Ethical Considerations of Cesarean Section on Maternal Request: A Systematic Literature Review

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Abstract—Background: Caesarean section on maternal request (CSMR) is considered to be the leading cause of increase in CS. This article is a review of research literature to unfold underlying reasons of CSMR, obstetrician’s response and ethical issues. It will help to implement the safe and successful strategies of the procedure. Methods: A search of electronic database sources including Google Scholar and PubMed was undertaken to retrieve English language publications from January 2006 to December 2015. Conclusion: There is an ongoing debate on patient’s autonomy and physician’s beneficence/ non-maleficence. There is a need to counsel mothers and provision of unbiased information. Researchers should focus on the type and level of women’s knowledge about the pros and cons of cesarean section and obstetricians and gynecologists’ influences and preferences.

Index Terms—beneficence/ non-maleficence, cesarean section, cesarean section on maternal request, ethical considerations, ethics of CSMR, reasons of CSMR, systematic literature review

1 BACKGROUND

The international healthcare community has measured the perfect rate for cesarean segments to be somewhere around 10% and 15%. From that point forward, cesarean sections have turned out to be progressively common in both developed and developing countries. At the point when medically supported, a cesarean segment can adequately counteract maternal and perinatal mortality and morbidity. But there is no confirmation demonstrating the advantages of cesarean sections for ladies or newborn children who don't require the methodology [1].

Caesarean section on maternal request (CSMR) is considered to be the leading cause of increase in CS [2]. The incidence of CSMR is difficult to verify in essence due to the differences in definition and poor citations as an indication. Prevalence rates ranging from 15.1% % in the China [3] to 2.5% of all births in the United States [4], [5] have been reported.

CSMR has recently drawn keen interest due to appraisal of patient’s autonomy and ethical consideration [6], [7]. It is more complex to evaluate pros of CSMR than to simply compare the outcomes from cesarean sections to vaginal deliveries.

2 METHODS

A search of electronic database sources including Google Scholar and Pubmed was undertaken to retrieve English language publications from January 2006 to December 2015. Search terms, “cesarean section”, “cesarean delivery”, “cesarean section on maternal demand”, “cesarean section on maternal request”, “ethical issues”, “and obstetrician’s response” were used to explore literature available in developed, developing and under-developed countries.

2.1 Eligibility criteria

Author included all those articles which identified involvement of mothers-to-be in choice of mode of delivery, reasons behind the decision and obstetrician’s responses and influences. Editorials, committee opinions, papers in languages other than English and opinion letters to editors were excluded. Research articles were downloaded, vetted,
assessed for content and tabulated using categories of study design, sample size, setting and outcomes. Accordingly, 16,954 articles were assessed and finally 22 articles were included for the analysis according to the study objectives Figure 1.

2.2 Data Synthesis

The studies included were summarized in a table (Table No.1) and examined for the relation between escalating rates of cesarean section on demand and reasons behind it. A special examination of studies reporting obstetrician’s responses to CSMR and their personal preferences was done to understand their influences on decision-making.

3 RESULTS

Among 22 research articles retrieved, 6 articles and one review recorded rates of CSMR, 5 studies presented the possible reasons behind CSMR, 3 studies projected personal preferences of obstetricians and gynecologist, 1 survey reported concerns of patients to cesarean section and benefits and risks of CSMR, 5 reviews discussed ethical considerations related to CSMR and 1 cross-sectional survey provided mother’s knowledge score as poor, intermediate and good. The summary of all these studies is tabulated on Table No.1.

**Table 1** Summary of Research Articles Reviewed

<table>
<thead>
<tr>
<th>Study</th>
<th>Setting</th>
<th>Sample size</th>
<th>Study design</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ouyang et al. 2015</td>
<td>China</td>
<td>295 pregnant female obstetricians</td>
<td>Cohort</td>
<td>Cesarean section rate and variability without any medical indications. Main reasons: safety for both mother and fetus, easier and quicker labor, fear of injury to the uterus in vaginal delivery (VD)</td>
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<tr>
<td>27 January 2013</td>
<td>UK</td>
<td>--</td>
<td>Review</td>
<td>Exploration of reasons behind CSMR, prevention of unethical information and support</td>
</tr>
<tr>
<td>Witham et al. 2012</td>
<td>Sweden</td>
<td>--</td>
<td>Review</td>
<td>Request to CS should not be made without considerations concerning the safety of the mother and baby</td>
</tr>
<tr>
<td>Malekzadeh et al. 2013</td>
<td>Iran</td>
<td>138,425 deliveries</td>
<td>Cross-sectional study (January 2007 - January 2010)</td>
<td>Overall mean rate of cesarean delivery was 52.2%, rate of cesarean delivery increased significantly (p &lt; 0.001) in the first 3 years of this study from 51.4% in 2007 and 2008 to 55.3% in 2009. CSMR (46.3%). Logistic regression analysis shows association between maternal age, number of living children, number of previous abortions, maternal underlying disease and gestational age with the mode of delivery</td>
</tr>
<tr>
<td>Tushu et al. 2013</td>
<td>Italy</td>
<td>1580 Italian women</td>
<td>Cross-sectional survey (December 2010-March 2011)</td>
<td>Tendency to vaginal delivery is 44.5 Italian women. Factors associated with a higher preference for cesarean delivery: weight, multiparity, lower education and a previous cesarean. Source of influence is obstetrician followed by friends and family</td>
</tr>
<tr>
<td>Alkarem et al. 2014</td>
<td>Nigeria</td>
<td>792 maternal clinic attendees</td>
<td>Cross-sectional survey</td>
<td>Reasons behind request for labor pain (9%), fear of losing the baby during labor (4.3%) and delay in conception (3.3%)</td>
</tr>
<tr>
<td>Lin et al. 2014</td>
<td>China</td>
<td>131,301 deliveries</td>
<td>Cross-sectional study (2011)</td>
<td>Overall rate of CS in selected Chinese was 24.8%. Most common indication for CS was Caesarean Delivery on maternal request (CDOMR) (28.4%)</td>
</tr>
<tr>
<td>Li et al. 2015</td>
<td>China</td>
<td>552 low-risk pregnant women</td>
<td>Prospective</td>
<td>CS 304 women who underwent CS; 35.5% (284) and CS with doctor-defined indications and 50.5% (152) with guidelines-defined indications</td>
</tr>
<tr>
<td>Chedid et al. 2015</td>
<td>Nigeria</td>
<td>90 Senior Consultant Obstetricians</td>
<td>Survey</td>
<td>Reasons for the CSMR: previous traumatic delivery and want to avoid the stress of labor in 50%, 20.7% and 16.2% respectively; 40.9% Obstetricians request patient's autonomy</td>
</tr>
<tr>
<td>Ghofrani et al. 2014</td>
<td>Iran</td>
<td>468 mothers</td>
<td>Cross-sectional study</td>
<td>CS (83.3%), CSMR (28.8%), mother's knowledge score very poor, intermediate, and good in 16.4%, 31.9%, and 5.5% of cases, respectively</td>
</tr>
<tr>
<td>Lauer-Gara et al. 2013</td>
<td>Israel</td>
<td>429 women (CDOME) 429 women (VD)</td>
<td>Case-control study</td>
<td>Reasons for choosing CSMR were concern for pain (51.9%), concern for their own or baby's health (24.5% and 35.7%, respectively) and emotional aspects (10.2%)</td>
</tr>
<tr>
<td>Leg período et al. 2014</td>
<td>UK</td>
<td>227 obstetricians and gynecologists</td>
<td>Survey</td>
<td>10% of obstetrician respondents would consider requesting cesarean section for themselves, their partner (never reported rate within UK studies)</td>
</tr>
<tr>
<td>Ding et al. 2014</td>
<td>China</td>
<td>277 first-time mothers</td>
<td>Retrospective</td>
<td>CS without medical indication (48%), CS suggested by a previous scar delivery (35% (CD), 35% (VD)) and for a delivery obstruction (OR (95% CI) 2.6 (1.35-5.1))</td>
</tr>
<tr>
<td>Nair et al. 2008</td>
<td>European Countries</td>
<td>--</td>
<td>Review</td>
<td>European obstetricians accept woman's self-determination and medical utility</td>
</tr>
</tbody>
</table>

**Figure No. 1: Scheme of systematic review**
3.1 Rate of CSMR

Overall rate of cesarean section is reported 52.2% to 83.5% [11], [12], [13], [14] which is far higher than the rates suggested by WHO i.e. 10% to 15%. Ouyang et al., [11] investigated that out of 69.7% overall CS 49% were without any medical indications. Maharlouei et al., [12] reported a significant increase (p<0.001) in three years of study and a major increase i.e. 36.3% was due to CSMR. Liu et al., [13] also reported increased rate of CSMR i.e. 28.43% along with Ghotbi et al., 2014 i.e. 20.8%. Only one study Ji et al., [3] shows a lesser rate of CSMR i.e. 15.1% as compare to doctor-defined or guide-lined defined indications. But this study was restricted to setting of two general hospitals in Shanghai.

3.2 Underlying reasons of CSMR

A major reason of cesarean section on maternal request is found to be Tochophobia i.e. fear of labor and injury to the mother or fetus. Other reasons sighted are delay in conception, easier and quicker mode of labor, precious pregnancy, previous traumatic delivery, emotional aspects and complications after vaginal delivery (vaginal prolapsed, urinary incontinency, sexual dysfunction) and trust in obstetricians [11], [15], [16], [17], [18].

3.3 Factors influencing CSMR

Maharlouei et al., [12] associated choice of mode of delivery with maternal age, number of living children, number of previous abortions, maternal underlying disease and gestational age. Although, Torloni et al., 2013 reported preference of vaginal delivery in 4 of 5 Italian women, authors also associated preference of CS to youth, nulliparity, lower education and a previous cesarean. Authors mentioned obstetricians and friends and family as influencing sources. Deng et al., [20] also reported cesarean section suggested by prenatal care doctor or by a delivery obstetrician. Regan et al., [21] added childbirth classes and written sources.

3.4 Personal preference of obstetricians and gynecologists

Ouyang et al., [11] a cohort study, reported 49% CSMR among 293 female obstetricians out of 69.7% overall cesarean sections. Whereas Lightly et al., [22] reported that a personal experience of obstetricians does influence their suggestion to patients. Hantouzhadeh et al. [23] conducted a survey in which 785/1000 female obstetrician’s personal experiences influenced their suggestions.

3.5 Ethics of CSMR

Some of the review studies [24], [25] and one survey [14] of senior Nigerian consultant obstetricians explored that obstetrician accept and respect patient’s autonomy. Lathum&Norwitz, [26] and Wiklund et al., [27] suggest that a request to cesarean section should not be routinely met without considering the safety of the mother and the child. D’Souza, [28] and Lathum&Norwitz, [26], stressed upon the careful provision of information about risks and benefits to mothers demanding cesarean section.

Betts et al., [29] investigated that respondents cited more risks than benefits of CSMR which leaves a question mark on the acceptance of maternal request. Only one study [14] assessed mother’s source of knowledge to be 55.6% poor, 37.9% intermediate and 6.5% good.

4 DISCUSSION

The increasing rate of cesarean section on maternal request raises question such as what is behind this demand. Are women sufficiently informed or educated to choose a medical procedure for themselves or the fetus? [30] Such question can be answered by unfolding the reasons behind CSMR.

Women’s reasons behind cesarean section demand seem to be largely related to psychological fears and concerns over traumatic events [11], [15], [16], [17], [18]. Such issues could be resolved by establishing specific services for women who are fearful about birth. Programs involving health professionals can help develop positive attitude of women towards vaginal delivery. Caregivers should confirm the original reasons behind choice of mode of delivery.

Maternal age and nulliparity might be justified factors but suggestion of cesarean section by doctors needs more clarification that whether they suggested it due medical indications or for their personal convenience to avoid...
management of vaginal delivery. Future research needs to focus careful investigation in this perspective.

By reviewing all the studies, it is difficult to establish an opinion whether obstetrician’s personal preferences influence their suggestions to patient or not. All studies revealing personal preferences of obstetricians show diverse results with lowest [22] to highest [11] preference for CSMR.

To explore ethics of cesarean section on demand was the most difficult of all aspects of CSMR as there is an ongoing debate of conflicting patient’s autonomy and physician’s beneficence and non-maleficence. None of the studies could justify or present ethics of CSMR. It is revealed that there is no difference in opinion of obstetrician from both developed as well as under developed countries regarding patient’s autonomy. Reasons behind CSMR must be explored carefully before acceptance. Provision of unbiased information should be practiced necessarily. There is a need of studies to intensely explore the extent and type of knowledge given to mothers.

5 CONCLUSION

By reviewing the literature, it is clear that there is a continuous rise in CSMR. There is a great debate on acceptance of maternal request for cesarean section regarding patient’s autonomy and physician’s beneficence/ non-maleficence. None of the studies could clearly address this sensitive tie. As discussed earlier, factors behind maternal request such as fear of labor could be reduced by counseling and provision of true information to reduce the elevated rates of CS. Researchers should focus on the type and level of women’s knowledge about the pros and cons of cesarean section and obstetricians and gynecologists’ influences and preferences. Improved ways to provide unbiased information at right time must be explored.

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REFERENCES


