

# Caesarean Section for Non-Medical Reasons: A Rising Public Health Issue

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## ABSTRACT



**Background:** Caesarean section (CS) is a life-saving surgical intervention for childbirth. Emphasis is given to performing CS only for valid medical reasons. However, performing CS on non-medical indications is increasing worldwide. The scoping review aims to explore the non-medical reasons for performing CS.

**Methods:** Articles on CS for non-medical reasons were searched using several electronic databases: PubMed, MEDLINE, CINAHL and open access journal databases such as Nepal journals online (NepJOL) and Bangladesh journals online (BanglaJOL). Additional articles were searched from the reference list of the selected articles and organizational websites. Eligible full-text articles were appraised, and relevant data were extracted. A narrative synthesis of extracted data was performed using content analysis.

**Results:** Maternal request is the most common non-medical indication of performing CS. The main reason for women's preference for a CS is to avoid labour pain followed by certainty/convenience, avoid damage to the pelvic floor and vaginal trauma, and safer for baby. Similarly, the main reason for requesting a CS is fear of labour pain followed by fear of childbirth, safer mode of birth for both mother and baby and maintaining pelvic floor integrity. The main reasons of willingness to perform CS by obstetrician were fear of litigation, financial incentives and convenience. The ethical aspect of non-medically indicated CS remains complex.

**Conclusions:** Performing CS without medical indications is a rising public health issue which has created medical, financial and ethical dilemmas in obstetrics care. The reasons for maternal request for a CS should be explored well. Obstetric care must include education of pregnant women on mode of childbirth including indications, risks and benefits of CS during antenatal visits.

**Keywords:** Caesarean Section, Maternal Preference, Maternal Request, Litigation, Convenience

Access this article Online		Article Info.	
<b>QR Code</b>	<b>How to cite this article in Vancouver Style?</b>		
 <b>Scan Me</b>	Dhakal-Rai S, Teijlingen E van, Regmi PR, Wood J, Dangal G, Dhakal KB. Caesarean Section for Non-medical Reasons: A Rising Public Health Issue. Journal of Karnali Academy of Health Sciences 2021;4(2)		
	Received: 2 July 2021	Accepted: 12 August 2021	Published Online: 28 August 2021
	Source of Support: Self		Conflict of Interest: None
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## INTRODUCTION

Caesarean section (CS) is a life-saving surgical procedure for childbirth and this surgical procedure must be accessible to all women in need.<sup>1</sup> Due to the several short and long-term effects of CS to mother and child health,<sup>2</sup> this procedure should be performed only for medical indications.<sup>3</sup> CS is medically indicated when a significant risk of an adverse outcome for mother &/or foetus is present if the CS is delayed.<sup>4</sup> The incident of CS for non-medical indications such as maternal request is increasing and it reflects changing attitudes of women and obstetricians towards mode of childbirth.<sup>5,6</sup>

CS rates have been rising steeply worldwide for decades.<sup>7</sup> Evidence show that CS rates are rising also in South Asia.<sup>8</sup> This trend is often referred to as too much too soon.<sup>9</sup> However, CS rates greater than 10% at the population level are not useful for decreasing in maternal and neonatal mortality rates.<sup>10</sup> CS is perceived to be a safer procedure in recent years due to improvement of anaesthesia, surgical techniques and medications to treat infection and blood clots.<sup>1,11</sup> Meanwhile, the incidence of performing CS without medical indications such as maternal request is increasing.<sup>12,13</sup>

The rising incidence of CS for non-medical indications may be a significant contributor to the rise in overall CS rates.<sup>1,14,15</sup> It is linked with the cultural acceptability of CS as a safer mode of childbirth,<sup>1,15</sup> which in turn changes the childbirth to a medical event.<sup>16</sup> Evidence showed that the pregnant women are encouraged to request CS by informing diagnosis of nuchal cord of their unborn baby using ultrasound.<sup>17</sup> Schantz et al. (2019) reported the incidence of CS for maternal request for CS ranged from 0.2% to 24.7%.<sup>17</sup> Similarly, Mozzani et al. (2011) revealed that global preference of CS was 15.6% and middle-income countries had higher preferences for CS (22.1%).<sup>18</sup> However,

studies on maternal preference and request are lacking in low-income countries.<sup>17,18</sup>

### Health risks associated with CS

CS is associated with many short-term and long-term health problems to women and children.<sup>2</sup> CS also increases the adverse risks in subsequent pregnancies.<sup>19,20</sup> Multiple CSs can increase the risks of hysterectomy, blood transfusion, placenta previa.<sup>21</sup> Souza et al. (2010) reported there is higher risk of death, admission to intensive care units, blood transfusion and hysterectomy in CS without medical indications.<sup>22</sup> Children born by maternal request elective CS prior to 39 weeks gestation are found more likely to have emotional problems and difficulties in behaviour at preschool age.<sup>23</sup> Low-risk planned CS is found associated with increased postpartum health risks (cardiac arrest, major puerperal infection etc.) and longer hospital stay as compared to planned vaginal birth.<sup>24</sup>

### Costs

Performing CSs for non-medical indications can increase unreasonable and disproportionate use of health resources. For example, the estimated cost of unnecessary CS was approximately \$ 2.32 billion globally in 2008, whereas the cost of the global medically indicated CS was approximately \$ 432 million.<sup>25</sup> The cost of prelabour CS is higher than spontaneous vaginal birth ( $P < 0.01$ ).<sup>26</sup> CS during labour is found to be more costly.<sup>26</sup> The total costs of CS in labour can exceed about 10% if epidural anaesthesia is also used.<sup>27</sup>

Unnecessary CSs can put financial pressure on both individuals/family and the health system in low-income countries. In Bangladesh, maternity care made up 10.3% of total health expenditure, and CS made up nearly 70% of that cost (6.9% of total health expenditure) in 2010.<sup>28</sup> A study showed that the average cost for a CS was higher and it was more than a month's income for 74% of all households in Pakistan.<sup>29</sup> Similarly, the hidden cost for CS

was higher than normal delivery in two hospitals in Western Nepal.<sup>30</sup>

The review aims to answer the question: What are the non-medical reasons for performing CS?

## METHODS & MATERIALS

A scoping review<sup>31</sup> of articles highlighting the issues around CS performing on non-medical reasons were searched using several bibliographic electronic databases: PubMed, MEDLINE, CINAHL and open access journal databases such as Nepal journals on-line (NepJOL) and Bangladesh journals on-line (BanglaJOL). Articles on CS for non-medical reasons were searched using Medical Subject Headings (MeSH) heading such as caesarean, cesarean, c-section was combined with the specific key words such as non-medical, preference, request, demand, choice, litigation, convenience using Boolean operators (and/or). Additional articles were searched from the reference list of the selected articles and organizational websites such as WHO and FIGO (The International Federation of Gynaecology and Obstetrics).

Quantitative and qualitative studies highlighting non-medical indications, published from 2000 to 2020 and written in English were included in this review. All selected articles were assessed for inclusion eligibility by first author (SD). Titles and abstracts were screened initially and then, full text of individual article analysed and relevant data extracted. Extracted data were checked for accuracy by other authors (EvT, JW, PR, GD, KBD). Any discrepancies/disagreement over eligibility of studies were discussed with reviewers and resolved based on consensus. Then, content analysis<sup>32</sup> was performed. A total of 10,382 articles were found and on appraisal 69 were used.

## FINDINGS

The incidence of CS performed for non-medical indications is witnessed by many hospitals record-based studies in South Asian countries (Table 1).

Requesting a CS without a medical/obstetrical indication is rising. A study showed in West Africa that most obstetricians (94.4%) had received request for a CS during antenatal care (ANC) and most obstetricians (81.2%) performed CS on maternal request.<sup>51</sup>

### Why do women express a preference for CS prior to birth?

A cohort study of six northern European countries reported that CS was preferred by 3.5% of primiparous and 8.7% of the multiparous women.<sup>52</sup> Similarly, a Norwegian study reported that 3.5% of the primiparous women and 9.6% multiparous women stated a preference for CS.<sup>53</sup> CS preference constituted 15% in Ghana,<sup>54</sup> 16.7% in China,<sup>55</sup> 16.7% - 22.9% in Hong Kong.<sup>56,57</sup> Many reasons for preferring a CS by women are revealed as below (Table 2).

Many factors were found significantly associated with preference of CS, such as: fear of childbirth, negative childbirth experience, previous CS, advanced age,<sup>51,52,59</sup> lower education,<sup>52,59</sup> depressive symptoms,<sup>52,53</sup> history of abuse,<sup>52</sup> giving birth at hospital with high CS rate<sup>59</sup> and history of previous pregnancy complications.<sup>60</sup>

### Why do women request/demand CS?

Women's preferences for mode of childbirth may change as their pregnancies progress because it is neither fixed nor final until the moment of giving childbirth.<sup>61</sup> However, pregnant women expressed preference for CS as mode of childbirth are found to be associated with both elective and emergency CS.<sup>62</sup> In Italy, the incidence of CS on maternal request was 8.60%.<sup>63</sup> The incidence of maternal request was increased more than

doubled from 2002 (2.1%) to 2008 (5.1%) at a tertiary care clinic in Switzerland.<sup>13</sup>

Table 3 lists the key reasons women give for requesting a CS.

**Table 1: Studies Reporting Non-Medical Indications in South Asia**

Author & year	Country	Non-medical indications	Rate of CS %
Nazneen et al., 2011 <sup>33</sup>	Bangladesh	Maternal choice	0.4% - 2000-01 0.7% - 2002 0.8% - 2003-04
Aminu et al., 2014 <sup>34</sup>	Bangladesh	Labour pain No indication	0.3% 0.6%
Shamina et al., 2018 <sup>35</sup>	Bangladesh	Patients desire	45%
Santhanalakshmi et al., 2013 <sup>36</sup>	India	Precious Pregnancy	3.96%
Birla et al., 2016 <sup>37</sup>	India	Precious Pregnancy	Primi – 1.68%; Multi – 0.73%
Patil et al., 2017 <sup>38</sup>	India	Precious Pregnancy	3.2% primary; 8.4% repeat CS
Shenoy et al., 2019 <sup>39</sup>	India	Maternal request	0.5%
Chhetri et al., 2011 <sup>40</sup>	Nepal	On request	1.0% - 2006; 0.3% - 2007
Subedi et al., 2012 <sup>41</sup>	Nepal	Caesarean on Demand	1.25%
Pradhan et al., 2014 <sup>42</sup>	Nepal	Maternal request	1.0%
Samdal et al., 2016 <sup>43</sup>	Nepal	Previous traumatic birth experience	2.2% (5.7% - Multipravidia)
Poudel et al., 2019 <sup>44</sup>	Nepal	Maternal request	6.0%
Makey et al., 2019 <sup>45</sup>	Nepal	On request	1%
Kanji et al., 2020 <sup>46</sup>	Pakistan	Maternal request Precious pregnancy	0.2% 0.2%
Latif et al., 2017 <sup>47</sup>	Pakistan	Precious pregnancy Patient's request	1.67% 2.87%
Karim et al., 2011 <sup>48</sup>	Pakistan	Precious pregnancy	1.9%
Naeem et al., 2015 <sup>49</sup>	Pakistan	Maternal Wish (with bilateral tubal ligation)	4.3%
Tahir et al., 2018 <sup>50</sup>	Pakistan	Maternal request	0.2%

**Table 2: Reasons for Preference of CS by women**

Reasons for Women's Preference of CS	References
Avoid labour pain/less pain/painless/fear of pain	Akhter et al.,2018; <sup>16</sup> Walana et al., 2017; <sup>54</sup> Zhang et al., 2017; <sup>55</sup> Pang et al., 2007; <sup>56</sup> Loke et al., 2015; <sup>57</sup> Ajeet et al., 2011 <sup>58</sup>
Certainty of time & birth/astrological calendar /an auspicious time/ Allows a better control of time and birth	Zhang et al., 2017; <sup>55</sup> Pang et al., 2007; <sup>56</sup> Loke et al., 2015; <sup>57</sup> Ajeet et al., 2011 <sup>58</sup>
Avoid damage to pelvic floor/ vaginal trauma/perineal tear	Zhang et al., 2017; <sup>55</sup> Pang et al., 2007; <sup>56</sup> Loke et al., 2015; <sup>57</sup> Ajeet et al., 2011 <sup>58</sup>
Safer for the baby/ low risk of foetal distress and birth trauma	Zhang et al., 2017; <sup>55</sup> Pang et al., 2007; <sup>56</sup> Loke et al., 2015; <sup>57</sup> Ajeet et al., 2011 <sup>58</sup>
Quick restoration of sexual activities/better sexual satisfaction	Zhang et al., 2017; <sup>55</sup> Loke et al., 2015 <sup>57</sup>
Less stressful/ Easy with no labour stress	Walana et al., 2017; <sup>54</sup> Zhang et al., 2017 <sup>55</sup>
Fear of vaginal birth	Akhter et al.,2018; <sup>16</sup> Pang et al., 2007 <sup>56</sup>
Safer for mother	Zhang et al., 2017 <sup>55</sup>
Avoid birth trauma and respiratory trauma	Loke et al., 2015 <sup>57</sup>
Large baby/twins/triplets	Loke et al., 2015 <sup>57</sup>
Negative experience from previous childbirth	Zhang et al., 2017 <sup>55</sup>

Doctor's advice	Walana et al., 2017 <sup>54</sup>
Avoidance of emergency CS	Zhang et al., 2017 <sup>55</sup>
A fashion	Zhang et al., 2017 <sup>55</sup>
Previous CS	Zhang et al., 2017 <sup>55</sup>
Avoid episiotomy	Zhang et al., 2017 <sup>55</sup>
Being pregnant at an advanced age	Loke et al., 2015 <sup>57</sup>
Social pressure/life-style choice	Akhter et al., 2018 <sup>16</sup>
Lack of family support	Akhter et al., 2018 <sup>16</sup>

**Table 3: Reasons of CS on Maternal Request**

Reasons for maternal request of CS	References
Fear of labour pain/ avoid labour pain/pain -free method/ Friends advised CS is painless	Akhter et al., 2018; <sup>16</sup> Obed et al., 2013; <sup>51</sup> Wiklund et al., 2007; <sup>64</sup> Dursun et al., 2011; <sup>65</sup> Schantaz et al., 2016; <sup>66</sup> Okonkwo et al., 2012; <sup>67</sup> Diema K et al., 2019; <sup>68</sup> Stutzer et al., 2017 <sup>69</sup>
Fear of childbirth/Tokophobia/primary fear of birth/lack of courage to undergo labour	Akhter et al., 2018; <sup>16</sup> Wiklund et al., 2007; <sup>64</sup> Schantaz et al., 2016; <sup>66</sup> Stutzer et al., 2017; <sup>69</sup> Eide et al., 2019 <sup>70</sup>
Safer mode of Birth (safer option for baby/ Safer for mother & baby/ CS is safer than before)	Schantaz et al., 2016; <sup>66</sup> Okonkwo et al., 2012; <sup>67</sup> Diema K et al., 2019; <sup>68</sup> Stutzer et al., 2017; <sup>69</sup> Fenwick et al., 2010 <sup>71</sup>
Maintain pelvic floor integrity (Avoid pelvic organ prolapse, trauma or perineal tear)/ Fear of faecal and urinary incontinence	Obed et al., 2013; <sup>51</sup> Dursun et al., 2011; <sup>65</sup> Schantaz et al., 2016; <sup>66</sup> Okonkwo et al., 2012; <sup>67</sup> Diema et al., 2019; <sup>68</sup> Eide et al., 2019 <sup>70</sup>
Negative/traumatic experience of previous birth	Obed et al., 2013; <sup>51</sup> Schantaz et al., 2016; <sup>66</sup> Stutzer et al., 2017; <sup>69</sup> Fenwick et al., 2010 <sup>71</sup>
Advice from husband/ presence of relative/husband or family support to request CS/ Religious reasons/advice	Obed et al., 2013; <sup>51</sup> Okonkwo et al., 2012; <sup>67</sup> Stutzer et al., 2017; <sup>69</sup> Eide et al., 2019 <sup>70</sup>
Convenient to choosing specific delivery date and time/better predictability/ Bringing luck and joy to the family/Uncertainty about normal delivery process	Akhter et al., 2018; <sup>16</sup> Obed et al., 2013; <sup>51</sup> Okonkwo et al., 2012; <sup>67</sup> Eide et al., 2019 <sup>70</sup>
Fear for episiotomy	Diema K et al., 2019; <sup>68</sup> Stutzer et al., 2017 <sup>69</sup> Eide et al., 2019 <sup>70</sup>
Anxiety about foetal injury or death (in labour)/ Fear of labour outcomes/complications/Minimize the risk of foetal distress	Obed et al., 2013; <sup>51</sup> Dursun et al., 2011; <sup>65</sup> Schantaz et al., 2016; <sup>66</sup> Diema K et al., 2019; <sup>68</sup> Stutzer et al., 2017 <sup>69</sup>
Anxiety for loss of control /emotional aspects/ Issues about control and safety	Dursun et al., 2011; <sup>65</sup> Stutzer et al., 2017 <sup>69</sup> Fenwick et al., 2010 <sup>71</sup>
Anxiety of lack of support from staff	Dursun et al., 2011; <sup>65</sup> Diema K et al., 2019 <sup>68</sup>
Birth satisfaction/ CS is more satisfactory mode of birth	Stutzer et al., 2017 <sup>69</sup> Eide et al., 2019 <sup>70</sup>
Perseveration/resumption of sexual function/fear of sexual discomfort and attraction	Stutzer et al., 2017 <sup>69</sup> Eide et al., 2019 <sup>70</sup>
Having no more energy during labour	Okonkwo et al., 2012 <sup>67</sup>
Precious pregnancy/Infertility	Obed et al., 2013 <sup>51</sup>
Devaluing of the female body and birth process	Fenwick et al., 2010 <sup>71</sup>
Logistics/security challenges/Physician's convenience	Obed et al., 2013 <sup>51</sup>
Fear of needing an emergency CS/Hereditary for complicated birth among female relatives/History of sexual violence/ Depression/depressed themselves	Dursun et al., 2011 <sup>65</sup>
Anxiety for gynaecological examination/Fear of their own health/life	Dursun et al., 2011 <sup>65</sup>
Unwilling to wait for labour to commence/ Family tradition of CS	Akhter et al., 2018 <sup>16</sup>

Past medical illness/Avoid stress of labour/ Being advanced age	Obed et al., 2013 <sup>51</sup>
Wanted repeat CS	Stutzer et al., 2017 <sup>69</sup>
Self-perceived risks for emergency CS (narrow pelvis, hereditary factors, birth outcomes)/ Requests based on unknown reasons/ Postnatal stressed experience	Fenwick et al., 2010 <sup>71</sup>
Over usage of ultrasound examinations.	Okonkwo et al., 2012 <sup>67</sup>

Previous c-section,<sup>63,66,72</sup> negative previous birth experience,<sup>72,73</sup> delivering in a private health facility, being older than median at the time of sexual debut,<sup>66</sup> high educational attainment, use of assisted reproductive technology, and miscarriages within the obstetric history,<sup>63</sup> fear of childbirth<sup>73</sup> are found to be significantly associated with maternal request of a CS.

### Why are Obstetricians willing to perform CS for non-medical indications?

A study conducted in Argentina reported that providers (74.4%) highly support their patient's right to choose a CS in the absence of a medical indication, 66.7% would perform a CS upon maternal request.<sup>74</sup> Obstetricians' willingness to oblige to the maternal request without medical indications is influenced by many factors.

### Avoiding Litigation

The fear of malpractice litigation is a strong factor of obstetrician choice of CS.<sup>75</sup> Defensive practice is deeply rooted in obstetrics practice and frequently CS are conducted to avoid litigation.<sup>76,77</sup> CS rate in Brazil is high perhaps obstetricians in Brazil perform defensive CS for fear of lawsuits.<sup>78</sup> A study conducted in Romania also revealed that the majority obstetricians (69.9%) perform defensive CS and for most (86.3%) this choice of mode of childbirth is influenced by the risk of being accused of malpractice.<sup>77</sup> In Israel also 97% of obstetricians feel that their daily practice is influenced by concern about being sued for medical negligence, and 87% would offer CS even in the absence of a clear medical

indication to avoid litigation.<sup>76</sup> Similarly, a study conducted in Turkey shows high CS rate was found to be related to increasing practice of defensive CS.<sup>79</sup> Obstetricians in European countries perform CS on maternal request to avoid possible legal consequences if something goes wrong.<sup>80</sup> Studies conducted in India<sup>81</sup> and Bangladesh<sup>36,82</sup> also revealed that fear of legal action was an important factor for decision-making and performing CS.

### Financial Motives

Financial incentive is also reported to be a major factor influencing the decision-making of obstetricians to perform CS. Private providers are more willing to perform a CS on maternal request in Argentina<sup>74</sup> to fulfil maternal demand for a CS. A qualitative study conducted in India also revealed that private hospitals have commercial interest with financial motives (for individuals and healthcare organisations) and pressurise obstetricians to fulfil patient demands for a CS.<sup>81</sup> In Bangladesh 'brokers' from private hospitals attend public hospitals to convince patients there to refer themselves to private hospitals for CS and receive a financial reward for every CS performed.<sup>36,82</sup>

### Convenience/time pressure

Obstetrician's personal convenience is one of the reasons for influencing the decision to perform a CS.<sup>51,83</sup> Elective CS can be of great convenience to help doctors plan their time schedule and get closer to daylight and social hours.<sup>11,83</sup> The convenience of CS is vital to obstetrics practice.<sup>11</sup> A study conducted in India reported that obstetricians' convenience and time pressures, particularly owing to the

high prevalence of solo obstetric practice was a key reason for performing CS.<sup>81</sup>

### **Demand from patient/family**

Private hospitals in India agree to women (or their family) demanding a CS for non-medical reasons in order not to lose that patient and their income.<sup>81</sup> Patient or patients' families from affluent background frequently try to influence obstetricians' decision-making on CS for non-medical indication in Bangladesh.<sup>36</sup> In Europe, there is increasing issue respecting patient autonomy on maternal request, which is the most cited reason for a physician to perform a CS on request without any medical indications.<sup>80</sup> However, obstetricians' willingness to perform a CS for non-medical reasons differ largely between regions and countries.<sup>80</sup>

### **Lack of comprehensive clinical guideline**

A lack of comprehensive clinical guideline or context specific guidelines and monitoring systems can result in unnecessary CSs.<sup>81-83</sup> Similarly, poor adherence to existing protocols on emergency obstetric care is also a reason reported behind rising CS in Bangladesh.<sup>36</sup> Private hospitals are partially to blame for performing unnecessary CS due to lack of regulations and reporting system in place or lack of clinical guidelines in India.<sup>81</sup> About 43% of physicians in Egypt were not aware of the presence of standardized guidelines in their respective hospitals.<sup>83</sup>

### **Lack of training and supervision**

Obstetricians' decision to perform CS is influenced largely by a lack of confidence and poor skills to attend vaginal births due to lack of training on vaginal birth and continuing professional development (CPD).<sup>36,81,83</sup> A critical knowledge gaps among obstetricians, particularly the indications for and timing of elective CS is found in Bangladesh.<sup>82</sup>

### **Ethical and legal issues on non-medically indicated CS**

Non-medically indicated CS such as maternal request is a legally and ethically complex and controversial issue.<sup>84,85</sup> The balance of benefit versus harm between CS and vaginal delivery is crucial to this debate.<sup>14,84</sup> Consequently, performing a CS should be ethically sound, genuinely safer and more beneficial than vaginal delivery.<sup>14,84</sup> The key ethical issues are obstetricians' obligation not to harm both women and foetus (non-maleficence) and to benefit (beneficence) women and foetus, women's autonomy/informed choice (voluntary informed consent) and allocation of health resources wisely on the basis of a net benefits to health.<sup>10,85</sup>

Obstetricians have the right to refuse CS without medical indication, which has potential risks for the woman and baby.<sup>11,14,84</sup> FIGO highlights that obstetricians' professional duty not to perform anything that can harm their patients.<sup>86</sup>

Autonomy and voluntary informed choice of a patient is the main ethical issue on performing CS on non-medical indication like maternal choice.<sup>85</sup> Although, informed consent for childbirth is different from consent from other medical areas because childbirth is an unavoidable physiological process.<sup>14</sup> Patient has rights to be well informed about risks and benefits of the CS before providing voluntary informed consent.<sup>85</sup> FIGO calls for respecting patient's autonomy and emphasizes to make informed choice.<sup>86</sup> Obstetricians have legal responsibility to inform and counsel women by providing clear, concise, unbiased, truthful and evidence-based information with all alternatives to give the patient an opportunity to have an informed consent.<sup>14,84</sup> Obstetricians must not use power to influence the patient's choice.<sup>85</sup> Additionally, there is a question about empowerment of women on decision-making on CS especially in low-income countries.<sup>11,85</sup> The debate of women's request for CS must be integrated in women's

empowerment and reproductive rights to ensure that women's empowerment is maximised.<sup>85</sup>

Another ethical issue surrounding the maternal request or demand of CS is justifiable allocation resources to procedure or treatment for net benefits to health.<sup>10,11,85</sup> If women receive a CS on their request without medical reasons, there will be less resources left for the rest of health care.<sup>11</sup> Performing CS for non-medical reasons must not affect the provision of medically indicated CS.<sup>14,84</sup>

## DISCUSSION

Maternal request is found to be the most frequent non-medical indication. The main reason for preferring a CS and request a CS is related to labour pain. In the context of low-income countries, poor quality of care such as deficit of monitoring of the childbirth process and epidural anaesthesia has been reported to be a leading factor of maternal request CS.<sup>51</sup> Many women feared about labour pain understand that CS is a way to negotiate their labour pain due to lack of effective pharmacological pain relief medication or social support during labour. They would request CS as an expression of their pain during labour and a demand for a response to their suffering.<sup>17</sup> A study reported that using a partograph is effective in reducing maternal preference for CS.<sup>60</sup> The improvement of quality of care for women in labour can reduce the maternal demand of CS.

Fear of childbirth is found to be another common reason of maternal request for CS. It is strongly associated with a preference for elective caesarean section.<sup>73</sup> Women are perceiving childbirth as a fearful event and they perhaps distrust their own natural capability of giving birth due to the fear.<sup>71</sup> Lack of knowledge on mode of childbirth or

CS aggravates women's fear on labour pain and CS is offered to women as a safe option for painless childbirth.<sup>16</sup>

The main reason of obstetrician's willingness to perform CS on non-medical indications is found to be fear of litigation. CS is perceived as the safer mode of childbirth.<sup>10,11</sup> Locally tailored evidence-based comprehensive guidelines must be required for not only to follow by both hospitals and obstetricians to promote optimal use of CS, but also to support obstetricians morally and legally.<sup>89,83</sup> Ethically, women must give informed voluntary consent to undergo a CS. Poor knowledge about CS may lead to wrong choice of mode of childbirth.<sup>16,66</sup> Therefore, in the case of maternal choice of CS to be assessed ethically with careful manner.<sup>10,14,63,84</sup>

## CONCLUSION

Performing CS without medical indications is a rising public health issue which is creating medical, financial and ethical dilemmas in obstetrics care. Maternal request is the most frequent non-medical indication. The reasons for maternal request for a CS should be studied, documented and discussed. Then, the case should be managed based on individual needs. Provision of quality obstetric care can reduce unnecessary CS. It must include social support during labour, appropriate labour monitoring, analgesic medication during labour, counselling/educating of pregnant women on mode of childbirth including indications, risks and benefits of CS during antenatal visits, and adherence to evidence-based practice/guidelines. More research studies should be conducted on CS on non-medical indications in South Asia.

**Acknowledgement:** The authors would like to thank Dr. Astha Dhakal for her help in the review.

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