

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

Zubia Malik

**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 medicinally 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.

The International Federation of Gynecology and Obstetrics states that performing caesarean section without any medical indication is unethical [8]. The Society of Obstetricians and Gynecologists of Canada affirms that caesarean section should be set aside only for those pregnancies in which there is a threat to the health of the mother and/or the baby [9] and the American Congress of Obstetricians and Gynecologists that CSMR should not be performed before 39 weeks. ACOG [10] does not recommend CSMR for women desiring several children.

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.

## 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,

• Zubia Malik is currently pursuing MS degree program in zoology in Virtual University of Pakistan. E-mail: zubiamalik28@gmail.com

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.

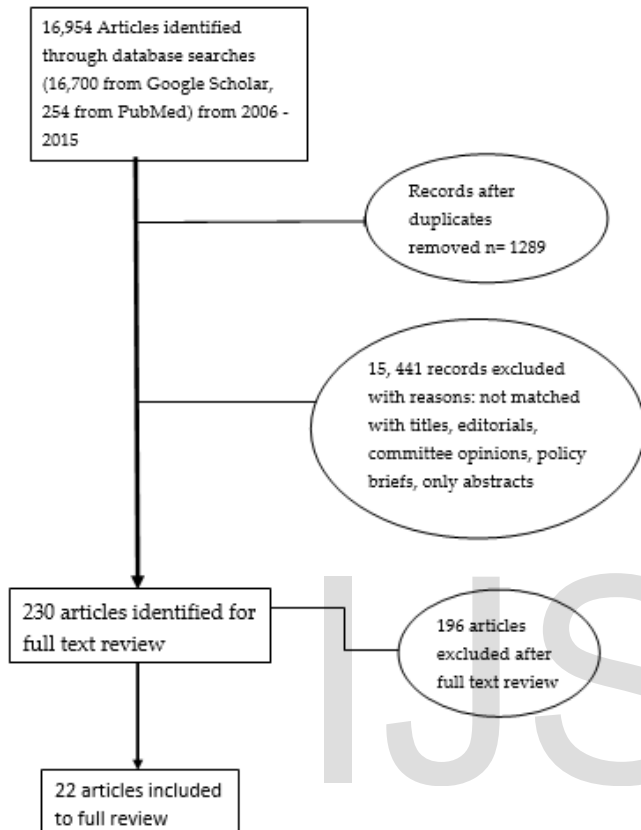


Figure No. 1: Scheme of systematic review

## 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, 4 studies discussed factors influencing 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				
Study	Setting	Sample size	Study design	Outcomes
Ouyang <i>et al.</i> 2013	China	293 pregnant female obstetricians	Cohort	69.7 % overall CS rate and 49.0 % without any medical indications. Main reasons: safety for both fetus and mother, easier and quicker labor, fear of injury to the fetus in vaginal delivery (VD)
D’Souza 2013	UK	--	Review	Exploration of reasons behind CSMR, provision of unbiased information and support
Wiklund <i>et al.</i> 2012	Sweden	--	Review	Request to CS should not be met without considerations concerning the safety of the mother and her baby
Maharlouei <i>et al.</i> 2013	Iran	Record of 138,666 deliveries	cross-sectional study (January 2007 - January 2010)	Overall mean rate of caesarean delivery was 52.2%, rate of caesarean delivery increased significantly (p < 0.001) in the 3 years of this study from 51.6% in 2007 and 2008 to 53.3% in 2009, CSMR (36.3%). Logistic regression analysis shows association between maternal age, number of living children, number of previous abortions, maternal underlying disease and
				gestational age with the choice of mode of delivery
Torloni <i>et al.</i> 2013	Italy	1000 Italian women	cross sectional survey (December 2010-March 2011)	Preference to Vaginal delivery is 4 in 5 Italian women. Factors associated with a higher preference for cesarean delivery: youth, nulliparity, lower education and a previous cesarean. Source of influence is obstetrician followed by friends and family
Akintayo <i>et al.</i> 2014	Nigeria	752 antenatal clinic attendees at EKSUTH	cross sectional survey	Reasons behind request: fear of labor pains (29.1 %), fear of losing the baby during labor (62.5 %) and delay in conception (33.3 %).
Liu <i>et al.</i> 2014	China	111, 315 deliveries	cross-sectional study (2011)	Overall rate of CS in mainland China was 54.90%. Most common indication for CS was Caesarean Delivery on maternal request (CDMR; 28.43%)
Ji <i>et al.</i> 2015	China	832 low-risk primiparous women	Prospective	Of 304 women who underwent CS, 15.1% (46) were based on maternal request, 34.9% (106) had CS with doctor-defined indications and 50.0% (152) with guideline-defined indications.
Obed <i>et al.</i> 2013	Nigeria	90 Senior Consultant Obstetricians	Survey	Reasons for the CDMR: precious pregnancy/infertility, previous traumatic delivery and to avoid the stress of labour in
				33%, 20.7% and 16.2% respectively. 88.9% Obstetricians respect patient’s autonomy.
Ghorbi <i>et al.</i> 2014	Iran	600 mothers	cross-sectional study	CS (83.5%), CDMR (20.8%), mothers’ knowledge scores were poor, intermediate, and good in 55.6%, 37.9%, and 6.5% of cases, respectively
Lerner-Geva <i>et al.</i> 2015	Israel	429 women (CDMR) 429 w0men (VD)	case-control study	Reasons for choosing CDMR were concern for pain (21.9%), concern for their own or baby’s health (20.4% and 16.5%, respectively) and emotional aspects (10.0%)
Lightly <i>et al.</i> 2014	UK	242 obstetricians and gynecologists,	Survey	10% of obstetricians report they would consider requesting caesarean section for themselves/their partner (lowest reported rate within UK studies)
Deng <i>et al.</i> 2014	China	272 first-time mothers	Retrospective	CS without medical indication (40%), CS suggested by a prenatal care doctor [OR (95% CI): 20 (3.88-107.1)] or by a delivery obstetrician [OR (95% CI): 26 (6.26-105.8)].
Nilstun <i>et al.</i> 2008	European Countries	--	Review	European obstetrician accepts woman’s self-determination and medical utility.

Latham & Norwitz 2009	US	--	Review	Elective cesarean not be routinely offered careful provision of information about risks and benefits to mother demanding CS
Bettes et al. 2007	US	699/1,031 ACOG Fellows	Survey	Half of respondents believe women have the right to cesarean delivery on maternal request 58% of respondents note an increase in patient inquiries regarding cesarean delivery. Respondents cited more risks than benefits of cesarean delivery on maternal request
Hantoushzadeh et al. 2009	Iran	785/1000 female obstetricians	Survey	Personal experiences influence the suggestions of obstetricians
Viswanathan et al. 2006	US	--	Review	Increase in incidence of CDMR
Kalish et al. 2008	US	--	Review	CDMR is medically & ethically acceptable
Faisal et al. 2014	Iran	14 primigravidae	Qualitative	Reasons of CDMR: fear of childbirth (labour pain, injury to mother or infant), complications after vaginal delivery (vaginal prolapse, urinary incontinency, sexual dysfunction), trust in obstetricians
Gamble et al. 2007	Australia	--	Review	No studies examined information provided to women by health professionals. No acknowledgment to obstetric and psychological factors
Regan et al. 2013	US	49/72 primigravid women	Mix-method approach	Factors influencing CDMR: 71.2% friends & family, 19.2% care providers, 61.5% Childbirth Classes, 55.8% Written Sources

### 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 Tochofobia 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. Hantoushzadeh 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. Latham & 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 Latham & Norwitz, [26], stressed upon the careful provision of information about risks and benefits to mothers demanding cesarean section.

Bettes 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.

## ACKNOWLEDGMENT

The author wishes to thank Dr. Nageen Hussain for her support and guidance.

## REFERENCES

- [1] "WHO Statement on caesarean section rates," *Reproductive health matters*, vol. 23, no. 45, pp. 149, 2015.
- [2] B.E., Hamilton, J.A., Martin, and S.J., Ventura, "Births: preliminary data for 2005," *National vital statistics reports*, vol. 55, no. 11, pp. 1-18, Dec. 2006.
- [3] H., Ji, H., Jiang, L., Yang, X., Qian, and S., Tang, "Factors contributing to the rapid rise of caesarean section: a prospective study of primiparous Chinese women in Shanghai," *BMJ open*, vol. 5, no. 11, Nov. 2015, <http://dx.doi.org/10.1136/bmjopen-2015-008994>
- [4] American College of Obstetricians and Gynecologists Committee Opinion no. 559: "Caesarean delivery on maternal request," *Obstetrics and gynecology*, vol. 121, no. 4, pp. 904, Apr. 2013, doi: 10.1097/01.AOG.0000428647.67925.d3.
- [5] M., Viswanathan, A.G., Visco, K., Hartmann, M.E., Wechter, G., Gartlehner, J.M., Wu, R., Palmieri, M.J., Funk, L., Lux, T., Swinson and K.N., Lohr, (2006). "Caesarean delivery on maternal request," *Evidence report/technology assessment*, no.133, pp. 1-138, Mar. 2006.
- [6] BJOG Debate, "Caesarean on maternal request," *Royal College of Obstetricians and Gynaecologists*, pp. 360, 2015
- [7] D.R., Reilly, "Caesarean section on maternal request: how clear medical evidence fails to produce ethical consensus," *Journal of obstetrics and gynaecology Canada* vol. 31, no. 12, pp. 1176-1179, 2009, [http://dx.doi.org/10.1016/S1701-2163\(16\)34379-1](http://dx.doi.org/10.1016/S1701-2163(16)34379-1).
- [8] J.G., Schenker, and J.M., Cain, "FIGO Committee Report. FIGO Committee for the Ethical Aspects of Human Reproduction and Women's Health. International Federation of Gynecology and Obstetrics," *International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics*, vol. 64, no. 3, pp. 317-322, Mar. 1999, [http://dx.doi.org/10.1016/S0020-7292\(98\)00266-5](http://dx.doi.org/10.1016/S0020-7292(98)00266-5).
- [9] S., Halpern, "SOGC Joint Policy Statement on Normal Childbirth," *Journal of obstetrics and gynaecology Canada: JOGC= Journal d'obstétrique et gynécologie du Canada: JOGC*, vol. 31 no. 7, Jul. 2009, doi: [http://dx.doi.org/10.1016/S1701-2163\(16\)34236-0](http://dx.doi.org/10.1016/S1701-2163(16)34236-0).
- [10] American College of Obstetricians and Gynecologists Committee Opinion No. 395. "Surgery and patient choice," *Obstetrics and gynecology*, vol. 111, no. 1, pp. 243, Jan. 2008, doi: 10.1097/01.AOG.0000291581.16747.24.
- [11] Y.Q., Ouyang, and Q., Zhang, "A study on personal mode of delivery among Chinese obstetrician-gynecologists, midwives and nurses," *Archives of gynecology and obstetrics*, vol. 287, no. 1, pp. 37-41, Jan. 2013, doi: 10.1007/s00404-012-2517-x.
- [12] N., Maharlouei, M., Moalaei, S., Ajdari, M., Zarei, and K.B., Lankarani, "Caesarean delivery in south-western Iran: trends and determinants in a community-based survey," *Medical Principles and Practice*, vol. 22, no. 2, pp. 184-188, Jan. 2013, doi:10.1159/000341762.
- [13] Y., Liu, G., Li, Y., Chen, X., Wang, Y., Ruan, L., Zou, and W., Zhang, "A descriptive analysis of the indications for caesarean section in mainland China," *BMC pregnancy and childbirth*, vol. 14, no. 1, pp. 410, Dec. 2014, doi: 10.1186/s12884-014-0410-2.
- [14] F., Ghotbi, A., Akbari Sene, E., Azargashb, F., Shiva, M., Mohtadi, S., Zadehmodares, and F., Farzaneh, "Women's knowledge and attitude towards mode of delivery and frequency of cesarean section on mother's request in six public and private hospitals in Tehran, Iran, 2012," *Journal of Obstetrics and Gynaecology Research*, vol. 40 no. 5, pp. 1257-1266, May. 2014, doi: 10.1111/jog.12335
- [15] A. A., Akintayo, I. P., Ade-Ojo, B. N., Olagbuji, O. O., Akin-Akintayo, O. R., Ogundare, and B. A., Olofinbiyi, "Caesarean section on maternal request: the viewpoint of expectant women," *Archives of gynecology and obstetrics*, vol. 289, no. 4, pp. 781-785, Apr. 2014, doi: 10.1007/s00404-013-3063-x
- [16] J.Y., Obed, B.G., Bako, T.E., Agida, and E.I., Nwobodo, "Caesarean delivery on maternal request: consultants' view and practice in the



- west African sub region," *Journal of the West African College of Surgeons*, vol. 3, no. 1, pp. 72-83, Jan/Mar. 2013.
- [17] L., Lerner-Geva, S., Glasser, G., Levitan, V., Boyko, A., Golan, R., Beloesesky, ... & A., Shoham, "A case-control study of caesarean delivery on maternal request: who and why?," *The Journal of Maternal-Fetal & Neonatal Medicine*, vol. 29, no. 17, pp. 2780-2785, Nov. 2015(online published), <http://dx.doi.org/10.3109/14767058.2015.1103727>.
- [18] I. Faisal, N., Matinnia, A.R., Hejar, and Z., Khodakarami, "Why do primigravidae request caesarean section in a normal pregnancy? A qualitative study in Iran," *Midwifery*, vol. 30, no. 2, pp. 227-233, Feb. 2014, <http://dx.doi.org/10.1016/j.midw.2013.08.011>
- [19] M.R., Torloni, A.P., Betrán, P., Montilla, E., Scolaro, A., Seuc, A., Mazzoni, ... and M., Meriardi, "Do Italian women prefer cesarean section? Results from a survey on mode of delivery preferences," *BMC pregnancy and childbirth*, vol. 13, no. 1, pp. 78, Mar. 2013, doi: 10.1186/1471-2393-13-78.
- [20] W., Deng, R., Klemetti, Q., Long, Z., Wu, C., Duan, W.H., Zhang, Y., Zhang, and E., Hemminki, "Caesarean section in Shanghai: women's or healthcare provider's preference?," *BMC pregnancy and childbirth*, vol. 14, no. 1, pp. 1, Aug. 2014, doi: 10.1186/1471-2393-14-285
- [21] M., Regan, K.G., McElroy, and K., Moore, "Choice? Factors That Influence Women's Decision Making for Childbirth," *The Journal of perinatal education*, vol. 22, no. 3, pp. 171-180, 2013, doi: <https://doi.org/10.1891/1058-1243.22.3.171>.
- [22] K., Lightly, E., Shaw, N., Dailami, and D., Bisson, "Personal birth preferences and actual mode of delivery outcomes of obstetricians and gynaecologists in South West England; with comparison to regional and national birth statistics," *European Journal of Obstetrics & Gynecology and Reproductive Biology*, vol. 181, pp. 95-98, Oct. 2014, <http://dx.doi.org/10.1016/j.ejogrb.2014.07.005>.
- [23] S., Hantoushzadeh, A., Rajabzadeh, A., Saadati, A., Mahdanian, N., Ashrafinia, S., Khazardoost, S., Borna, and M., Shariat, "Caesarean or normal vaginal delivery: overview of physicians' self-preference and suggestion to patients," *Archives of gynecology and obstetrics*, vol. 280, no. 1, pp. 33-37, Jul. 2009, doi: 10.1007/s00404-008-0858-2.
- [24] T., Nilstun, M., Habiba, G., Lingman, R., Saracci, M., Da Frè, and M., Cuttini, "Caesarean delivery on maternal request: Can the ethical problem be solved by the principlist approach?," *BMC Medical Ethics*, vol. 9:11, Jun. 2008, doi: 10.1186/1472-6939-9-11.
- [25] R.B., Kalish, L.B., McCullough, and F.A., Chervenak, "Patient choice cesarean delivery: ethical issues," *Current Opinion in Obstetrics and Gynecology*, vol. 20, no. 2, pp. 116-119, Apr. 2008, doi: 10.1097/GCO.0b013e3282f55df7.
- [26] S.R., Latham, and E.R., Norwitz, "Ethics and cesarean delivery on maternal demand," *Seminars in perinatology* vol. 33, no. 6, pp. 405-409, Dec. 2009, <http://dx.doi.org/10.1053/j.semperi.2009.07.009>.
- [27] I., Wiklund, E., Andolf, H., Lilja, and I., Hildingsson, "Indications for cesarean section on maternal request-guidelines for counseling and treatment," *Sexual & Reproductive Healthcare*, vol. 3, no. 3, pp. 99-106, Oct. 2012, <http://dx.doi.org/10.1016/j.srhc.2012.06.003>.
- [28] R., D'Souza, "Caesarean section on maternal request for non-medical reasons: Putting the UK National Institute of Health and Clinical Excellence guidelines in perspective," *Best Practice & Research Clinical Obstetrics & Gynaecology*, vol. 27, no. 2, pp. 165-177, Apr. 2013, doi: <http://dx.doi.org/10.1016/j.bpobgyn.2012.09.006>
- [29] B. A., Bettes, V.H., Coleman, S., Zinberg, C.Y., Spong, B., Portnoy, E., DeVoto, and J., Schulkin, "Caesarean delivery on maternal request: obstetrician-gynecologists' knowledge, perception, and practice patterns," *Obstetrics & Gynecology*, vol. 109, no. 1, pp. 57-66, Jan. 2007, doi: 10.1097/01.AOG.0000249608.11864.b6
- [30] J., Gamble, D.K., Creedy, C., McCourt, J., Weaver, and S., Beake, "A critique of the literature on women's request for cesarean section," *Birth*, vol. 34, no.4, pp. 331-340, Dec. 2007, doi: 10.1111/j.1523-536X.2007.00193.x