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MATERNAL-FETAL MEDICINE

# Cesarean section on maternal request: the viewpoint of expectant women

**Akinyemi Akinsoji Akintayo · Idowu Pius Ade-Ojo · Biodun Nelson Olagbuji · Oladunni Olufunmilola Akin-Akintayo · Omobolanle Ronke Ogundare · Babatunde A. Olofinbiyi**

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**Abstract**
*Purpose* To determine the women's perception and factors influencing willingness to have cesarean section on maternal request (CSMR) in the absence of medical or obstetric indication.
*Methods* A cross-sectional questionnaire-based survey of 752 antenatal clinic attendees at Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti. Pre-tested questionnaires were used to elicit information on socio-demographic and obstetric variables, awareness and perspective of CSMR and the willingness to request CS without physician's recommendation. Frequency tables were generated and univariate and multivariate logistic regression were used to determine factors that influenced CSMR using SPSS software version 16.0.
*Results* Forty-eight (6.4 %) of the respondents reported willingness to request CS. The most common motivations for the request were fear of losing the baby during labor, delay in conception and fear of labor pains. Analysis by simple logistic regression and multiple regression showed age, parity and educational status were not significantly related to the decision for CSMR.
*Conclusion* CSMR is an evolving entity in obstetrics practice in the developing countries. Delay in conception, fear of labor pain and loss of baby during labor appear to be strong motivations.

**Keywords** Cesarean section · Cesarean section on maternal request · Nigeria

A. A. Akintayo (✉) · I. P. Ade-Ojo · B. N. Olagbuji · B. A. Olofinbiyi
Department of Obstetrics and Gynecology, Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria
e-mail: akinyemiakintayo@yahoo.co.uk

O. O. Akin-Akintayo
Department of Obstetrics and Gynecology, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria

O. R. Ogundare
Antenatal Clinic Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria

## Introduction

Cesarean section (CS) ranks as a leading major surgical procedure carried out in both developed and developing countries. The incidence and acceptability of CS has been on the increase worldwide in the last decade [1, 2] and CS performed on maternal request (CSMR) in the absence of obstetric or medical indication has contributed to this rising quota [3]. The incidence of CSMR is difficult to determine essentially due to the differences in definition and poor documentation as an indication. The reported prevalence of CS performed without any obstetric abnormality or contraindication to trial of vaginal delivery varies between studies. Prevalence rates ranging from 2.5 % in the United States [4] to 26.8 % in Western Australia [5] have been reported. Although CSMR is more common in developed countries, it is now being entertained in developing countries like Nigeria [6, 7]; this is interesting considering the low cesarean section rate, 2 %, reported by the National Demographic Health Survey of Nigeria [8]. The only available study from the African region which explored the proportion of cesarean sections performed at term indicated that 4.4 % of all cesarean deliveries were personally requested by women without clinician's recommendation [6].

CSMR has recently drawn heightened interest due to a review of patient's autonomy and ethical consideration [9,

10]. The American College of Obstetrics and Gynecology (ACOG) [11] supports CSMR while the International Federation of Gynecology and Obstetrics (FIGO) [12] is of the opinion that the practice of CS on request lacked ethical justification. The 2011 National Institute for Health and Clinical Excellence (NICE) guideline [13] recommends the performance of cesarean on maternal request after a detailed discussion between the patient and the obstetric team, and an offer of vaginal birth is not acceptable to the woman.

In contrast, guidelines from professional organizations on cesarean section associated with maternal request in Africa are unavailable. As Nigeria does not currently have guideline on cesarean section associated with maternal request and cesarean sections are usually carried out for obstetric indications; the information provided by this study will add to the paucity of evidence regarding maternal perspectives on this topical issue that may be used in the development of a guideline. Additionally, this study evaluated demographic and obstetric factors that may influence maternal choice for cesarean delivery without physician's recommendation.

## Materials and methods

This descriptive cross-sectional study was conducted between December 2012 and March 2013 at the prenatal clinic of Ekiti State University Teaching Hospital (EKSUTH), Ado-Ekiti, Ekiti State, south-west Nigeria. EKSUTH is the only tertiary healthcare institution located in the capital of Ekiti State, south-west Nigeria. About 2,400 deliveries take place in Ekiti State University Teaching Hospital annually; the cesarean section rate in the hospital was 30.8 % in the 2 years preceding the study, with about a fifth being elective procedures. CSMR accounted for 6 % of all the elective cesarean sections in the same period. The hospital serves as a referral center for primary and secondary healthcare facilities located in Ekiti State and other neighboring towns and communities in Ondo, Kwara and Kogi States. The patients accessing care in EKSUTH are from a mix of urban and sub-urban settlements. As per the introductory information preceding the survey questions, completion of the survey was regarded as consent to participate in the survey. Ethical approvals were obtained from the Ekiti State University Teaching Hospital Ethics Committee.

For the purpose of this study, CSMR has been defined as any cesarean section that is done at term and in the absence of obstetric or medical indication.

Using self-administered semi-structured questionnaire, we surveyed the perceptions of women regarding personal request for cesarean section without physician's recommendation and the factors that would lead a woman to seek CSMR. The questionnaire, composed in English; each questionnaire had three sections. The first focused on socio-demographic and obstetric characteristics of the participants, the second section appraised the awareness and perspective of the women about CSMR, the third assessed the patient's willingness to request CS and their attitude towards the practice of CSMR.

The questionnaire was composed in English language and participants who could not read and write were interviewed by trained research assistants in their local language. The questionnaire was pre-tested and validated using 40 antenatal clinic attendees. The data obtained from this pilot study were not considered for analysis. Each question that appeared ambiguous was reframed for easy comprehension of the study population.

Women were eligible to participate in the survey if they had no prior cesarean delivery, previous adverse perinatal outcome or had not been counseled for cesarean delivery in the current pregnancy. Also excluded from this study were women who declined to complete the survey questionnaire.

Data obtained from the completed questionnaires were analyzed using the software SPSS version 16.0 (SPSS, Chicago IL, USA). Mean (±SD) and frequency counts (percentages) were summary statistics used for continuous and categorical variables, respectively. Simple and multivariate logistic regressions were applied to independent variables (maternal age, parity, education) to determine their influence on CSMR. Statistical significance was set at the 95 % confidence level with $p$ value $<0.05$.

## Results

Seven hundred and fifty-two completed questionnaires were available for analysis. The socio-demographic and obstetric characteristics of the participants are shown in Table 1. The study included more women <35 years (84.4 %), the mean age of the study population was 29.87 ± 4.61 years; the minimum age was 16 years and the maximum age was 45 years. Majority, 560 (74.5 %), had tertiary education while 29 (3.9 %) had primary or no formal education. Most of the participants, 92.3 %, were Christians and 7.7 % were Muslims. Predominantly, participants were Yoruba; 47 (6.2 %) are Igbo and, other ethnic groups such as Igbira, Efik, Hausa, Itsekiri accounted for 5.1 %. With respect to parity, 402 (53.5 %) were para one and above while 350 (46.5 %) were nulliparous. The median parity was 1 and the range was 5.

Table 2 reveals the patient's perception of CSMR. Of the participants, 473 (62.9 %) were aware that they could request CS and 48 (6.4 %) were willing to request delivery by CS. Most of those who are aware of CSMR had tertiary

**Table 1** Socio-demographic and obstetric characteristics of participants

| Variable | $N = 752$ | Percentage (%) |
|---|---|---|
| Age (mean age ± SD, years) | 29.87 ± 4.61 | |
| Age (years) | | |
| <35 | 635 | 84.4 |
| ≥35 | 117 | 15.6 |
| Level of education | | |
| Primary/less | 29 | 3.9 |
| Secondary | 163 | 21.7 |
| Tertiary | 560 | 74.5 |
| Ethnicity | | |
| Yoruba | 667 | 88.7 |
| Ibo | 47 | 6.2 |
| Others | 38 | 5.1 |
| Religion | | |
| Christianity | 694 | 92.3 |
| Islam | 58 | 7.7 |
| Parity | | |
| 0 | 350 | 46.5 |
| ≥1 | 402 | 53.5 |

**Table 2** The knowledge and attitude of participants towards cesarean section on maternal request

| Variable | Frequency ($N = 752$) | Percentage (%) |
|---|---|---|
| Awareness of CS on request | 473 | 62.9 |
| Willing to request CS | 48 | 6.4 |
| Perception of CSMR as expression of rights | 268 | 35.6 |
| Perception of CSMR as failure of womanhood | 44 | 5.9 |
| Perception of CSMR as inappropriate | 98 | 13.0 |
| Believe that the doctor should not decline women requesting CS their wish | 545 | 72.5 |
| Believe that the woman has the sole right to determine her mode of delivery | 218 | 29.0 |
| Believe cesarean section is now safer | 566 | 75.3 |
| Believe they would be criticized | 125 | 16.6 |
| Believe that the practice of CSMR should be encouraged | | |
| Yes | 396 | 52.7 |
| No | 263 | 35.0 |
| Undecided/no response | 93 | 12.4 |

education, 501 (66.7 %). A sixth (16.6 %) of the participants felt they would be criticized if they requested CS, 54 % of those expect criticism from their husbands, parents and in-laws. Most of the participants, 545 (72.5 %), think doctors should grant the request of those demanding CS in the absence of obstetric or medical indication while 218 (29.0 %) believe that patients have the sole autonomy to decide on her mode of delivery. Ninety-eight participants, 13.0 %, perceive CSMR as inappropriate, 44 (5.9 %) perceived it as a failure of womanhood while 268 (35.6 %) perceived CSMR as an expression of right. Most of the participants (75.3 %) believe CS is now safer. Thirty-five percent of the respondents believe the practice of CSMR should not be encouraged.

**Table 3** Reasons stated for cesarean section on maternal request

| Reason for request | Frequency ($N = 48$) | Percentage (%) |
|---|---|---|
| Fear of labor pain | 14 | 29.1 |
| Fear of losing the baby during labor | 30 | 62.5 |
| Delay in conception | 16 | 33.3 |
| Fear of incontinence | 5 | 10.4 |
| Unsatisfactory sexual intercourse | 5 | 10.4 |
| Others | 12 | 25.0 |

Many participants gave multiple reasons

Table 3 shows the reasons stated by the participants as motivation for CSMR. For those willing to request CS, reasons given include fear of labor pains (29.1 %), fear of losing the baby during labor (62.5 %) and delay in conception (33.3 %). Other reasons stated include fear of urinary incontinence following delivery, fear of unsatisfactory sexual intercourse following vaginal delivery, lack of family support when in labor, the duration of labor and previous experience of poor attitude from health workers during labor.

Table 4 displays the relationship between patient's characteristics and CSMR using logistic regressions. After simple logistic regression and multivariate regression maternal age, level of education and parity were not significantly related to CSMR at 95 % confidence interval.

## Discussion

Findings from this study reveal that the tendency towards CSMR appears to be considerable with a rate of 6.4 % which is comparable to 6.6 % reported by Okonkwo et al. [14] in Ibadan and higher than 4.4 % reported by Chigbu et al. [6] in south-east Nigeria. This suggests a possible change in the attitude of women in Nigeria from the previously reported aversion for cesarean section [15, 16]. The reason for this change may be associated with the perception of better safety of the procedure, as demonstrated

**Table 4** The relationship between socio-demographic and obstetric factors and CSMR

| Variables | CS request *N* (%) | Crude odds ratio | *p* value | Adjusted odds ratio | *p* value |
|---|---|---|---|---|---|
| Age (years) | | | | | |
| <35 | 41 (85.4) | 1.00 | | 1.00 | |
| ≥35 | 7 (14.6) | 0.92 (0.40–2.11) | 0.847 | 0.88 (0.37–2.07) | 0.76 |
| Parity | | | | | |
| 0 | 22 (45.8) | 1.00 | | 1.00 | |
| ≥1 | 26 (54.2) | 1.03 (0.57–1.85) | 0.919 | 1.03 (0.56–1.90) | 0.927 |
| Level of education | | | | | |
| Tertiary | 38 (79.2) | 1.00 | | 1.00 | |
| Secondary | 7 (14.6) | 0.62 (0.27–1.41) | 0.251 | 0.61 (0.27–1.40) | 0.245 |
| Primary or none | 3 (6.3) | 1.00 (0.46–5.48) | 0.466 | 1.58 (0.46–5.45) | 0.471 |

by the finding that 75.3 % of the participants felt cesarean section has become safer in Nigeria.

Awareness for CSMR was high in this study, with 62.9 % of patients reporting knowledge of CSMR. This was higher than rates reported from previous local studies by Chigbu [7] and Okonkwo [14] who reported 15.1 and 39.6 %, respectively. This signifies the increasing awareness among antenatal clinic attendees about cesarean section on maternal request in Nigeria. Educational status seems to have a significant effect on the level of awareness, supporting the notion that level of education is a modifier of cultural perception of cesarean section [17].

It has been reported that patients seldom request CS without motivation. The motivation may stem from fears that are clinical or psychological [18]. Fear of loss of baby during the process of labor, history of delay in conception and fear of labor pains rank high in the motivation for request for cesarean section by patients recruited in this study. This finding is slightly at variance with an earlier study from south-east Nigeria which reported that the highest motivation for request for cesarean section was previous infertility and advanced maternal age [6], but comparable since previous delay in conception is still a significant motivation for these women. Sociocultural differences in the geographical regions may be accountable for the disparity in motivational factors. The fear of labor pains and fear of loss of the baby were, however, similar to the findings of Okonkwo et al. [14] in Ibadan, south-west Nigeria.

The practice of CSMR by women as a means of avoiding labor pains and/or labor complications or based on concerns for the safety of the baby has equally been reported by Pakenham et al. [19] and Robson et al. [20]. The US National Institutes of Health guidelines, however, advised that maternal request for cesarean section should not be motivated by unavailability of effective pain management [21].

In south-west Nigeria where pain perception is reported to be higher than other regions [22], the finding that some patients would request cesarean section on account of fear of labor pains is not surprising. But, it calls for a review of the analgesic options in labor in our environment. Obstetricians with the help of anesthetists should therefore endeavor to provide optimum pain management in labor.

A significant proportion of participants, 54 %, reported likely criticism by their immediate family members, particularly their husbands and the parents/in-laws. This makes the decision for CSMR difficult for our women and modulates their final wish. Therefore, lack of support by the immediate family could be a factor limiting the general acceptability of CSMR in our environment.

Although, evidence from this study shows some obstetric patients would be willing to request for CS, 6.4 % still comprise a minority. It is unlikely that CSMR already contributes significantly to CS rates in developing countries compared with the developed countries. However, with the noted increase in awareness and acceptability of CSMR among patients in developing countries, CSMR could become a major contributor to CS rates.

Previously, the relationship between patients and their healthcare providers has been paternalistic and authoritarian. Patients were thought not to have autonomy to select route of delivery. However, more recently the right and autonomy of patients are now embraced, especially as the philosophy of maternity care is tending towards being client-centered [23, 24]. Despite the appeal of patient's autonomy, women are still highly dependent on the information provided by their physician. Rather than expression of a free, informed choice for cesarean delivery, CSMR may be products of the obstetrician's attitudes, lack of opportunities for adequate care while undergoing vaginal delivery and much publicized fashionable trends of CSMR itself.

Until better evidence becomes available, individual obstetricians faced with a request for elective cesarean delivery are charged with the delicate task of balancing their patient's autonomy and freedom of choice with the

motivation and fears underlying such request. Ultimately obstetricians should act according to what they believe will better promote the health and welfare of mother and fetus. Since there is no national consensus on CSMR, patients should be individualized and an explicitly executed informed consent should form the framework of any decision regarding CSMR.

In conclusion, CSMR is a relatively new entity in obstetrics practice in the developing countries. The rate of demand is, however, likely to grow rapidly with patients signifying increasing willingness. The major motivations suggest suboptimal pain relief and lack of belief in available obstetric care. Obstetricians should put necessary measures in place to reduce rather than encourage such demand by improving fetal surveillance and analgesia in labor.

**Conflict of interest** The authors declare that there are no conflict of interests.

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