Opinions and considerations of obstetrics and gynecology specialists on cesarean section: A qualitative study in Sakarya province

Kadın hastalıkları ve doğum uzmanlarının sezaryen doğum yöntemi ile ilgili görüş ve düşünceleri: Nitel bir çalışma, Sakarya ili örneği

Abstract

Aim: While the ideal cesarean section rate should be 10-15% among all births, the cesarean section rate is increasing at an uncontrollable rate both in the world and in Turkey. In this study, we aimed to determine the reasons and solution suggestions for cesarean section rates in Turkey, based on the opinions of Gynecologists and Obstetricians.

Methods: Qualitative research method and phenomenological approach were used as the research design in this study. Participants were selected by convenience sampling method among Gynecology and Obstetrics specialists who resided in Sakarya/Turkey, worked as a

interviews between 01.02.2020 and 01.09.2020 and thematic content analysis was performed. **Results:** As a result of in-depth interviews, 51 categories, 12 sub-themes from the categories and three themes from the sub-themes were created from the coded data. The three themes that emerged were: Causes of high cesarean rate, solutions for the increase in cesarean delivery rate, possible outcomes of cesarean delivery.

Conclusions: Since the factors affecting the cesarean section rate are multifaceted and interrelated, this versatility and correlation should be taken into account when taking measures to reduce the rates. We need to focus especially on cesarean births performed without medical indication, which has a large share in the increase in cesarean section rates.

Keywords: Attitude; cesarean section; obstetricians; qualitative research.

Öz

Amaç: İdeal sezaryen oranının tüm doğumlar arasında %10-15 olması gerekirken, sezaryen oranı hem dünyada hem de Türkiye'de kontrol edilemeyecek bir hızla artmaktadır. Bu çalışmada Kadın Hastalıkları ve Doğum hekimlerinin görüşlerinden yola çıkarak Türkiye'deki sezaryen doğum oranlarının nedenlerini ve çözüm önerilerini belirlemeyi amaçladık.

Yöntemler: Bu çalışmada araştırma deseni olarak nitel araştırma yöntemi ve fenomenolojik yaklaşım kullanılmıştır. Katılımcılar, Sakarya/Türkiye'de ikamet eden, en az 3 yıl uzman olarak çalışmış ve halen çalışmakta olan Kadın Hastalıkları ve Doğum uzmanları arasından kolay ulaşılabilir örnekleme yöntemi ile seçilmiştir. Veriler derinlemesine görüşmeler yoluyla sonra 01.02.2020 ile 01.09.2020 tarihleri arasında toplanmış ve tematik içerik analizi yapılmıştır.

Bulgular: Derinlemesine görüşmeler sonucunda kodlanan verilerden 51 kategori, kategorilerden 12 alt tema ve alt temalardan üç tema oluşturulmuştur. Ortaya çıkan üç tema: Yüksek sezaryen oranının nedenleri, sezaryen doğum oranının artmasına yönelik çözümler, sezaryen doğumun olası sonuçlarıydı.

Sonuçlar: Sezaryen oranını etkileyen faktörler çok yönlü ve birbiriyle bağıntılı olduğu için oranları düşürmeye yönelik önlem alınırken bu çok yönlülük ve bağıntı dikkate alınmalıdır. Özellikle sezaryen oranlarının artmasında büyük payı olan tıbbi endikasyon olmadan gerçekleştirilen sezaryen doğumlara ağırlık vermemiz gerekiyor.

Anahtar Sözcükler: Kadın hastalıkları ve doğum uzmanları; nitel araştırma; sezaryen; tutum.

Nese Asici¹, Elif Kose², Hasan Cetin Ekerbicer²

- ¹ Sakarya Provincial Directorate of Health
- ² Department of Public Health, Faculty of Medicine, Sakarya University

Received/*Geliş* : 18.12.2023 Accepted/*Kabul*: 23.08.2024

DOI: 10.21673/anadoluklin.1406574

Corresponding author/*Yazışma yazarı* Nese Asici

Sakarya Provincial Directorate of Health, Sakarya, Türkiye. E-mail: nese.asici@gmail.com

ORCID

Nese Asici: 0000-0003-0266-6845 Elif Kose: 0000-0002-2232-4538 Hasan C. Ekerbicer: 0000-0003-0064-3893

INTRODUCTION

Although Cesarean section is a procedure performed to save the fetus alive from a dying pregnant woman and has a high mortality rate, it has become a safer birth method since the 19th century as a result of advances in asepsis, anesthesia, surgical techniques and blood transfusion (1,2). The increase in the safety of cesarean section over the years has led to an alarming increase in cesarean section operations, especially in middle and high-income countries, in the absence of medical indication, without providing additional benefit to the mother and newborn (3,4).

As in many countries of the world, the cesarean section rate in Turkey has been increasing significantly over the years. According to the 2021 cesarean section rates published within the scope of the Organization for Economic and Development Cooperation Health Policy Studies, Turkey ranked first with 54.9 percent, while the countries closest to Turkey were Korea (45.0%) and Poland (38.9%) (5).

High cesarean section rates constitute an important public health problem due to maternal and perinatal complications, as well as long-term complications and increased costs (6). Cesarean section has many shortterm maternal complications such as thromboembolism, postpartum hemorrhage, wound hematoma, and long-term complications such as intra-abdominal adhesions, ectopic pregnancy that may occur in subsequent pregnancies, placenta placement anomalies, etc (7). In addition, studies have shown that the risk of respiratory morbidity, including transient tachypnea of the newborn, respiratory distress syndrome, persistent pulmonary hypertension, increases in the short term, and the risk of obesity and asthma increases in the long term, especially in cesarean deliveries performed before the onset of labor (especially before 39-40 weeks) (8, 9,10). The high cesarean section rate not only creates negative health risk factors, but also imposes an extra financial burden on both the state economy and the family economy due to its higher cost compared to vaginal birth, especially in low- and middle-income countries (11). The cost of medication was found to be 4.4 times higher, the cost of testing 2.1 times, and the cost of medical supplies and disposable materials 2.8 times higher in cesarean births (12). Additionally,

this financial burden resulting from the high rate of cesarean births acts as a barrier to needed health care and leads to health disparities, especially in low- and middle-income countries where medical care is purchased out-of-pocket (11). The increase in cesarean delivery rates causes similar problems in our country.

There are many studies in the literature on the factors affecting the high cesarean section rate. Mothers' concerns that their babies may be harmed during childbirth, the idea of not being able to control childbirth, the fear of episiotomy, cesarean section requests due to the idea that it may damage the perineum and sex life, and physicians' medicolegal concerns are the main factors that increase cesarean section rates (13-15).

In this study, considering that cesarean birth rates are increasing every year in Turkey and around the world, we aimed to determine the reasons for the rapidly increasing cesarean birth rates and possible solutions in line with the opinions of gynecologists.

MATERIAL AND METHODS Statistical analyses / Research design

Phenomenological research design, one of the qualitative research methods, was used in the research. In this study, 'increased frequency of cesarean section' is considered as a phenomenon, and it is aimed to reach an explanation about this phenomenon through the experiences of Gynecologists and Obstetricians in similar professions.

Ethical approval

Ethical approval for this research was given by the ethics committee of the Sakarya University Faculty of Medicine (Date: 27.01.2020, decision no: 71522473). After explaining the topic and purpose of the research, the participants signed a voluntary consent form stating that any personal information they provided and their names would be kept confidential.

Population and sample

The study was carried out in Sakarya, one of Turkey's 30 metropolitan municipalities. In the selection of the study group, the Gynecology and Obstetrics specialists who received specialization education (at least for four years) in the branch of Obstetrics and Gy-

necology (OBGYN) and worked as a specialist physician for at least three years and are still working in a private hospital, state hospital or university hospital were preferred by using convenience sampling. Physicians who had been working for less than three years or were retired were excluded from the study. Since we wanted to interview physicians who were thought to have reached a certain understanding of medicine, we aimed to interview physicians who had at least 4 years of professional experience. Since the cesarean section rates started to increase over the years, interviews were planned with actively working physicians instead of retired physicians, whose opinions on this issue were thought to be more effective. In order to provide diversity with different experiences, people with different starting years and working in different institutions were included in the study (16).

Data collection tools

A semi-structured interview form was used to ask additional questions to the participants and to deeply examine the reasons underlying their answers. The first part includes six questions regarding sociodemographic characteristics, and the second part includes semi-structured questions prepared after literature review. The interview form was revised before application in line with the opinions of five specialist physicians with similar characteristics who were not included in the study group. Then, the interview form was given its final form.

After the subject and purpose of the research were explained to the participants, they were asked to sign a voluntary consent form stating that their personal information and names would be kept confidential. Appropriate day and time for the interview was determined by making an appointment with the participants. In-depth interviews were held with all participants between 01 February 2020 and 01 September 2020, mostly outside working hours and in their own offices. Permission was obtained from the participants for audio recording during the interview. Note-taking method was used in the interviews with six participants who did not allow audio recording. In order to keep the participants' names confidential, each participant was given a number. The study was completed with the participation of 17 experts.

The voice recordings taken during the interviews with the participants were transcribed one by one by the researcher using Microsoft Word Program, and the outputs were checked by the second researcher by listening to the recordings again. In the analysis of the data obtained from the in-depth interviews, the descriptive analysis technique with interesting quotes from the participants and the quotations that best summarize the subject or show the contradictory situations, and the thematic content analysis method of Braun and Clarke consisting of six steps were used (17). In this context, first of all, the data was extracted by reading the data repeatedly. It was then independently hand-coded by two researchers to increase its validity and reliability. Consistency between coders was calculated by including all codes in the coding lists in the denominator and common codes in the numerator, and the consistency was found to be 89%. After the common code lists were prepared, two researchers divided the codes into categories and divided the categories into subthemes and themes.

RESULTS *Participants and analysis*

Of the 17 participants, 12 (70.6%) were male and 5 (29.4%) were female. The mean age of the participants was 59.64 ± 6.7 (minimum 42 and maximum 68 years old). Eight (47.1%) of the participants stated that their income was good, and 9 (52.9%) stated that their income was moderate. The median value of working time as a specialist physician was 25 years, with a minimum of 9 and a maximum of 39 years (Table 1).

Participant interviews lasted a minimum of 20.5 minutes and a maximum of 59.0 minutes, and the mean duration was calculated as 37.0 ± 2.8 . Eight of the participants were working in their private offices, 5 in a private hospital, 1 in a university hospital, 1 in a medical center, 1 was working in a public hospital, and 1 was working in both a private office and a private hospital.

As a result of in-depth interviews, 51 categories, 12 sub-themes from the categories and three themes from the sub-themes were created from the coded data. Themes and subthemes are shown in Table 2.

Table 1. Characteristics of participants

	Participants (n = 17)
Age (years), mean±SD	59.64±6.7
Working time (years), min-median-max	9-25-39
Female, n (%)	5 (29.4)
Male , n (%)	12 (70.6)

n: number, SD: Standard Deviation , Min: Minimum, Max: maximum

Table 2. Themes and sub-themes of the study

Causes of high cesarean section rate	Solutions for the increase in cesarean	Possible consequences of cesarean delivery	
	birth rate		
Health system and health policies	Regulations in the midwifery system	On maternal health	
Legal system	Updates to the judicial system	On baby health	
Factors associated with the physician	Regulations in the health system	Other negatives	
Patient-related factors	Support to physicians		
	Political solutions		

Theme 1 – Causes of high cesarean section rate

Sub theme 1 – Health system and health policies

Under this sub-theme, the participants expressed the contribution of the delivery room environments where the negative conditions in which pregnant women had to give birth by cesarean section were as follows: "People do not dare to give birth vaginally in the maternity hospital environment that looks like a tunnel of fear. What's happening; Let's go to the delivery room on an empty stomach at eight in the morning, go to the operating room an hour later, take our baby at 09.30, there is nothing left to do. Everyone is happy, there is no yelling in this conditions" (participant 8). Most of the participants expressed the inexperience of the new generation midwives and the difficulties they experienced while working with inexperienced midwives: "Since most new midwives are inadequate, when I hospitalize a patient who comes to give birth, I follow the patient myself. After the cervix is dilated five cm, I start standing next to the patient. The patient is lying in a room, and I am waiting for her to give birth in the next room" (participant 7). One participant pointed out the inadequacy of medical specialty training and stated that the new generation of physicians are hesitant about interventional deliveries: "I started specialization towards the end of 1992. We used a vacuum device in almost one in 10 births. Now our assistants graduate without using a vacuum device" (participant 8). Participants stated that they did not receive support from any institution or ministry in case of complications and that physicians were ignored: "Doctors are afraid to have a vaginal birth. Nobody gives medals to anyone just because they had a vaginal birth. But when you have problems with vaginal birth, you deal with a lot of things, but no one is there for you" (participant 12).

Sub theme 2 – Legal system

Participants stated that astronomical compensation cases are a nightmare for physicians and that this situation is abused by patients and their lawyers: "It is absurd to demand one million TL compensation from a patient for whom we earned five Turkish Liras (TL). There is nothing like this anywhere in the world. Salaries are Nigeria, compensations are America" (participant 15). "This situation is used for enrichment purposes, this is wrong" (participant 4). While the majority of the participants stated that they had medical-legal problems throughout their careers, some participants stated that they still had ongoing cases and could not receive support from the state in this process: "Three lawsuits have been filed, the fourth is currently ongoing. I had to hire a lawyer. "I did not receive financial support from any institution or ministry" (participant 3).

Sub theme 3 – Factors associated with the physician

Under this subtheme, one participant stated that physicians prefer cesarean section to spare more time for themselves: "It is easy for the doctor to adjust the timing of a cesarean section. He leaves the operating room after 20-25 minutes. The doctor wants to make his plan" (participant 9) Participants stated that cesarean section saves doctors time, doctors are impatient, and too many interventions are made to shorten the birth process in vaginal birth: "As physicians, we are a bit impatient. It would be better if we didn't go into the delivery room. When we enter the delivery room, we perform a cesarean section once or twice and leave \bigcirc . If we do not enter, there may be more vaginal births" (participant 17).

Sub theme 4 – Patient-related factors

Participants stated that patients and their relatives put pressure on doctors to have a cesarean section and that they wanted guarantees to avoid any problems: "I talk to patients. Patients want to avoid problems. I'm talking about normal birth. The patient wants zero complications. This of course affects me. It's best not to do the job at all. "It's hard to say everything is okay." (participant 7). Participants expressed that they were afraid of being threatened and exposed to violence by patients and their relatives: "There is a risk of being beaten by the patient's relatives, there is a risk of being killed. They threaten to kill us if the baby dies. They say these words openly, without hesitation, without waiting for the court or anything like that ©." (participant 7).

Theme 2 – Solutions for the increase in cesarean birth rate Sub theme 1 – Regulations in the midwifery system

Under this theme, participants emphasized the need for active, experienced, advanced, qualified midwives: "Midwives must have worked in the delivery room under the supervision of a gynecologist for at least four years (participant 4). Additionally, participants stated that midwives should be financially supported and receive the wages they deserve to encourage them to have vaginal births: "There should be a 25-30 percent difference between midwife salary and nurse salary. If we want midwives to give birth, we need to pay premiums per birth" (participant 7).

Sub theme 2 – Updates to the judicial system

The participants stated that compensation fees should be calculated in reasonable amounts taking into account their salaries and that interest should not be applied to the compensation fee over the years: "If there is abuse, of course there should be compensation. However, it should not be in a way that impoverishes those who pay and enriches those who earn." (participant 3). The participants stated that making a distinction between complications and malpractice in the laws will save physicians from a great pressure: "I think one of the most important reasons why physicians prefer cesarean section is the fear of malpractice. I think that if this burden on physicians is reduced by passing an appropriate malpractice law, cesarean section rates will be reached very easily to 30-35%" (participant 2).

Sub theme 3 – Regulations in the health system

The participants pointed out that it is important to educate pregnant women and their relatives: "It should start with the education of the people. Because they are very crowded. The public should be informed first, then the midwife should be included in the circle. After that, the physician must have received a good education. So it's like a pyramid. The lower part of the pyramid is the people, that is, the candidates for becoming mothers" (participant 6). Some participants mentioned the option of painless childbirth as a way to reduce their fear of childbirth: "I think most women would prefer a vaginal birth instead of a cesarean section if they could give birth painlessly. If the painless delivery option is offered to all women for free, I think we can reduce the cesarean section rate to 30-35% in Turkey" (participant 2).

Sub theme 4 – Support to physicians

Participants disagreed about increasing the costs of vaginal delivery in order to encourage doctors to perform a vaginal birth. A group of participants stated that the wage gap may encourage doctors to have a vaginal birth, while a group of participants stated that the problem is not wages, and an increase in fees will not solve the problems: "One of the ways to encourage vaginal birth in the capitalist system is to pay high fees to doctors for vaginal birth, and this must be done" (Participant 10). "After all, I don't think any doctor would consider this from an economic point of view. So it is ethically wrong to compare money with this business. I don't think any doctor would think that. I even take it as an insult" (participant 5). Participants stated that the primary responsibility for births should be taken from doctors, they only want to intervene in complicated cases, and teamwork is advantageous: "As a doctor, I should enter into give birth if it is a complicated birth that the midwife cannot deliver, or if the patient insists on his own doctor entering into the birth"(participant 4).

Sub theme 5 – Political solutions

Participants stated that innovations should be made in health policies and that politicians have important responsibilities in this regard: "Policymakers should take the first step and stop pressuring OBGYN specialists" (participant 2).

Theme 3 – Possible consequences of cesarean delivery Sub theme 1 – On maternal health

Participants stated that cesarean section protects the Genitourinary System more, it is a more comfortable delivery option because they do not suffer from labor pains and episiotomy: "I do not think that cesarean section has a negative impact on maternal health under today's modern operating room conditions, post-operative care and anesthesia conditions." (participant 16).

Sub theme 2 – On baby health

Some participants expressed that neonatal birth traumas are less common in cesarean deliveries and there is less likelihood of developing asphyxia: "The probability of the baby being without oxygen decreases. Birth is full of unknowns, anything can happen during this process. We eliminate them all." (participant 13). "I don't think there is anything negative about the baby. In other words, we have been giving birth for years, we have not encountered a negative situation just because there was a cesarean section" (participant 17).

Sub theme 3 – Other negatives

The participants expressed the difficulties that patients and physicians may experience due to repeated cesarean section operations as follows: "Yes, if we continue like this, the frequency of complications after cesarean section will increase a lot. Patients will bleed, maternal mortality will increase, and doctors will suffer more" (participant 13).

DISCUSSION

Based on the opinions of obstetricians and gynecologists due to the increase in the cesarean birth rate in Turkey and around the world, participants in this study, which aims to determine the causes of the increase in the cesarean birth rate and suggestions for solutions, stated that physically inadequate maternity ward conditions distract patients from vaginal childbirth. Similarly, another study indicated that inappropriate maternity ward conditions can negatively affect pregnant women's perspectives on vaginal delivery and decisions about the mode of delivery (14).

Participants stated that midwives are not effective in managing a normal birth, as stated in the studies in the literature, and physicians turn to cesarean delivery due to the inexperience of midwives (18,19).

It has also been stated in different studies that seeing a small number of complicated cases in assistant training is insufficient to develop technical skills, so they cannot trust themselves during clinical practice, and also legal fears distract them from interventional vaginal births and lead them to having a cesarean birth (20,21).

Cesarean births may be preferred as a result of having the advantage of planning the delivery time for the physician. There are also studies in the literature stating that physicians prefer cesarean delivery in order to save time and make personal plans (15,22,23,24). The fact that both planned and unplanned cesarean births, usually in the private sector, are mostly performed on weekdays and during working hours also points to the time factor (25,26). Similarly, some participants in our study pointed out the time factor as one of the reasons why physicians prefer cesarean section operations more and stated that cesarean section is seen as a procedure that consumes less time and makes it easier for the physician to make personal plans and programs. The vast majority of the participants in the study stated that they turned to cesarean section more due to worries such as anxiety about encountering a negative result, violence, being threatened, lawsuits or complaints. In a study conducted by Cotzias et al. in 2001, 35% of physicians who performed cesarean sections at the request of the mother stated that they performed cesarean sections because of the fear of being sued (27).

Almost all of the participants in the study stated that they had experienced medicolegal problems during their professional lives, had to hire a lawyer, had ongoing lawsuits, did not receive support from the state during this process, and had individual struggles. In a study conducted with 1486 OBGYN specialists in which similar results were obtained to our study findings and medicolegal problems were questioned, 30.8% of the participants stated that they had been subjected to medical charges at least once, 13% had been sued at least once, and 42.8% had lost a case at least once (28).

All participants agreed that active, experienced, practical, qualified midwives were needed. Some participants stated that midwives should start working life after graduating from school, in busy environments such as a maternity hospital, or after gaining experience with a physician. In a qualitative study conducted in 2014, participants also pointed out the importance of qualified and skilled midwives in managing vaginal childbirth and the development of programs for the training of specialist midwives (18).

The majority of the participants emphasized the importance of improving the social and personal rights of midwives in encouraging midwifery. They stated that midwives could be included in the system by offering different options such as arranging midwives' salaries to be more than nurses' salaries or giving birth premiums. In a qualitative study conducted in 2018, a participating midwife stated that midwifery requires dedication, they are at greater risk, and therefore they should receive more salary than nurses, similar to our findings (29).

In our study, the participants emphasized that the distinction between complication and malpractice should be made absolutely, and that it would be important to regulate the laws on this issue. They also stated that compensation fees should be reasonable and standard. They expressed that the physician's salary should be taken into account when making the calculation, should be regulated within the framework of a certain quota and that interest should not be applied to these figures over the years. Studies offering similar solution suggestions have been found in the literature (29).

Another intervention study that should be carried out within the health system is to prepare pregnant women for vaginal birth. In the study, participants stated that patients who did not have sufficient knowledge about childbirth wanted more cesarean deliveries and therefore emphasized the importance of educating pregnant women and their relatives. Another study conducted in Turkey also concluded that effective training programs that can be offered by midwives and nurses from an early stage in the prenatal process can be useful in increasing vaginal birth rates (30).

In the bulletin of cesarean section on maternal request published by American College of Obstetricians and Gynecologists (ACOG) in 2013, it was stated that it is necessary to offer the appropriate analgesia option to women who request a cesarean section due to fear of pain (8). In our study, participants also stated that offering the option of painless delivery, especially to patients with fear of childbirth, will positively contribute to cesarean section rates. In a qualitative study conducted in 2014, 95% of the participants, consisting of midwives and physicians, stated that methods of reducing labor pain should be added to the health services delivery curriculum (18).

In addition to some participants who stated that keeping vaginal delivery fees higher than cesarean delivery fees could lead doctors to vaginal delivery, there were participants who stated that the problem of rising cesarean section rate could not be solved in this way, doctors did not turn to cesarean delivery because of money. They stated that fears cannot be overcome with money, and preventing doctors from turning to cesarean section can be solved not by giving them more money, but by removing the medicolegal pressures on them. In addition to the studies stating that there should be a wage gap in the literature, there are also studies stating that increasing vaginal delivery fees due to medicolegal concerns will not motivate physicians to have a vaginal birth (12,14,18,25). Participating physicians in the study stated that the pressure of primary responsibility in maternity cases should be removed, midwives can have uncomplicated births, and it would be more appropriate for them to intervene only in complicated cases. They noted that physicians receive training for complicated cases, that childbirth is the work that midwives know, and that their services should be refined. Similarly, in a study conducted in 2018, participants stated that midwives should be the primary responsibility in normal births, they can get support from obstetricians when complications occur, and thus the time pressure on doctors can be reduced and unnecessary cesarean sections can be prevented (25).

Participants stated that cesarean delivery prevents a number of complications that are likely to develop during vaginal delivery. One of the most frequently expressed complications was complications related to the Genitourinary System. They noted that the disadvantages such as urinary incontinence or vaginal relaxation are less common in women who have cesarean section. In a study conducted in 2014, participants also expressed that they believed that cesarean delivery was beneficial in reducing maternal complication rates in general (23). Although some of the participants in our study stated that cesarean delivery prevents a number of complications, cesarean section has many short-term maternal complications such as thromboembolism, postpartum bleeding, wound hematoma, and long-term complications such as intra-abdominal adhesions, ectopic pregnancy, and placental placement anomalies (7).

In the study, some participants who think that cesarean delivery is a more advantageous delivery method for newborns stated that cesarean delivery reduces the likelihood of asphyxia and birth traumas and increases the newborn's chances of survival. In a statement published in 2013, ACOG suggested that although the absolute risk difference is small, the possibilities of neonatal asphyxia, hypoxic ischemic encephalopathy (HIE) and birth trauma are the potential neonatal benefits of cesarean delivery (8). However, there are studies that show an increased risk of asthma and obesity in babies born by cesarean section in the long term (8,9,10).

Strengths

It is important that the opinions of physicians working in both public and private sectors were taken in the study in order to reflect the perspectives of physicians working in both institutions. In addition, the average professional experience of the participants in the study, which is 25 years, makes the results of the study strong. This situation strengthens the possibility of representing the views of obstetricians and gynecologists in general. The inferences obtained from the opinions and thoughts of the participants can be a guide for the steps planned to be taken for public health experts, health institution managers, policy makers In this context, we hope that our study will make important contributions to the literature.

Limitations

The statements obtained from in-depth interviews with 17 OBGYN specialists residing in Sakarya are specific to the participants, and should not be expected to represent the province or country where the study was conducted. Another element included in the limitations of the study is that only physicians were involved in the study among the determinants of cesarean delivery. The perspectives of pregnant women, midwives, health service managers and policy makers who have a role in the factors related to cesarean delivery rate have been excluded from the scope. In the study, some subcategories were created in accordance with the statements of one or two participants, and may be insufficient in terms of representing the views of the participant group.

CONCLUSION

Since the factors affecting the cesarean section rate are multifaceted and interconnected, this versatility and interconnection should be taken into account when taking precautions. We especially need to focus on cesarean births without medical indications, which have a large share in the increase in cesarean section rates. Additionally, distinguishing between complications inherent in the birthing process and malpractice can prevent unnecessary lawsuits against physicians. **Conflict of Interest:** Authors declared no conflict of interest.

Funding Source: Authors declared no financial support. Acknowledgements: The authors wish to thank all the individuals who participated in the study.

Conflict-of-interest and financial disclosure

The authors declare that they have no conflict of interest to disclose. The authors also declare that they did not receive any financial support for the study.

REFERENCES

- Huang X, Lei J, Tan H, et al. Cesarean delivery for first pregnancy and neonatal morbidity and mortality in second pregnancy. Eur J Obstet Gynecol Reprod Biol. 2011;158(2):204-8.
- Penn Z, Ghaem-Maghami S. Indications for cesarean section. Best Pract Res Clin Obstet Gynaecol. 2001;15(1):1-15.
- Souza JP, Gulmezoglu A, Lumbiganon P, et.al. WHO global survey on maternal and perinatal health research group. Cesarean section without medical indications is associated with an increased risk of adverse shortterm maternal outcomes: The 2004-2008 WHO global survey on maternal and perinatal health. BMC Med. 2010;10(8):71.
- Lumbiganon P, Laopaiboon M, Gülmezoglu AM, et al. World health organization global survey on maternal and perinatal health research group. Method of delivery and pregnancy outcomes in Asia: The WHO global survey on maternal and perinatal health 2007-08. Lancet. 2010;375(9713):490-9.
- Organisation for economic co-operation and development (OECD). Cesarean sections (indicator). 2021 [cited 2021 Feb 2021]. Available from: https://data.oecd. org/healthcare/cesarean-sections.htm.
- Betran AP, Torloni MR, Zhang JJ, et al. WHO working group on cesarean section. Who statement on cesarean section rates. BJOG. 2016;123(5):667-70.
- Negese K, Belachew DZ. Maternal complications and associated factors among mothers who underwent a cesarean section at Gebretsadik Shewa general hospital: an institution based cross-sectional study. Front Glob Womens Health. 2023;9(4):1091863.
- American College of Obstetricians and Gynecologists (ACOG). Cesarean delivery on maternal request. Committee opinion number 761 (Replaces committee opin-

ion No. 559, April 2013). Obstet Gynecol. 2019;133:73-7.

- Li H, Ye R, Pei L, et al. Cesarean delivery, cesarean delivery on maternal request and childhood overweight: a Chinese birth cohort study of 181 380 children. Pediatr Obes. 2014;9(1):10-6.
- Magnus MC, Haberg SE, Stigum H, et al. Delivery by Cesarean section and early childhood respiratory symptoms and disorders. the Norwegian mother and child cohort study. Am J Epidemiol.2011;174(11): 1275-85.
- Gibbons L, Belizan JM, Lauer JA, et al. Inequities in the use of cesarean section deliveries in the world. Am J Obstet Gynecol. 2012;206(4):331.
- 12. Tadevosyan M, Ghazaryan A, Harutyunyan A, Petrosyan V, Atherly A, Hekimian K. Factors contributing to rapidly increasing rates of cesarean section in Armenia: a partially mixed concurrent quantitative-qualitative equal status study. BMC Pregnancy Childbirth. 2019;19(1):2.
- Potter JE, Berquo E, Perpetuo IH, et al. Unwanted cesarean sections among public and private patients in Brazil: Prospective study. BMJ. 2001;323(7322):1155-8.
- 14. Yazdizadeh B, Nedjat S, Mohammad K, et al. Cesarean section rate in Iran, multidimensional approaches for behavioral change of providers: A qualitative study. BMC Health Serv Res. 2011;11:159.
- Mariani GL, Vain NE. The rising incidence and impact of non-medically indicated pre-labour cesarean section in Latin America. Semin Fetal Neonatal Med. 2019;24 (1):11-7.
- Arastaman G, Fidan İÖ, Fidan T. Nitel araştırmada geçerlik ve güvenirlik: Kuramsal bir inceleme. YYÜ Eğitim Fakültesi Dergisi. 2018;15(1):37-75.
- 17. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101.
- Lotfi R, Tehrani FR, Dovom MR, et al. Development of strategies to reduce cesarean delivery rates in Iran 2012-2014: A mixed methods study. Int J Prev Med. 2014;5(12):1552-66.
- Begum T, Ellis C, Sarker M, et al. A qualitative study to explore the attitudes of women and obstetricians towards cesarean delivery in rural Bangladesh. BMC Pregnancy and Childbirth. 2018;18(1):368.
- Dildy GA, Belfort MA, Clark, SL. Obstetric forceps: A species on the brink of extinction. Obstet Gynecol. 2016;128(3):436-9.
- Bailey PE. The disappearing art of instrumental delivery: time to reverse the trend. Int J Gynaecol Obstet. 2005;91(1):89-96.
- 22. Bagheri A, Masoudi-Alavi N, Abbaszadeh F. Iranian obstetricians' views about the factors that influence preg-

nant women's choice of delivery method: a qualitative study. Women Birth. 2013;26(1):e45-9.

- Colomar M, Cafferata ML, Aleman A, et al. Mode of childbirth in low-risk pregnancies: Nicaraguan physicians' viewpoints. Matern Child Health J. 2014;18(10):2382-92.
- Litorp H, Mgaya A, Mbekenga CK, et al. Fear, blame and transparency: Obstetric caregivers' rationales for high cesarean section rates in a low-resource setting. Social Science & Medicine. 2015;143:232-40.
- 25. Peel A, Bhartia A, Spicer N, et al. 'If I do 10–15 normal deliveries in a month I hardly ever sleep at home.' A qualitative study of health providers' reasons for high rates of cesarean deliveries in private sector maternity care in Delhi, India. BMC Pregnancy Childbirth. 2018;18(1):470.
- 26. Mossialos E, Allin S, Karras K, et al. An investigation of Cesarean sections in three Greek hospitals: the impact of financial incentives and convenience. Eur J Public Health. 2005;15(3):288-95.

- Cotzias CS, Paterson-Brown S, Fisk NM. Obstetricians say yes to maternal request for elective cesarean section: a survey of current opinion. Eur J Obstet Gynecol Reprod Biol. 2001;97(1):15-6.
- Zhu L, Li L, Lang J. The attitudes towards defensive medicine among physicians of obstetrics and gynaecology in China: A questionnaire survey in a national congress. BMJ Open. 2018;8(2):e019752.
- 29. Li M, Gu W, Li X, et al. The reasons and strategies of high cesarean section rate from Chinese obstetricians and midwives perspective in the public hospitals: An interpretative phenomenologic analysis. J Fam Med Dis Prev. 2018;4(3):087.
- Yağmur Y, Çubuk MM. Kadınların doğum şekli tercihlerine sağlık eğitiminin etkisi. İnönü Üniversitesi Sağlık Bilimleri Dergisi. 2017;6(1):7-11.