

PROTAGONIST ATTITUDE OF CARE PROVIDERS IN ESCALATING THE RATES OF CAESAREAN SECTION

Jehan Ara Rafiq Baig, Adiba Akhtar Khalil, Shehla Baqai*, Abeera Choudry, Asifa Siraj, Munnawar Jannat, Humaira Tariq**

Pak Emirates Military Hospital/National University of Medical Sciences (NUMS) Rawalpindi Pakistan, *Combined Military Hospital Lahore/National University of Medical Sciences (NUMS) Pakistan, **Combined Military Hospital Murree Pakistan

ABSTRACT

Objective: To assess obstetrical care providers' delivery preferences and perceptions along with attitude towards caesarean section on maternal request and the possible effect of providers' characteristics on decision making.

Study Design: Cross-sectional study.

Place and Duration of Study: Study was done in five hospitals, from 1st Aug to 31st Aug 2019.

Methodology: Obstetrical Care providers in hospitals with at least 4000 births per year completed a self-administered, anonymous questionnaire. Delivery preferences and perceptions about low-risk women, opinion about a woman's right to choose her delivery method and the willingness to perform caesarean section on maternal request were assessed.

Results: Out of 109 participants, 105 (96.3%) preferred a vaginal delivery for their patients in the absence of a medical indication for caesarean section. Majority 74 (67.8%) believed patients should be permitted to choose their mode of delivery, while 85 (78%) were willing to perform caesarean section on maternal request. There was significant association between perceptions and the mode of delivery. More responders were willing for caesarean section on maternal request who were less than 35 years of age, had no biological children or had less than 4, who had had vaginal deliveries themselves, were trainee doctors or who had less than 10 years of obstetrical consultant experience. These associations were not statistically significant.

Conclusion: Our study revealed strong association between perceptions and personal beliefs of the practitioner and mode of delivery. There was high level of support for caesarean section on maternal request despite the fact that Pakistan's caesarean section rate is already high.

Keywords: Caesarean sections, Caesarean section maternal request, Obstetrical care providers perceptions.

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INTRODUCTION

The rising rate of caesarean sections is worrying obstetricians globally¹. The World Health Organization (WHO) recommended caesarean section rate is 10%–15%, above or below which appears to have little maternal or perinatal benefit². The WHO Global Survey of Maternal and Perinatal Health (WHOOGS; 2004-08) placed the global rate at 26.4% which increased to 31.2% by 2010-11 in the WHO Multi-Country Survey of Maternal and Newborn Health³.

Pakistan is a poor country and the women tend to have multiple pregnancies. Maternal deaths after caesarean section (CS) in poor and

middle-income nations are 100 times higher than richer nations and a third of these babies die⁴. Even then, the CS rate has rapidly increased in Pakistan within 5 years, from 14% in 2012-13 to 22% in 2017-18⁵. Sadly, CS account for only 3% of births in tribal territories (formerly known as FATA) of Khyber-Pakhtoon-Khawa province, compared to 29% each in Islamabad and Punjab⁵. Both rates don't follow the WHO recommendations. Such vast differences in rates indicate evidence based medicine is clearly not being practiced.

Physicians are often blamed for increasing the CS rates due to self-serving reasons like working hours planned births and financial incentives in private practices⁶. Caesarean Section on Maternal Request (CSMR) may also be becoming another point on that list. Caesarean

Correspondence: Dr Adiba Akhtar Khalil, House No. 05, Street No. 10, Lane 5, Sector B, DHA 2, Islamabad Pakistan
Email: khurramadiba@hotmail.com

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section on maternal request is defined as a primary cesarean delivery on maternal request in the absence of any maternal or fetal indications. Physicians dealing with a CSMR must tread the delicate line between autonomy of the patient to have a say in decisions concerning their health and the principle of non-maleficence.

The CSMR rate also appears to be rising⁷ which may be seen as an extension of the overall increasing CS rate. Although, the exact rate is not accurately known, reviews of literature indicate that the CSMR rate ranges from 0.3 to 14% of all caesarean births^{8,9}. It accounts for alarmingly high rate of 36% of all caesarean births in south-east China³.

The available information comparing planned vaginal delivery and a CSMR does not clearly favor either mode¹⁰. Such decisions are frequently grounded on intricate and often non-scientific reasons.

This study was conducted to assess health providers' delivery preferences, assumptions and the willingness to perform CSMR in low risk pregnancies in selected hospitals. These hospitals have high CS rates so they were pertinent areas to explore the obstetrical care providers' opinion.

METHODOLOGY

This cross sectional descriptive study was carried out in five hospitals with at least 4000 births per year. Out of the five, four hospitals were in Rawalpindi and Islamabad and one was in Lahore. Hospital Ethical Review Board permission was obtained and informed consent taken from the participants. The different hospitals were selected for their high CS rate, the willingness of the obstetrical care providers to participate and diversity of patients. These were semi government hospitals with both public and private patients. All of them have academic affiliations. Their self-reported CS rates at the time of the study ranged from 50-60% for all except one hospital whose rate was 75%. The Obstetrical care givers of different grades who had decision power regarding mode of deliveries of patients, were chosen for diversity and years in

the specialty. Their responses were collected from 1st to 31st August 2019.

There was 90% response rate from each hospital. First year obgyn trainees, trainee midwives and house officers were excluded because they have no decision making power in mode of delivery. To ensure anonymity, sealed survey envelopes were self-administered by and returned to a respective hospital focal person. The participant's identity was not asked. The survey questionnaire was based on survey of Rivo *et al*¹¹, and was modified according to our population.

Sample size was calculated through open epi sample size calculator. Since the sample size was constrained due to health providers' limited number in each hospital, CSMR rate was used as the minimum benchmark. Reviews of the literature shows the rate of CSMR are unclear ranging from 0.3 to 14 percent of the overall caesarean births^{8,9}. Therefore, an average percentage of 7% was taken as reference prevalence. A total of 109 health care providers were included. Convenience sampling was done. Demographics/variables were age, grade of the provider, years of obstetrical experience, number of biological children of the provider, and mode of delivery of the provider. Descriptive, bivariate and multi-variate analyses were done to look for a link between healthcare professional characteristics and their preferences. Pearson chi square test and Fisher's exact test was used to assess for significance of the results and associations. A *p*-value ≤ 0.05 was taken as significant. Outcomes were dichotomized depending on the associations. SPSS 23 was used for data analysis.

RESULTS

A total of 109 health care providers were included in this study. Out of these, 60 (55%) participants were <35 years of age and 43 (39.4%) were from >35 year of age while 6 (5.5%) participants were reluctant to mention their age.

Almost all of the health providers 105 (96.3%) would choose vaginal delivery for their patients and 85 (78.7%) felt most of patients preferred vaginal delivery, as shown in table-I.

The reasons given for the choice of mode of delivery by the provider is shown in table-II.

Majority of the responders 74 (67.8%) believed patients should be permitted to choose

(78%) were willing to perform CSMR. More health care practitioners less than 35 years of age were willing to comply with CSMR than not: 50 vs 10. Practitioners with no biological children

Table-I: Perceptions and preferences of the obstetrical care providers.

Questions	Vaginal delivery	Caesarean section	p-value
	n (%)	n (%)	
Most of my patients prefer	85 (78.7%)	23 (21.3%)	<0.05*
I would choose the following mode of delivery for the clientage of my hospital with its existing resources	105 (96.3%)	4 (3.7%)	
If my own sister had to come and deliver in my hospital I would choose	103 (94.5%)	6 (5.5%)	

*p-value Obtained using Pearson chi square test and fisher's exact test where cell counts <5.

Table-II: Reasons for choosing mode of delivery.

Reasons	Mode of Delivery	
	Caesarean section	Vaginal delivery
	6 (5.5%)	103 (94.5%)
Safety	3 (2.8%)	-
Can't watch my sister suffering	2 (1.8%)	-
Danger of instrumental delivery	1 (0.9%)	-
Natural is always better	-	88 (80.7%)
There is adequate monitoring	-	3 (2.8%)
Worried about repeat caesarean	-	6 (5.5%)
No risk of transient tachypnea of newborn	-	1 (0.9%)
No risk of pl.accreta in next pregnancy	-	5 (4.6%)

*p-value obtained using fisher's exact test

Table-III: Women permitted to choose their mode of delivery.

Reason	I believe women should be permitted to choose their mode of delivery	
	Yes	No
	74 (67.8%)	35 (32%)
Women empowerment	13 (17.6%)	-
Patient autonomy	57 (77.0%)	-
Other	4 (5.4%)	3 (8.6%)
Patient inadequate knowledge	-	30 (85.7%)
No vision	-	2 (5.7%)

their mode of delivery, 57 (52.2%) of them mentioning patient autonomy as their overriding reason. Conversely, 30 (27.5%) providers felt patient had inadequate knowledge as shown in table-III.

Table-IV showed the associations between demographics and CSMR willingness. Bulk 85

were more willing for CSMR than not: 22 vs 5. More participants with biological children were also willing for a CSMR than not but the ratio was lower as compared to participants with no biological children. More practitioners with less than 4 children were willing for CSMR than not: 56 vs 15. More health care providers who had had a vaginal delivery were more willing than not for

CSMR: 31 vs 5. Trainee doctors were more willing towards a CSMR than not: 39 vs 10. Similarly, consultants with less than 10 years

and enough. Furthermore, 16 felt scar dehiscence incidence of 1-2% too low and 7 felt it was too high (table-V).

Table-IV: Associations between demographics and willingness for CSMR.

Parameters		Willing for CSMR	Not willing for CSMR	p-value
		85 (78%)	24 (22%)	
Age	<35 Years	50 (58.8%)	10 (41.6%)	0.17
	>35 Years	31 (36.5%)	12 (50.0%)	
	Age not mentioned	4 (4.7%)	2 (8.3%)	
Biological children	None	22 (25.9%)	5 (20.8%)	0.61
	yes	63 (74.1%)	19 (79.2%)	
Number of children	<4	56 (88.9%)	15 (78.9%)	0.26
	>4	7 (11.1%)	4 (21.1%)	
Mode of delivery of provider	Spontaneous vaginal delivery	31 (50.0%)	5 (26.3%)	0.29
	instrumental	2 (3.2%)	-	
	Emergency caesarean section	11 (17.7%)	5 (26.3%)	
	Planned caesarean section	12 (19.4%)	7 (36.8%)	
	Vaginal/ caesarean section	6 (7.1%)	-	
Grade of provider	Midwife nurse	13 (15.3%)	6 (25.0%)	0.34
	Trainee doctors	39 (45.9%)	10 (41.7%)	
	Junior Consultant <10 years	18 (21.2%)	2 (8.3%)	
	Senior consultant >10 years	15 (17.6%)	6 (25.0%)	

Table-V: Offer of Trial of Labor After Caesarean Section (TOLAC) to Patients.

Reason	I would offer Trial of Labor After Caesarean Section (TOLAC) to each and every appropriate patient			p-value
	Yes	No	No answer	
		82 (75%)	18 (16.5%)	
Facilities and staff 24/7 availability	62 (75.6%)	1 (5.6%)	-	<0.05*
To decrease transient tachypnea of newborn	3 (3.7%)	-	-	
Risk of scar rupture is only 1-2%	16 (19.5%)	-	-	
Junior staff availability during out of working hours	-	6 (33.3%)	-	
Risk of scar rupture is significant	1 (1.2%)	7 (38.9%)	-	
Doctor will be criticized if trial fails	-	1 (5.6%)	-	
Risk of birth asphyxia	-	2 (11.1%)	-	
Difficult to counsel uneducated women regarding risk of trial of labor after caesarean section	-	1 (5.6%)	-	

*p-value using fisher exact test

experience more willing for a CSMR than not: 18 vs 2 as compared to senior consultants: 15 vs 6. Midwives stood at 13 vs 6. Using p-value results were not statistically significant.

For trial of labor after caesarean section (TOLAC) 62 (75.6%) felt monitoring was 24/7

DISCUSSION

A caesarean delivery has immediate, long term and lifelong effects on the patient and the baby. Some of the effects are just being recognized. The addition of an improve rish, traditional society like Pakistan into the cocktail increases

the complexity. Health services are not consistent or easily accessible across the country. Women are expected to produce multiple children due to a myriad of reasons. It is important to analyze if the obstetrical care provider's perceptions and decision making is one of the reasons for a rise in caesarean section rates in a society least able to bear the consequences.

Caesarean section on maternal request (CSMR) is another dilemma adding to the quagmire. Numerous studies worldwide have been done to assess this problem. The results are diverse and often a reflection of a cohort's current practices as well as a physician's personal opinion.

Starting on an optimistic note, it was observed in our study that 85 (78.7%) obstetrical care providers felt their patients have preference for vaginal delivery and similarly 105 (96.3%) of those surveyed felt they would choose the same for their patients and 103 (94.5%) would make the same choice for their own sister in their hospital. While the responders in our survey seem to prefer vaginal delivery, their self-reported CS rates in their respective hospitals were 50-60% (one hospital CS rate was up to 75%).

Rivo *et al* in Argentina observed in their survey that 155 (92.3%), providers expressed a preference for a vaginal delivery for their patients but only 72 (42.9%) of providers thought that women prefer a vaginal delivery and 60 (35.7%) actually believed that women wanted a CS. Whereas, in fact, >89% of nulliparous Argentine women surveyed in their third trimester preferred a vaginal delivery¹¹. Similarly, Potter *et al* surveyed pregnant women attending public and private institutions in Brazil and found that preferences were similar in both sectors, with more than 80% of women in favor of vaginal delivery¹², but the perception among the physicians in Brazil is that it is women's demand for a cesarean that is behind the high rates¹³. There appears to be a gap between physicians' assumption of what patients prefer and the patient's actual choice of mode of delivery.

All of the above results reflect multi-farious, conflicting reasons for decision-making for the eventual mode of delivery of the obstetrical patient. Further data giving credence to this inference is that 88 (85.4%) obstetrical care givers who preferred a vaginal delivery for their patients in our survey, did so because "nature was better". Very few of them chose scientific, evidence based reasons like labor monitoring, transient tachypnea of newborn, repeat CS and risk of placenta accreta². Care provider seven chose a CS because they could not see their sister suffer.

Further into the survey, when the obstetrical care givers were asked if they agreed to women choosing their own mode of delivery, 74 (68%) agreed citing patient autonomy and women empowerment. NONE felt the patient had inadequate knowledge. This is a little incredulous because Pakistani obstetrical clinics are notoriously busy and the clientele is generally not well educated. Additionally, 35 (32%) of the responders did not agree to women choosing their mode of delivery and 30 (27.5%) mentioned inadequate knowledge of patients as their reason.

Clearly, physicians' perceptions and personal opinions are playing a role. Majority 85 (78%) were willing to perform CSMR. Interestingly, this included 11 participants who did not believe patients should choose their mode of delivery but were still willing to perform a CSMR.

The International Federation of Gynecology and Obstetrics labels CSMR as unethical⁶, whereas the American Congress of Obstetricians and Gynecologists states that CSMR should not be performed before 39 weeks and that it is not recommended for women desiring several children¹⁰.

Rivo *et al* found that 125 (74.4%) of providers believed that their patients should have the option for CS and 112 (66.7%) of providers would perform a CSMR; however, only 51 (30.4%) of providers would consider a non-medically indicated CS for themselves or their partner¹¹.

Chigbu *et al*, in Nigeria observed in their study that the majority (53.1%) of the respondents would agree to CSMR on the basis of maternal autonomy especially with history of previous childlessness and a negative labor experience ($p < 0.0001$)¹⁴.

Obed *et al*, also in Nigeria found that 88 (97.8%) of the obstetricians sampled knew the FIGO stand on CSMR but 80 (88.9%) of them still felt the patient's autonomy was important¹⁵. In a cohort of obstetrical providers in China, 49% of them had had a CSMR¹⁶. Over 50% of a sample of obstetricians in Turkey were reported to have chosen a CSMR for themselves or their partner¹⁷. By contrast, in Norway and Sweden, CSMR is officially not available. CS is considered only as indicated by an obstetrician. Maybe it's telling that their CS rate is only 16%¹⁸ and 17%¹⁹ respectively.

Another aspect of our survey was to see responses to 'trial of labor after CS' (TOLAC). Out of 109, 62 (56.8%) responded that they will offer TOLAC to appropriate patients because staff and facilities were available 24/7. However, 16 thought risk of scar dehiscence was low enough for TOLAC and at the same time, 7 felt it was high enough to not offer TOLAC to each appropriate patient. A p -value < 0.05 obtained which meant significant association existed between reason and mode of delivery offered.

Associations between demographics and mode of delivery choice of the practitioners and care givers were also sought. The p -values were not significant. However, some obvious differences are present. Providers under the age of 35 years, with no biological children, or less than 4 children, obgyn trainees and junior consultants with less than 10 year experience were more likely to accept CSMR. This was somewhat similar to a sample where Scottish providers with children were significantly less likely than providers without children to prefer non-medically indicated CS²⁰. In contrast, Rivo *et al* found that in their sample, providers with children were more willing to perform CSMR¹¹. However, a sample of

German providers was almost equally supportive of CSMR whether nulliparous or with history of CS²¹.

In our survey, there seems to be a significant association between perceptions and personal beliefs of the obstetrical care giver and patient's mode of delivery. This appears to support the prevalent view that providers decisions which are not even based on obstetrical reasons, are ratcheting up the CS rates.

CS is associated with numerous adverse effects. Some are common knowledge like uterine rupture, abnormal placentation, ectopic pregnancy, higher maternal mortality and transient tachypnea of newborn while others are recent recognitions like stillbirth, preterm birth, altered immune development of the new born and late childhood obesity and asthma. These risks increase with increasing number of caesarean deliveries in the individual. There are few studies on CS effects on cognition and educational outcomes²². Children delivered on CSMR prior to 39 gestational weeks, appear to have an increased risk for emotional and behavioral problems at preschool age³.

So despite the above mentioned risks and its long term effects on a low income society like Pakistan, the CS rates are still rising. In Iran like Pakistan, there are no monitoring policies for mode of deliveries. The obstetricians surveyed rationalized that in case of complications during a birth, they would be sued on why a CS had not been performed²³. Obstetrical practice in the best of places is very trying but in a third world, low resource health system, it's particularly a battle of nerves. Convenient time of delivery, monetary motivations and a supposed safety from a lawsuit seem to override medical and societal benefits of a vaginal delivery. Additionally, increased post-traumatic stress symptoms have been documented in women who preferred CS but gave birth vaginally compared with women who both preferred vaginal delivery and delivered vaginally²⁴. This has led NICE guidelines for CSMR to be more accommodating. A referral to

healthcare expert in perinatal mental health has been advised, along with an opinion of a second obstetrician if the index obstetrician cannot comply to a CSMR from a patient who has been counselled to the contrary²⁵. There are no easy answers but most of the reasons for a CS without medical indication can be addressed and ways found to lower the CS rate.

LIMITATION OF STUDY

Participants represented a diversity of obstetrical care providers but organization policies and work environment could have biased results. Different care providers like midwives and doctors gave different responses. Sample size prevented deeper exploration of the responses of these different cadres. Responses for private and public clientele could not be separately probed.

CONCLUSION

The varied Obstetrical care giver' answers were not based on solid medical evidence but there was a strong association between perception and preferences of practitioners and mode of delivery. The CSMR dilemma presents a very real risk of demoting the obstetrician to mere technicians in our haste to respect patient autonomy.

In low income societies, CSs are linked with perceived improved careal though paradoxically CSs in low income countries pose a far greater risk to a patient compared to CSs in richer countries. The reasons for the rise of CS are not evidence based and a sincere effort to help the obstetrical care provider and the patient reach a mutually supportive system is the need of the hour.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

REFERENCES

1. Wise J. Alarming global rise in caesarean births, figures show. *Br Med J* 2018; 363(K4319): 1.
2. Roberts CL, Nippita TA, International caesarean section rates: the rising tide. *Lancet Glob Health* 2015; 3(5): e241-42.
3. Huang K, Yan S, Wu X, Zhu P, Tao F. Elective Caesarean section on maternal request prior to 39 gestational weeks and childhood psychopathology: A birth cohort study in China. *BMC Psychiatry* 2019; 19(22): 1-6.
4. World health organization. Sexual and reproductive health: Deaths from caesarean sections 100 times higher in developing countries: global study. [Online]. Available from: <https://www.who.int/reproductivehealth/death-from-caesarean-sections/en/> [Accessed 18 February 2020].
5. National Institute Of Population Studies (Nips) And ICF. 2017-18 Pakistan Demographic and Health Survey Key Findings. [Online]. Available from: https://www.nips.org.pk/abstract_files/PDHS%202017-18%20-%20Key%20Findings.pdf [Accessed 19 February 2020].
6. Gerard VHA, Ayres De Campos D, Renzo GC, Vidarte MFE, Barnea ER, Bernis L, et al. FIGO position paper: How to stop the caesarean section epidemic. *Lancet* 2018; 392(10155): 1286-87.
7. Malik Z. Ethical considerations of cesarean section on maternal request: A Systematic Literature Review. *Intl J Sci Engineering Res* 2017; 8(1): 826-30.
8. Puia MP. The Cesarean Decision Survey. *J Perinatal Edu* 2013; 22(4): 212-25.
9. Ryding EL, Lukasse M, Kristjansdottir H, Steingrimsdottir T, Schei B, on behalf of the bidens study group. Pregnant women's preference for cesarean section and subsequent mode of birth - a six-country cohort study. *J Psychosomatic Obs Gynecol* 2016; 37(3): 75-83.
10. Cesarean Delivery on Maternal Request. The American College of Obstetricians and Gynaecologists. [Online]. Available from: <https://www.acog.org/en/Clinical/Clinical%20Guidance/Committee%20Opinion/Articles/2019/01/Cesarean%20Delivery%20on%20Maternal%20Request> [Accessed 13 May 2020]. 887, OCTOBER 13, 20181286-1287, OCTOBER 1286-1287, OCTOBER 13, 2018
11. Rivo JC, Amyx M, Pingray V, Casale RA, Fiorillo AE, Krupitzki HB, et al. Obstetrical providers' preferred mode of delivery and attitude towards non-medically indicated caesarean sections: a cross-sectional study. *BJOG: An Intl J Obs Gynae* 2018; 125(10): 1294-302.
12. Potter JE, Berquó E, Perpétuo IH, Leal OF, Hopkins K, Souza MR, Formiga MC. Unwanted caesarean sections among public and private patients in Brazil: prospective study. *BMJ (Clinical research ed.)* 2001; 323(7322): 1155-58.
13. Hopkins K. Are Brazilian women really choosing to deliver by cesarean?. [Online]. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0277953699004803> [Accessed 13 February 2020].
14. Chigbu CO, Ezenyeaku CC, Ezenkwele EP. Obstetricians' attitudes to caesarean delivery on maternal request in Nigeria. *J Obs Gynae* 2010; 30(8): 813-17.
15. Obed JY, Bako BG, Agida TE, Nwobodo EI. Caesarean delivery on maternal request: Consultants' view and practice in the west african sub-region. *J West Afr Coll Surg* 2013; 3(1): 72-83.
16. Ouyang YQ, Zhang Q. A study on personal mode of birth among chinese obstetrician-gynecologists, midwives and nurses. *Arch Gynecol Obstet* 2013; 287(1): 37-41.
17. Arikan DC, Özer A, Arikan I, Coskun A, Kiran H. Turkish obstetricians' personal preference for mode of birth and attitude toward cesarean birth on maternal request. *Arch Gynecol Obstet* 2011; 284(3): 543-49.
18. Eide KT, Morken N, Bærøe K. Maternal reasons for requesting planned cesarean section in Norway: a qualitative study. *BMC Pregnancy Child birth* 19, 102 (2019). <https://doi.org/10.1186/s12884-019-2250-6826ISSN22295518.html> [Accessed 15 February 2020].
19. BBC News. C-section rates 'vary widely' across Europe. [Online]. Available from: <https://www.bbc.com/news/health-31766715> [Accessed 17 february 2020].

20. MacDonald C, Pinion SB, MacLeod, U. Scottish female obstetricians' views on elective caesarean section and personal choice for delivery. *J Obstet Gynaecol* 2002; 22(6): 586-9.
 21. Faas-Fehervary P, Schwarz K, Bauer L, Melchert F. Caesarean section on demand: Influence of personal birth experience and working environment on attitude of German gynaecologists. *Eur J Obstet Gynecol Reprod Biol* 2005; 122(2): 162-66.
 22. Sandall J, Tribe RM, Avery L, Mola G, Visser GHA, Homer CSE, etal. Short-term and long-term effects of caesarean section on the health of women and children. *Lancet* 2018; 392(10155): 1349-57.
 23. Bagheri A, Alavi NM. Iranian obstetricians' views about the factors that influence pregnant women's choice of birth method: a qualitative study. *Women Birth* 2013; 26(1): e45-9.
 24. Olieman RM, Siemonsma F, Bartens MA, Garthus-Niegel S, Scheele F, Honig A. The effect of an elective cesarean section on maternal request on peripartum anxiety and depression in women with childbirth fear: a systematic review. *BMC Pregnancy Childbirth* 2017; 17(1): 195.
 25. NICE guidance. Quality statement 3: Maternal request for a caesarean section: maternal anxiety. [Online]. Available from: <https://www.nice.org.uk/guidance/qs32/chapter/quality-statement-3-maternal-request-for-a-caesarean-section-maternal-anxiety> [Accessed 14 january 2020].
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