



Review article

Influence of women's request and preference on the rising rate of caesarean section – a comparison of reviews

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ABSTRACT

The rising caesarean section (CS) rates have been, in part, attributed to women's requests. Several individual studies and literature reviews have attempted to determine the degree of influence of women's requests on overall CS rates, and the common reasons behind these requests, from women's, midwives' and obstetricians' viewpoints. Despite many similarities in their findings, there is both a lack of clarity and disparity on the degree of influence women's requests actually has on the decision to perform a CS. This paper presents a critique of a key finding from a recently published systematic review of clinicians' (midwives' and obstetricians') views of factors that influenced their decision to perform a CS, which identified their belief in 'women's request' as a key factor. This finding is contrasted with findings from three other published reviews, which concluded that women's request contributed minimally to the overall rising rates of CS indicating a disparity in evidence around influence and contribution of women's request. Some of the possible reasons for this disparity can be explained by differences in views of women and clinicians, women's decision being guided by clinicians' beliefs of what is 'safe' and unsafe', and women's concerns being interpreted as their request and preferences to birth by CS. An insight into the possible reasons for the disparity in findings can help explain whether maternal request has any influence on the rising rates of CSs.

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Introduction

Provision of high quality care during pregnancy and childbirth contributes to optimal outcomes for women (Tuncalp *et al.*, 2015). Beyond facts and figures and available evidence, what matters to women most is a positive experience of childbirth in a safe environment, and most women prefer a physiological birth (Downe *et al.*, 2018). Despite the plethora of evidence that vaginal birth is safer with fewer complications compared to birth by caesarean section (CS) (Keag *et al.*, 2018), there is evidence of a steady rise in CS rates across the world (Betran *et al.*, 2016), and concern about the factors that are influencing this rise. The United States (US) reported a CS rate of 31.9% (Martin *et al.*, 2019), an increase from previous years. The rising trend is explained in part by the number of CSs performed in multiparous women with singleton pregnancy at term gestation in spontaneous labour (27% in 2005 to 34% in 2014) and by CSs for fetal breech presentations (90%) (Hehir *et al.*, 2018). Approximately one-third of women in most European countries birth by CS (an increase from 25% in 2010 to 27 % in 2015)

(Euro-Peristat Project November 2018). These trends raise queries and concerns about the reasons for variations in CS rates in different countries across the world.

Understanding the factors that influence the decision to perform CSs is key to developing and implementing appropriate strategies at organisational or individual level to reduce any inappropriate CSs. Obstetricians' preference for CS, convenience and a belief that CS is safer than vaginal births (Parás *et al.*, 2018), the influence of practice in private sectors (Rivo *et al.*, 2018), and maternal age (Rydahl *et al.*, 2019) are some of the frequently cited reasons for the rising CS rates across different countries. However, there are multitude of other factors that influence the decision to perform a CS. The authors of this paper previously conducted a systematic review and metasynthesis to identify the factors that influenced clinicians' (midwives' and obstetricians') decision to perform a CS (Panda *et al.*, 2018). The main influencing factors were 'fear of litigation', 'perception of CS being a 'safe' option for childbirth', 'obstetricians' convenience' and 'women's request for CS'. While three of these factors are supported by three other reviews, there is disagreement in relation to 'women's request' being an influencing factor. This paper explores the possible reasons for this disparity in findings.

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Methods

This paper compares and contrasts contradictory findings from one systematic review, [Panda et al. \(2018\)](#), with three other reviews on the 'Influence of maternal request for CS' ([Gamble and Creedy, 2000](#); [McCourt et al., 2007](#); [Mazzoni et al., 2011](#)). The first section presents the methods used in the systematic review titled 'clinicians' views of factors influencing decision-making for CS' ([Panda et al., 2018](#)) which found that clinicians perceived maternal request to be a major factor that influenced their decision to perform a CS, and an overview of the studies contributing to this finding. The next section presents the findings of three reviews conducted by [Gamble and Creedy, 2000](#); [McCourt et al., 2007](#) and [Mazzoni et al., 2011](#) which found that maternal request had a minimal contribution to the overall rising CS rates. The final section discusses the possible reasons for the disparity in findings around influence of maternal requests for clinicians' decision to perform a CS and its contribution to the rising rates of CSs.

There is a lack of clear explanation of the factors that influence the rise of CSs. A systematic review and metasynthesis was conducted to explain some of these factors from the clinicians' perspectives. A systematic search of electronic bibliography of five databases (PubMed (1958–2016), CINAHL (1988–2016), Maternity and Infant Care (1971–2016), PsycINFO (1980–2016) and Web of Science (1991–2016)) was conducted in September 2016 for quantitative, qualitative and mixed methods studies that reported obstetricians' and midwives' views of factors influencing the decision to perform a CS. A total of 1098 studies were retrieved after removing duplicates, 53 of which were selected following independent review, by two researchers, of title, abstract and full text. Nineteen studies were removed following assessment of methodological quality by two independent reviewers using [Thomas et al.'s \(2003\)](#) 12 assessment criteria checklist, leaving a total of 34 studies for data abstraction and analysis. Findings from quantitative studies in the systematic review were presented as frequencies and percentages alongside themes from qualitative studies to provide an explanation of factors influencing decision to perform a CS from clinicians' views ([Panda et al., 2018](#)).

'Women's request for CS' – in the context of the systematic review

The review included views of 9008 clinicians from 20 countries published in 34 primary studies spanning over a period of 24 years from 1992 to 2016. A total of 26 of the 34 studies reported clinicians' views on the influence of women's request for CS involving 7270 clinicians (obstetricians (n = 6222) and midwives (n = 1022) and combined (n = 26)), in 15 quantitative, 10 qualitative and one mixed methods study. [Table 1](#) presents the summary characteristics of these 26 studies, with key findings relating to women's request for CS. Further details on inclusion and exclusion criteria, search strategy, study design, quality assessment criteria checklist, data extraction and data analysis can be found in the published paper ([Panda et al., 2018](#)).

Overview of findings from the systematic review

Analysis of data on clinicians' views from the included studies identified women's request as a key factor in the rise of CSs. This section presents an overview of the key findings reported in these studies.

Findings from the quantitative studies

[Bettes et al.'s \(2007\)](#) study of 699 US obstetricians reported that only 10% viewed women's request as a factor that contributed to

their decision to perform a CS. However, pressure and demand from women to birth by CS was perceived by the majority (89%) of 151 obstetricians in a UK study as one of the key factors, and obstetricians were willing to perform a CS in the absence of medical indications if a woman was well informed of the associated risks ([Cotzias et al. 2011](#)). Similarly, women's request was identified as a key reason for the rising CS rates by the majority of 785 obstetricians (77%) in [Weaver et al.'s study \(2007\)](#) in the UK and Ireland, and by surveys in Kenya ([Koigi-Kamau et al., 2005](#)) and Norway ([Fuglenes et al., 2009](#)). A majority of US ([Coleman-Cowger et al., 2010](#)) and Danish ([Bergholt et al., 2004](#)) gynaecologists believed that women had the right to request and obtain a CS, and that it should be based on 'women's preference' ([Coleman et al., 2005](#)). Dutch ([Kwee et al., 2004](#)) and Nigerian ([Chigbu et al., 2010](#)) gynaecologists also believed that women's autonomy was important.

Along with discussion of factors that influenced the decision to perform a CS, a few studies reported factors influencing the decision to facilitate a woman to plan a vaginal birth after CS (VBAC). Women's anxiety was considered to be a major factor that influenced clinicians' decision (69%) for and against planned VBAC for women who had a prior CS ([Appleton et al., 2000](#)). The perception that women's request to birth by CS was a factor in decision-making was mostly evident among obstetricians in private practice, more so than in public or hospital-based practice ([Arikan et al., 2011](#); [Litorp et al., 2015a, 2015b](#)). More obstetricians than midwives ([Bryant et al., 2007](#); [Josefsson et al., 2011](#)), and more male clinicians than females ([Bettes et al., 2007](#)) perceived women's request to birth by CS to be a factor in decision-making.

Findings from the qualitative studies

Analysis of qualitative data on clinicians' views in the review revealed that women's request to birth by CS was a major factor influencing their decision to perform CS. Most of these decisions were influenced by clinicians' fear of litigation and their personal beliefs in relation to women's right and autonomy to choose their own mode of birth.

"Many mothers insist on undergoing a C-section from the beginning of their pregnancy. If a vaginal delivery would become problematic in such patients, they would file a complaint against the physicians. Many physicians, therefore, do what their patients ask of them as courts support patients rather than physicians in the majority of the cases." (Obstetricians and midwives) ([Yazdizadeh et al., 2011](#), p.5)

Obstetricians' perception of women's beliefs of CS being a 'safe' option for birth was reported as a reason for most requests from women and influencing their decisions. Women's and their partners' awareness of genital complications and their effect on their sexual relationship following a vaginal birth was another reason for women and partners requesting a CS, as viewed by obstetricians.

"It is interesting that people are normally afraid of any surgery except caesarean section. They come very happy with make-up and coloured-hair like they want to go to a wedding. They really put pressure to us for caesarean section." (Obstetrician) ([Bagheri et al., 2013](#), p.46)

"Mothers ask for a guarantee for not developing prolapse if they undergo a vaginal delivery." (Obstetricians) ([Yazdizadeh et al., 2011](#), p.5)

"It (caesarean section) is requested a lot. It seems due to family pressure, so I think that influences in the final decision." (Focus group with Ob/Gyn Physician) ([Colomar et al., 2014](#), p.2385)

Table 1Summary characteristic of 26 studies that report on clinicians' views on influence of women's request for CS (Adapted from Table 2, Panda *et al.*, 2018).

Author, year and country	Aim of the study	Participants	Type of study/Study design/Method(s) of data collection/Data analysis	Key findings
Appleton <i>et al</i> (2000) Australia	To establish the level of knowledge and the background attitudes of staff towards VBAC	159 consultant obstetricians and 116 registrars/residents 681 idwives (RR =67%)	Quantitative/Survey/Questionnaires/Chi-square analysis	Parental anxiety was a major factor influencing a decision for or against a planned VBAC.
Arikan <i>et al</i> (2011) Turkey	To investigate the attitudes, practices, and beliefs with respect to caesarean delivery on maternal request (CDMR) among actively practicing obstetricians in Turkey.	387 obstetricians (RR = 77%)	Quantitative/Descriptive/Self-administered questionnaire/Chi-square, Mann-Whitney U, and Kruskal-Wallis tests	CS on women's request. Private hospitals with significantly higher rate of CS due to women's request compared to public hospitals
Bagheri <i>et al</i> (2013) Iran	To explore obstetricians' views of what might influence pregnant women's choice of delivery	18 obstetricians	Qualitative/Semi-structured Interview/Inductive qualitative content analysis	Obstetricians: Women's right and previous experience.
Bergholt <i>et al</i> (2004) Denmark	To assess Danish obstetricians' and gynaecologists' personal preference and general attitude towards elective caesarean section on maternal request in uncomplicated single cephalic pregnancies at term.	364 obstetrician and gynaecologists (RR = 80%)	Quantitative/Survey/Questionnaire/Multiple logistic regression analysis	Woman's right to have an elective CS on women's request without any medical indication.
Bettes <i>et al</i> (2007) United States	To examine obstetrician-gynecologists' knowledge, opinions, and practice patterns related to caesarean delivery on maternal request.	699 obstetricians and gynaecologists (591 of these were involved in conducting births) (RR =68%)	Quantitative/Survey/Questionnaire/Descriptive statistics, independent sample t tests, 2-test	No policy regarding CS on women's request. Difference in views between male and female obstetricians. Women's right to request for CS.
Bryant <i>et al</i> (2007) Australia	To explore the beliefs through which decisions for caesarean birth are made and to consider how this might contribute to the increasing rate of caesarean birth	6 obstetricians 12 hospital based midwives	Qualitative/Interviews/Thematic analysis	Women's right to choose CS. Midwives contested the notion of free choice. Women's request in absence of medical indication.
Chaillet <i>et al</i> (2007) Canada	To investigate obstetricians' perceptions of clinical practice guidelines targeting management of labour and vaginal birth after previous caesarean birth, and to identify the barriers to, facilitators of and obstetricians' solutions for implementing these guidelines in practice.	27 obstetricians	Qualitative/Focus group and individual interviews/Thematic analysis	Management of women's request for medical interventions.
Chalmers <i>et al</i> (1992) South Africa	To investigate doctors' perceptions of CS practices	203 obstetricians (RR =45.2%)	Quantitative/Survey/Questionnaire/Chi-square analysis	Demand from women was viewed as a factor among hospital based doctors compared to private doctors
Chigbu <i>et al</i> (2010) Nigeria	To determine obstetricians' attitude to and factors predicting obstetricians' acceptance of caesarean delivery on maternal request in Nigeria	211 obstetricians (RR =70.3%)	Quantitative/Survey/Questionnaire/Multiple logistic Regression analysis	Positive attitude of obstetricians to maternal autonomy and women's request for CS.
Coleman <i>et al</i> (2005) United States	To assess obstetrician-gynaecologists' current practice patterns and opinions regarding vaginal birth after caesarean delivery (VBAC)	502 obstetricians and gynaecologists (RR = 41.8%)	Quantitative/Survey/Questionnaire/Descriptive statistics, t- test, Chi square test and Spearman analysis	Women's preference
Coleman-Cowger <i>et al</i> (2010) United States	To determine obstetricians-gynaecologists' practice patterns of caesarean delivery on maternal request (CDMR) following the 2006 National Institutes of Health (NIH) State-of-the- Science Conference on this topic, and compare them with those in their practice prior to the conference	352 obstetricians and gynaecologists (RR = 59%)	Quantitative/Survey/Questionnaire/Descriptive statistics, t- tests, Chi square test and Wilcoxon Signed Ranks test, power analysis	Significant agreement to the statement that a woman has a right to request and obtain an elective CS. Maternal age, plans for future childbearing, week of pregnancy, BMI, fetal size, maternal anxiety
Colomar <i>et al</i> (2014) United States	To explore attitudes of physicians attending births in the public and private sectors and at the managerial level toward caesarean birth in Nicaragua	17 obstetricians and gynaecologists	Qualitative descriptive/Individual and focus group interviews/Descriptive analysis	Increased request from women influences the final decision

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Table 1 (continued)

Cotzias <i>et al.</i> (2011) United Kingdom	To determine what proportion of obstetricians would agree to elective pre-labour CS for 'maternal request'	151 consultant obstetricians (RR = 61.4%)	Quantitative/Survey/Questionnaire/Descriptive analysis	Obstetricians agree to women's request for CS in absence of medical indication in case of a women who is well informed of the risks associated with CS.
Doret <i>et al.</i> (2010) France	To evaluate obstetricians' practice patterns, opinions and factors influencing decision-making about mode of delivery in women with two previous c-sections	105 obstetricians (RR = 65.6%)	Quantitative/ Survey/ Questionnaire/Non-parametric Mann-Whitney test or <i>t</i> test, Chi square test.	Request from women with two previous CSs to have a VBAC had a positive influence on obstetricians' decision to proceed for VBAC.
Fuglens <i>et al.</i> (2009) Norway	The aim of this study was to test the hypothesis that obstetricians' choice of delivery method is influenced by their risk attitude and perceived risk of complaints and malpractice litigation	507 obstetricians (RR = 71%)	Quantitative/Survey/ Questionnaire - 5 clinical scenarios presented/ Chi square test for bivariate analysis of categorical variables and <i>t</i> -test for continuous ones. Logistic regression	Women's request is a driving force leading to higher CS rates.
Huang <i>et al.</i> (2013) China	To assess population-based caesarean section (CS) rates in rural China and explore determinants and reasons for choosing a CS	24 township doctors	Qualitative/Focus group interviews/Framework approach was used for analysis	Women's request
Josefsson <i>et al.</i> (2011) Sweden	To compare Swedish obstetricians' /gynecologists' and midwives' attitudes and opinions on different aspects of caesarean section (CS)	846 obstetricians 278 midwives (RR=66%)	Quantitative/Survey/ Questionnaire/Chi square test and student's <i>t</i> -test	Obstetricians, more than midwives, were agreeable to women's right to have an elective CS.
Kabakian-Khasholian <i>et al.</i> (2007) Lebanon	This study aims to provide an analysis of the policy environment encouraging C-section in Beirut and its suburbs and to reveal approaches that could be adopted for the reduction of this practice, by considering the attitudes, opinions and actions of different stakeholders.	10 obstetricians	Qualitative/Interview and group discussions/Applied political analysis	Women's request.
Kamal <i>et al.</i> (2005) United Kingdom	To explore the views of health professionals on the factors influencing repeat caesarean section.	12 doctors and 13 midwives (6 hospital-based and 7 community midwives)	Qualitative/ Semi-structured interviews/ Constant comparative method	Clinicians' perceived degree of women's preference to birth by CS influenced their decision-making
Karlstrom <i>et al.</i> (2009) Sweden	To describe obstetricians' and midwives' attitudes towards CS on maternal request.	9 obstetricians and 16 midwives	Qualitative/ Focus group discussions/ Content analysis. Themes were derived	Women's previous negative birth experience, fear related to childbirth
Koigi-Kamau <i>et al.</i> (2005) Kenya	To determine perceptions, preferences and practices of vaginal birth after Caesarean.	64 obstetricians in private practice (RR = 60%)	Quantitative/ Survey/ Questionnaire/ Descriptive statistics	Increased demand for repeat CS by women
Kwee <i>et al.</i> (2004) Netherlands	To determine the opinion of Dutch gynaecologists and registrars on caesarean section (CS) on request	583 gynaecologists and registrars (RR = 65%)	Quantitative/Survey/Questionnaire/ Analysis of variance and logistic regression analysis	Autonomy of the woman
Litorp <i>et al.</i> (2015a) Tanzania	To explore women's and caregivers' experiences, perceptions, attitudes, and beliefs in relation to caesarean section.	18 obstetricians and 8 midwives	Qualitative/ Individual and focus group interviews, and participant observations/ Thematic analysis	Women under public care refused CSs, whereas some women under private care challenged the obstetrician's decision and demanded a CSs.
Litorp <i>et al.</i> (2015b) Tanzania	To explore obstetric care givers' rationales for their hospital's CS rate to identify factors that might cause CS overuse.	18 obstetricians and 14 midwives	Qualitative/ Individual and focus group interviews/ Thematic analysis	Requests from women in private care
Weaver <i>et al.</i> (2007) United Kingdom and Republic of Ireland	To examine whether, and in what context, maternal requests for caesarean section are made	29 obstetricians (interviews) and 785 consultants (questionnaire-es) (RR =58%)	Mixed methods/ Survey and Interviews/ Using SPSS (for surveys) and thematic analysis	Women's request
Yazdizadeh <i>et al.</i> (2011) Iran	To identify barriers to reduce the caesarean section rate in Iran, as perceived by obstetricians and midwives as the main behavioural change target groups.	26 obstetricians and midwives (number of midwives and obstetricians are not presented separately in the published article)	Qualitative/In-depth interviews/Thematic analysis	Women's request for CS. Women's unawareness of complications associated with different types of birth, influence of media, women's lifestyle, and fear of labour.

Women's cultural belief that birthing by CS is an indicator of high status in society, means that some women put pressure on obstetricians and influence their decision to perform a CS.

"Unfortunately the caesarean section is like a mode in the community. Her neighbour has gone to a private hospital in Tehran and had a caesarean section and made a movie from it. Now she wants the same thing here." (Obstetrician) (Bagheri *et al.*, 2013, p.47)

Women's preferences to be in charge and be in control of their body was reported as a reason for clinicians to approve women's request for CS.

"I think there is a need to be in control. The woman wants to be in control and decide about her body. Not losing control but have it planned, I know what's going to happen. Being spared the unpredictable, this vague thing a (vaginal) birth can be." (Focus group discussions with midwives and obstetricians) (Karlstrom *et al.*, 2009, p.59)

Apart from women's views of CS as a safe option for childbirth and the influence of culture, their lack of knowledge and awareness of the risks associated with birth by CS was viewed by clinicians as other factors that contributed to their requests.

"I think, women are being ignorant (of complications related to CS) and think CS is the easiest way." (Focus group discussions with midwives and obstetricians) (Karlstrom *et al.*, 2009, p.59)

Obstetricians, more than midwives, had a positive attitude towards women's request for CS and believed in women's autonomy and right to choose their mode of birth.

"The great majority of women would not want any harm to come to their baby, and will be, you know, having a Caesarean section at the drop of a hat if you suggested that there was a significant risk to the baby." (Obstetrician) (Bryant *et al.*, 2007, p.1198)

Midwives in this context placed emphasis on women's perception of self and the importance of giving birth naturally, and the effects on women's life.

"How a woman gives birth seems to have a profound effect on the rest of her life. And it's the difference between giving birth, doing birth, and having it done to you that can undermine women's sense of self." (Midwife) (Bryant *et al.*, 2007, p.1199)

"Some of the patients come and ask 'Oh, I don't want to deliver vaginally'. So we need to face that, we need to advise them when we know that there are no indications for CS. But with these, it really [laughter] makes you feel forced to do an unnecessary CS." (Specialist B) (Litorp *et al.*, 2015a, p.716)

In general, 'women's request' was perceived by clinicians as a key factor influencing the decision to perform a CS, for all the reasons described.

Summary of the findings

Clinicians viewed women's request as a key factor in the decision to perform a CS. In general, more obstetricians than midwives, and more working in private sectors than in public hospitals, believed that women had a right to choose CS. Clinicians believed that women's cultural beliefs, their perception of CS as a safe option for childbirth and lack of knowledge and awareness of risks associated with CS were major factors that influenced women's requests to birth by CS.

Comparison of disparity across the four reviews

'Women's request for CS' was reported, in this comprehensive and large systematic review of clinicians' views (Panda *et al.*, 2018), as one of the key factors influencing clinicians' decision to perform a CS. However, there is disparity in the literature in relation to this key finding. We compared findings of our systematic review of clinicians' perception on women's request for CS with three other literature reviews where 'women's request or preference' was a primary outcome (Gamble and Creedy 2000; McCourt *et al.*, 2007 and Mazzoni *et al.*, 2011) and 'a minimal influence of women's request or preference to the overall rate of CS' was reported. Table 2 presents a summary of these three literature reviews.

Gamble and Creedy (2000) in their critique of literature on 'women's request for CS' concluded that women's request, in the absence of obstetric complications, has a minimal (1% or less) influence on the overall rates of CSs. The authors critically analysed the methodological and conceptual issues in the selected studies that reported women's request/preference as an influencing factor for CS. This critique of literature reported findings from ten published studies from four countries (UK (n = 5), Australia (n = 3), Ireland (n = 1), and Sweden (n = 1)) using data from surveys and interviews with women and an audit of medical records. One of the key issues highlighted by the authors was an over-estimated use of 'women's request for CS' as a reason to perform CS with little or no acknowledgement of influence from obstetricians. Clinicians' use of technical language to present information to a woman in a way that would guide the woman's decision to choose her mode of birth is not always documented, discussed or explained. This has been described as 'institutional discourse' in other literature (Fox Keller and Longino, 1996). Communication and the use of specialised language while communicating information to the woman plays a vital role in guiding a woman's decision and choice of mode of birth, which is often interpreted as her 'request' or 'preference' to birth by CS.

The influence of obstetricians' perception of women's fear of vaginal birth or satisfaction with the decision to birth by CS or their perceived involvement in the decision-making for CS were used to derive conclusions for 'women's request for CS', according to the authors. The second issue was evidence of a discrepancy between documented indications for CS and what was reported by women in their response to the questionnaires in the included studies. This raises questions of the value of using medical records alone to identify and report the reason for the decision to perform a CS. The authors concluded a minimal influence of women's request to the overall rates of CS, a finding that differs from the results of the systematic review described above (Panda *et al.*, 2018).

As a follow-up to the review by Gamble and Creedy (2000), McCourt *et al.* (2007) carried out a review of studies that reported women's request or preference for CS. Seventeen studies using surveys, in-depth interviews, ethnographic and epidemiological data from 11 countries (Brazil (n = 3), United Kingdom (n = 3), Australia (n = 2), Taiwan (n = 2), and one study each from Chile, Sweden, United States, Turkey, Italy, Hongkong and Singapore) published between 2000 and 2005 were critiqued to explore the degree of influence of women's request on the overall rate of CS. Rates of maternal preference for CS in the studies included in the review varied from 0.3% to 13.4%; however, studies that reported a higher proportion of maternal preference did not clarify the presence or absence of other obstetrical or medical indications that may have influenced the decision to perform a CS. The critical analysis of findings from other epidemiological studies that reported women's request as a reason to perform CS did not give any clarification of other possible clinical indications that might have influenced the decision. Obstetricians' perception of women's un-

Table 2
Summary of the reviews critiqued in relation to 'women's request/preference' for CS.

Author and year	Aim of the study	Outcome of interest	Methods	Authors' conclusion
Gamble and Creedy 2000	To critique existing literature relating to women's request for cesarean delivery among the general birthing population, and to determine the extent to which women may be requesting cesarean delivery.	Women's request	Literature review of ten primary research studies from four countries spanning seven years from 1993 to 1999, total participants n=2212. Participants/source(s) of data collection: Women and computerised data Type of studies included in the review: Quantitative and qualitative	Minimal contribution of women's request (1% or less) to the overall CSs in absence of medical indication. Reasons for women's request: safety concerns for self and baby. Lack of clarity on role of women in requesting a CS.
McCourt et al. 2007	To critique research literature published since that critiqued by Gamble and Creedy in 2000 that relates to women's preferences or requests for cesarean section and determine the extent to which women request cesarean section in the absence of clinical indications.	Women's request/preferences	Literature review of 17 primary research studies from 11 countries spanning six years from 2000 to 2005, total participants n=8063 women and more than n=129 health professionals (Obstetricians, paediatricians, GPs and nurses). Participants/source(s) of data collection: Women, health professional (obstetricians, pediatricians, GPs and nurses) and registered birth data/birth cohort Type of studies included in the review: Quantitative and qualitative	Minimal influence of women's request on CSs. Reasons for women's preference/request for CS was fear of childbirth, and perceived inequality and inadequacy of care. Lack of clarity on women's involvement in decision-making for CS.
Mazzoni et al. 2011	To review the published literature on women's preferences for caesarean section.	Maternal preferences	Systematic review and meta-analysis of 38 primary research studies (an overlap of 12 studies that were already reported in the other two reviews by Gamble and Creedy (2000) and McCourt et al (2007)) from six countries spanning 22 years from 1987 to 2009, total participants n=19,403. Participants/source of data collection: Women Type of studies included in the review: Quantitative	Minority of women preferred to birth by CS. Higher preferences for CS among women with previous CS and those living in middle income countries.

certainties in ambiguous and complex situations was used to draw conclusions about women's choice to birth by CS, which was a key issue similar to the research critique by [Gamble and Creedy \(2000\)](#). In fact, women's fear of birth was used as a guide to drive the decision to perform a CS. In-depth exploration of issues related to the argument of 'women's involvement and their role' in the decision-making process reported a lack of discussion about the possible influence of other factors such as women's history of infertility. Overall, in contrast to the systematic review by [Panda et al. \(2018\)](#), the findings from this review ([McCourt et al., 2007](#)) concluded that women's request had a minimal influence on the overall rate of CS, and presented their argument around issues related to the decision-making for CS from women's and obstetricians' point of view.

The third systematic review on the influence of maternal preferences on CS rates was conducted by [Mazzoni et al \(2011\)](#). This review of 38 quantitative studies from six countries (America (n = 15), Europe (n = 12), Asia (n = 7), Australia (n = 2), Canada

(n = 1) and Africa (n = 1)) evaluated women's preferences. The authors reported that 15.6% of CSs were performed for women's preferences, with a higher preference among women with previous birth by CS (29.4%) and women living in middle income countries (22.1%). Although limited to women's preferences, not requests, the authors concluded that a minority of women expressed preference for CS in a wide variety of countries, a finding which cannot be used to draw conclusions about their request to birth by CS, and which contradicts the findings from clinicians' views in the systematic review by [Panda et al. \(2018\)](#).

In general, most literature, current and past, report similar findings in relation to reasons behind women's requests to birth by CS. The most common reasons are previous negative birth experiences, perceived risks of vaginal birth ([Chen et al., 2018](#)), lack of knowledge about the risks of CS ([Karlstrom et al., 2009](#)), and past or current obstetric complications ([Gamble and Creedy, 2001](#)). Maternal anxiety was reported to be one of the most common reasons for women's request to birth by CS ([Panda et al., 2018](#)),

which is supported by [Gamble and Creedy \(2001\)](#) who also stated that anxiety was a result of lack of adequate information about risks associated with birth by CS and women's perceived safety concerns with vaginal births ([Schantz et al., 2016](#)). Fear of childbirth was another common reason often reported to influence women's request to birth by CS ([Ryding et al., 2016](#); [Malik, 2017](#)); however, [Gamble et al. \(2008\)](#) highlighted the influence of obstetric care providers' interpretation or misinterpretation of 'women's concerns' as 'women's request' to birth by CS ([Gamble et al., 2008](#)). Recent studies that report on women's request for CS raise concerns about the communication between women and their care provider and the adequacy of information provided on the risks associated with birth by CS ([Chen et al., 2018](#); [Malik, 2017](#)). A recent philosophical critique of shared decision-making for CS highlighted that clinicians' duty of care includes offering women relevant knowledge freely and disclosing personal beliefs and biases that may impact on decision-making ([Begley et al., 2019](#)). The authors of the critique noted that cultural norms of 'the doctor knows best' and 'patient acquiescence' could lead to over-use of medical intervention. Despite the differences in relation to women's request for CS, the communication among obstetric care provider and women, and the importance of ensuring women's understanding of the risks associated with birth by CS were highlighted as a key aspect in all these studies ([Gamble and Creedy 2000](#); [McCourt et al., 2007](#) and [Gamble et al., 2008](#)).

[Gamble et al. \(2008\)](#) advanced their arguments by critiquing the 17 papers reviewed by [McCourt et al. \(2007\)](#), in order to examine the possible and potential influence of obstetric and psychosocial factors that affected women's autonomous decision-making and informed choice. The authors concluded that a lack of clarity about women's existing knowledge of risks and benefits of the birthing options and the way information is shared with women can influence the final decision. It can impact the conclusions about the contribution of women's requests for CS to the overall CS rate. The authors' investigations of obstetric care providers' attitude to CS as 'another possible alternative option' for childbirth was identified to have an ultimate influence on women's preferences for their mode of birth. In the private sector, the expectation on obstetricians to be present at every birth for women under their care contributed to many elective CSs. The authors concluded and highlighted the issues related to 'over-reporting of women's requests' as a reason compared to the 'actual number of CSs' related to requests.

Discussion

This paper compared the findings of the recently published systematic review and metasynthesis on clinicians' views of factors influencing decision-making for CS ([Panda et al., 2018](#)), with contrasting findings from three other reviews on maternal request and its influence on CS rates. While the findings from [Panda et al. \(2018\)](#) showed that clinicians' perceptions were that maternal request was a key factor influencing clinicians' decision-making, the other reviews reported a minimal perceived influence on the overall and rising CS rates. A possible reason for this difference in findings may be a result of the differences in views of clinicians and women. While clinicians claimed their decision to be appropriate and safe, and made following consultation with women, women described themselves as 'agreeing' with and 'going with the flow' of professionals' recommendations. While women have the indisputable right to make their own birth choices, their actual decisions may be guided or influenced by clinicians' beliefs of what is 'safe' or 'unsafe' in any given situation. This then can shape and steer a woman's decision so much so that she 'agrees' with her clinician's recommendations.

Communication is a key aspect in the process of decision-making, and the way information is presented to a woman influ-

ences her decision-making. This is discussed in literature as 'institutional discourse'. Clinicians may use clinical and technical language to present information to a woman in a way that would steer the woman's decision to choose her mode of birth, which eventually is interpreted and reported as their request or preference to give birth by CS.

The three reviews ([Gamble and Creedy, 2000](#); [McCourt et al., 2007](#); and [Mazzoni et al., 2011](#)) reported findings from 53 primary studies conducted between 1987 to 2009 using multiple data sources including views of women, obstetricians, nurses, and other health care professionals as well as analysis of data from birth records. However, the systematic review ([Panda et al., 2018](#)) reported findings from views of clinicians only. This might be another possible reason for the diverging results. It is essential to consider the possible influence of clinicians' perception and interpretation of 'women's fear or concerns' as being their 'preference or requests' for CS when compared with views of women, other healthcare professionals and what is being reported in birth records. What is critical is that careful attention is paid to the terms and language used, and their subtle differences, before interpreting maternal request as a factor influencing the decision to perform a CS and contributing to the rising CS rates.

Conclusion

CS for women's request is a topic of international debate in maternal and child health, especially in the light of current growing global concerns with the rising trend of CS. A lot has been written about the influence of women's requests and preferences on overall rates of CS, with disparities in evidence related to the degree of its influence. The key findings of three reviews highlighted that women's request/preference to birth by CS had a minimal contribution to the overall rising rates of CS. These findings contradict those from the systematic review under discussion ([Panda et al., 2018](#)), which reported that the views of clinicians were that 'women's request for CS' was a key factor influencing decision to perform CS. Another key finding is that there is lack of clarity around women's involvement in the decision-making process for their birth. More research looking into these complexities around decision-making for CS based on women's request would help clarify these concepts and their actual influence on the rising trend of CS. One of the strengths of this critique of literature is the collective presentation of findings from 79 (quantitative, qualitative and mixed methods) studies. Views of women, healthcare professionals, and analysis and critique of findings from birth records add value to the current global discussion on influence of women's requests and preferences on the rising CS rates. However, the heterogeneity in characteristics of the reviews may be a possible limitation. Studies considered in the original systematic review included clinical research only, which may be a possible limitation.

Ethical approval

Not applicable

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Declaration Competing Interest

None.

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