting that obstetric violence may increase in unexpected situations or health problems during childbirth (Molla et al., 2022; Vedam et al., 2019). Also, a common finding in previous studies (Martínez-Galiano et al., 2021; Molla et al., 2022) and in this study was that mode of birth is an important determinant of obstetric violence. It is reported that cesarean rates are increasing worldwide (Betran et al., 2021) and women demand cesarean section in order not to be violated by health professionals or to experience trauma due to frequent vaginal checks (Pazandeh et al., 2017). In this study, the high cesarean rates of women were noted (45.2%), however, the results of the regression analysis showed that the odds of reporting obstetric violence was significantly higher in women who had vaginal birth compared to cesarean section. In our country, hierarchical and physician-centered births also occur, and "childbirth" is almost completely defined as a "disease" and tried to be treated (Avcı and Kaydırak, 2023; Kulakaç, 2021; Topçu, 2019). The medicalization of vaginal birth is still dominant in Turkiye and continues to increase in some regions. Topçu (2019) stated that the interventions in vaginal birth are almost similar to the cesarean section and conceptualized vaginal birth with intervention as a "vaginarean section". According to the findings of this study, urgent measures should be taken to protect women from traumatic behaviors and unnecessary interventions during vaginal delivery in Türkiye. Laws and public policies that recognize women's rights to non-violent care and bodily autonomy and protect them against obstetric violence need to be established.

According to the findings of this study, midwife-attended birth, non-pharmacological pain management, and companion support may be protective factors against obstetric violence. These factors are among those that WHO insists on respectful maternity care (World Health Organization, 2021). For this reason, it is important to increase the awareness of professionals about respectful maternity care to contribute to the solution (World Health Organization, 2021). In this context, we call on health professionals and policymakers to take action to ensure respectful maternity care and women's rights during childbirth.

Limitations and strengths

This study contributes to understanding the dimensions of obstetric violence, which is a widespread problem internationally. Data are limited to self-reports from women living in a middle-income country where gender equality and human rights are not sufficiently ensured. Since people's recall of events can change over time, the inclusion of women who have given birth in the last 2 years is an important limitation in this study. However, there is a study that examined women's experiences of obstetric violence over a longer period (5 years) than our study (Castro and Frías, 2020). Although constituting less than 5% of the sample, the exclusion of 29 women during data evaluation may have made a minimal difference in the results. In addition, collecting data using a structured questionnaire is an important limitation that may affect the validity and reliability of the data, as there is no standardized measurement tool to diagnose and measure obstetric violence. However, to manage this, the researchers conducted a preliminary study and included an open-ended question in the data collection form to assess all situations that women associated with obstetric violence.

Conclusion

Approximately three of the four women experienced obstetric violence during childbirth. The most common form of obstetric violence is physical violence and abandonment of care. Repeated vaginal examinations, being forced to stay in an uncomfortable and painful position, sarcasm/rude treatment/imperative speech, shouting, and not providing requested breastfeeding support at the end of labor are the most frequent repetitive expressions of violence. Low income, multiparity, physician-attended birth, vaginal childbirth, and newborn admission to the neonatal care unit were associated with higher reporting of obstetric violence. Women who had pain control with non-pharmacological methods and received companion support were less likely to experience obstetric violence. Future research could focus on standardizing the definition and measurement of obstetric violence, identifying effective strategies to prevent obstetric violence, and reducing the impact of obstetric violence on women and children.

Declaration of Competing Interest

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

Acknowledgments

We thank all the women who participated in the study. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Credit author statement

Concept – Ö.A., M.D.B.; Design – Ö.A., M.D.B.; Data Collection and/or Processing – Ö.A., M.D.B.; Analysis and/or Interpretation – Ö.A., M.D.B.; Literature Search – Ö.A.; Writing Manuscript – Ö.A., M.D.B.; Writing Manuscript – Ö.A., M.D.B.; Critical Review – Ö.A., M.D.B.

References

Ahmed, H.M., 2022. Rate and types of childbirth mistreatment and abuse and its association with satisfaction with birth care: a cross-sectional study of 1196 Kurdish women. Matern. Child Health J. 26, 1322–1327. doi:10.1007/s10995-021-03318-w.

Alfirevic, Z., Devane, D., Gyte, G.M., Cuthbert, A., 2017. Continuous cardiotocography (CTG) is a form of electronic fetal monitoring (EFM) for fetal assessment during labor. Cochrane Database Syst. Rev. 3 (2), CD006066. doi:10.1002/14651858.CD006066, 2.

Ansari, H., Yeravdekar, R., 2021. Respectful maternity care and breastfeeding. Glob. Health Promot. 28 (3), 70–72. doi:10.1177/1757975920984216.

Asefa, A., Bekele, D., 2015. Status of respectful and non-abusive care during facility-based childbirth in a hospital and health centers in Addis Ababa. Ethiopia. Reprod. Health 12, 33. doi:10.1186/s12978-015-0024-9.

Avcı, N., Kaydırak, M.M., 2023. A qualitative study of women's experiences with obstetric violence during childbirth in Türkiye. Midwifery 22 (121), 103658. doi:10.1016/j.midw.2023.103658, Epub ahead of print.

Azcué, M., Tain, L., 2021. The emergence of the concept of "obstetric violence": the impact of the feminist movement. Sante Publique 33 (5), 635–643 (Paris).

Betran, A.P., Ye, J., Moller, A.B., Souza, J.P., Zhang, J., 2021. Trends and projections of caesarean section rates: global and regional estimates. BMJ Glob. Health 6, e005671. doi:10.1136/bmjgh-2021-005671.

Bowser, D., Hill, K., 2010. Exploring Evidence For Disrespect and Abuse in Facility-Based Childbirth Report of a Landscape Analysis. Harvard School of Public Health University Research Co., LLC https://cdn2.sph.harvard.edu/wp-content/uploads/sites/32/2014/05/Exploring-Evidence-RMC_Bowser_rep_2010.

Brandão, T., Cañadas, S., Galvis, A., de los Ríos, M.M., Meijer, M., Falcon, K., 2018. Childbirth experiences related to obstetric violence in public health units in Quito, Ecuador. Int. J. Gynecol. Obstet. 143 (1), 84–88. doi:10.1002/ijgo.12625.

Bujang, M.A., Sa'at, N., Sidik, T.M.I.T.A.B., Joo, L.C., 2018. Sample size guidelines for logistic regression from observational studies with large population: emphasis on the accuracy between statistics and parameters based on real life clinical data. Malays. J. Med. Sci. 25 (4), 122–130. doi:10.21315/mjms2018.25.4.12.

Castro, R., Frías, S.M., 2020. Obstetric violence in Mexico: results from a 2016 national household survey. Violence Against Women 26 (6–7), 555–572. doi:10.1177/1077801219836732.

Çetin, S.A., Ergün, G., Işık, I., 2023. Obstetric violence in southwestern Turkey: risk factors and its relationship to postpartum depression. Health Care Women Int. 2, 1–19. doi:10.1080/07399332.2023.2172411.

Faheem, A., 2022. The nature of obstetric violence and the organisational context of its manifestation in India: a systematic review. Sex Reprod. Health Matters 29 (2), 2004634. doi:10.1080/26410397.2021.2004634.

Farrington, E., Connolly, M., Phung, L., Wilson, A.N., Comrie-Thomson, L., Bohren, M.A., Homer, C.S.E., Vogel, J.P., 2021. The prevalence of uterine fundal pressure during the second stage of labour for women giving birth in health facilities: a systematic review and meta-analysis. Reprod. Health 18 (1), 1–17. doi:10.1186/s12978-021-01148-1.

Jardim, D.M.B., Modena, C.M., 2018. Obstetric violence in the daily routine of care and its characteristics. Rev. Lat. Am. Enfermagem. 29 (26), e3069. doi:10.1590/1518-8345.2450.3069.

Jiang, H., Qian, X., Carroli, G., Garner, P., 2017. Selective versus routine use of episiotomy for vaginal birth. Cochrane Database Syst. Rev. 8 (2), CD000081. doi:10.1002/14651858.CD000081, Feb2.

Karlström, A., Nystedt, A., Hildingsson, I., 2015. The meaning of a very positive birth experience: focus groups discussions with women. BMC Pregnancy Childbirth 9 (15), 251. doi:10.1186/s12884-015-0683-0.

Katz, L., Amorim, M.M., Giordano, J.C., Bastos, M.H., Brilhante, A.V.M., 2020. Who is afraid of obstetric violence? Rev. Bras. de Saude Matern. Infant. 20 (2), 623–626. doi:10.1590/1806-93042020000200017.

Kaya, Z., Şahin, N.H., 2021. Obstetric violence experiences of women: a systematic review. Mersin Univ. J. Med. Sci. 14 (3), 509–519. doi:10.26559/mersinsbd.807530.

Kitzinger, S., 2000. Some cultural perspectives of birth. Br. J. Midwifery 8 (12), 746–750.

Khalil, M., Carasso, K.B., Kabakian-Khasholian, T., 2022. Exposing obstetric violence in the eastern mediterranean region: a review of women's narratives of disrespect and abuse in childbirth. Front. Glob. Womens Health 25 (3), 850796. doi:10.3389/fgwh.2022.850796.

Kulakaç, Ö., 2021. Medicalisation of childbirth from a feminist perspective. In: Kulakaç, Ö. (Ed.), Medicalisation of Women's Health; Women's Life Periods, Practices and Precautions. Turkey Clinics. Ankara, pp. 22–35.

Leite, T.H., Marques, E.S., Esteves-Pereira, A.P., Nucci, M.F., Portella, Y., Leal, M.D.C., 2022. Disrespect and abuse, mistreatment and obstetric violence: a challenge for epidemiology and public health in Brazil. Cien. Saude Colet. 27 (2), 483–491. doi:10.1590/1413-81232022272.38592020.

Lukasse, M., Schroll, A.M., Karro, H., Schei, B., Steingrimsdottir, T., Van Parys, A.S., Ryding, E.L., Tabor, A.Bidens Study Group, 2015. Prevalence of experienced abuse in healthcare and associated obstetric characteristics in six European countries. Acta Obstet. Gynecol. Scand. 94 (5), 508–517. doi:10.1111/aogs.12593.

Martínez-Galiano, J.M., Martinez-Vazquez, S., Rodríguez-Almagro, J., Hernández-Martinez, A., 2021. The magnitude of the problem of obstetric violence and its associated factors: a cross-sectional study. Women Birth 34 (5), e526–e536. doi:10.1016/j.wombi.2020.10.002.

Martinez-Vázquez, S., Hernández-Martínez, A., Rodríguez-Almagro, J., Delgado-Rodríguez, M., Martínez-Galiano, J.M., 2022. Relationship between perceived obstetric violence and the risk of postpartum depression: an observational study. Midwifery 108, 103297. doi:10.1016/j.midw.2022.103297.

Mesenburg, M.A., Victora, C.G., Jacob Serruya, S., de León, R.P., Damaso, A.H., Domingues, M.R., da Silveira, M.H., 2018. Disrespect and abuse of women during the process of childbirth in the 2015 Pelotas birth cohort. Reprod. Health 15, 54. doi:10.1186/s12978-018-0495-6.

Mihret, M.S., 2019. Obstetric violence and its associated factors among postnatal women in a specialized comprehensive Hospital, Amhara Region, Northwest Ethiopia. BMC Res. Notes 12 (1), 1–7. doi:10.1186/s13104-019-4614-4.

Molla, W., Wudneh, A., Tilahun, R., 2022. Obstetric violence and associated factors among women during facility-based childbirth at Gedeo Zone, South Ethiopia. BMC Pregnancy Childbirth 22, 565. doi:10.1186/s12884-022-04895-6.

O'Brien, E., Rich, M., 2022. Obstetric violence in from a historical perspective. Lancet 11399 (10342), 2183–2185. doi:10.1016/S0140-6736(22)01022-4.

Okyay, E.K., Bal, Z., Barut, S., Güney, E., 2022. Components of obstetric violence: a descriptive study on physical abuse, non-consented care and non-confidential care. J. Clin. Med. Kazakhstan 19 (4), 32–39. doi:10.23950/jcmk/12286.

Pazandeh, F., Potrata, B., Huss, R., Hirst, J., House, A., 2017. Women's experiences of routine care during labour and childbirth and the influence of medicalisation: a qualitative study from Iran. Midwifery 53, 63–70. doi:10.1016/j.midw.2017.07.001.

Prosen, M., Tavcar Krajnc, M., 2013. Sociological conceptualization of the medicalization of pregnancy and childbirth: the implications in Slovenia. Rev. Sociol. 43 (3), 251–272. doi:10.5613/rzs.43.3.3.

Reis, V., Deller, B., Carr, C., Smith, C., 2012. Respectful maternity care, country experiences. https://toolkits.knowledgesuccess.org/sites/default/files/rmc_survey_report_0_0.pdf (Accessed 14 November 2022).

Scandurra, C., Zapparella, R., Policastro, M., Continisio, G.I., Ammendola, A., Bochicchio, V., Maldonato, N.M., Locci, M., 2022. Obstetric violence in a group of Italian women: socio-demographic predictors and effects on mental health. Cult. Health Sex 24 (11), 1466–1480. doi:10.1080/13691058.2021.1970812.

Shrivastava, S., Sivakami, M., 2020. Evidence of 'obstetric violence' in India: an integrative review. J. Biosoc. Sci. 52 (4), 610–628 10.1017%2FS0021932019000695.

Singata, M., Tranmer, J., Gyte, G.M.L., 2013. Restricting oral fluid and food intake during labour. Cochrane Database Syst. Rev. 8, CD003930. doi:10.1002/14651858.CD003930.pub3.

Sun, G.W., Shook, T.L., Kay, G.L., 1996. Inappropriate use of bivariable analysis to screen risk factors for use in multivariable analysis. J. Clin. Epidemiol. 49 (8), 907–916. doi:10.1016/0895-4356(96)00025-x.

Topçu, S., 2019. Caesarean or vaginarean epidemics? Technobirth, risk and obstetric practice in Turkey. Health Risk Soc. 21 (3–4), 141–163. doi:10.1080/13698575.2019.1641588.

Vacaflor, C.H., 2016. Obstetric violence: a new framework for identifying challenges to maternal healthcare in Argentina. Reprod. Health Matters 24 (47), 65–73. doi:10.1016/j.rhm.2016.05.001.

Vedam, S., Stoll, K., Taiwo, T.K., Rubashkin, N., Cheyney, M., Strauss, N., et al., 2019. The giving voice to mothers study: inequity and mistreatment during pregnancy and childbirth in the United States. Reprod. Health 16, 77. doi:10.1186/s12978-019-0729-2.

World Health Organization, 2015. The Prevention and Elimination of Disrespect and Abuse During Facility-Based Childbirth. WHO Press, Geneva.

World Health Organization, 2021. WHO Recommendation on Respectful Maternity Care During Labour and Childbirth https://srhr.org/rhl/article/who-recommendation-on-respectful-maternity-care-during-labour-and-childbirth#:~:text=Respectful%20maternity%20care%20%E2%80%93%20which%20refers,labour%20and%20childbirth%20%E2%80%93%20is%20recommended.