RESEARCH ARTICLE

Rising trend of Caesarean section in primigravida at Lady Aitchison Hospital Lahore: Phenomenological analysis of indications

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Abstract

Objective: To highlight the rising trend of caesarean section and strategies to reduce the caesarean section rate in an urban setting.

Methods: The qualitative, phenomenological study was conducted at the Lady Aitchison Hospital, Lahore, Pakistan, from October 16 to November 30, 2020, and comprised obstetrics and gynaecology practitioners principally responsible for making decisions related to caesarean sections. Data was collected through face-to-face detailed interview with each subject. The interviews were transcribed manually and codes were formed that led to themes.

Results: Of the 10 subjects interviewed, 1(10%) was the department head, 2(20%) were associate professors, 2(20%) were assistant professors and 5(50%) were senior registrars. Main indications of caesarean section in primigravida were foetal distress, failed induction, failure to progress, social demand, malpresentation, eclampsia and antepartum haemorrhage. There were 5-7 themes that fell under each of these seven codes.

Conclusion: With proper implementation of uniform decision-making strategies, the rate of caesarean section in primigravida can be lowered with proper antenatal assessment, cardiotocographic monitoring, obstetric skills teaching, specialists; involvement in decision making and counselling of patients.

Keywords: Caesarean section, Primigravida, Phenomenology, Analysis. (JPMA 72: 2386; 2022)

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Introduction

Caesarean section (CS) is one of the most commonly performed procedures for obstetric indications. Its historical background is attributed to various theories;[1] Lex Caesarea relates to the Roman law prescribing to deliver the baby in case of mother's death before giving birth; according to an ancient story dating back to the 1st century AD, an ancestor of Caesar was delivered by it; and that it is derived from Latin verb ;Caldera' meaning to cut.[1] In early days, CS was associated with high morbidity and mortality, but with the invention of antibiotics, aseptic techniques, anaesthetic advances, blood transfusion services and improved techniques of surgery, especially those related to lower complications, the burden has been reduced.[1]

The World Health Organisation (WHO) has given 5-15% reference range for sections, but in many parts of the world this procedure is performed at higher rates.[2] In Saudi Arabia, it has been reported to be 32%, Denmark 49%, and 81% in Pakistan.[3] This rising CS trend is alarming because it is associated with injuries to bladder, bowel, haemorrhage, infection, need for blood transfusion and delayed return to work.[4]

All women with no contraindication of vaginal birth should be given trial of labour to decrease their chances of having operative delivery. Primigravida is the group where deciding suitable mode of delivery can help solve this problem. Proper antenatal care and intrapartum monitoring and careful selection of patients undergoing CS for the first time is very crucial because after one operation, the chances of further surgeries are increased.[5]

There is a need to identify various CS causes and how these can be modified and most effective measures practiced.[6]

The CS rate at Lady Aitchison Hospital (LAH), Lahore, is 52% which needs to be brought down to the standard reference WHO range of 10-15% by devising and implementing uniform strategies according to the local circumstances and available limited resources with very high obstetrical emergencies workload.[7,8]

The current study was planned to highlight the rising CS trend at LAH and to devise strategies to bring it down.

Subjects and Methods

The qualitative, phenomenological study was conducted at the Lady Aitchison Hospital, Lahore, Pakistan, from October 16 to November 30, 2020. Experiences about CS indications were explored on the basis of already cited questions asked during interviews.[9]

Approvals and permissions were obtained from the Head

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of the LAH Department Obstetrics and Gynaecology, LAH ethics review board and the ethics review committee of King Edward Medical University, Lahore. The sample size was up to saturation level, and it was 10. Those included were obstetrics and gynaecology practitioners principally responsible for making CS-related decisions. Constructivist philosophical assumption was applied, according to which, various participants take part in a study and everyone has his/her own views and perspectives about the problem, and new theories are generated on the basis of social and historical factors. As such, specialists who were fellows of the College of Physicians and Surgeons Pakistan (CPSP) in obstetrics and gynaecology were enrolled. CS was referred to a surgical procedure used to deliver a baby through incision in abdomen and uterus. Women pregnant for the first time were called primigravida. The word indications meant actual CS causes.

The study was conducted while keeping in mind the role of the researchers as defined in literature.[10]

Data was collected through detailed interviews of all the subjects who were willing to take part. One hour was spent with each specialist for the interview purpose. It was a face-to-face verbal interview conducted at the office of the department's Unit 5. Entry of date, name of consultant, interviewer's name and open-ended questions of the interview were mentioned on the top of the handwritten notes. During the interviews, important points were noted by the interviewer. A standard procedure was carried out so that the same procedure was followed with every subject. The office of Unit 5 was selected to avoid distractions and interviews were conducted by appointment with each consultant to maintain confidentiality. The interview was started with the mention of the rising CS trend in primigravida at LAH, and it was followed by open-ended question exploring the most common CS indications at LAH. The responses were recorded and a list of indications was made. Each indication was then explored one by one. For the indication failure to progress, it was further explored what were the reasons in the subject's view, and what was the measure the practice of which could prevent failure to progress. Subsequently, each indication was questioned about aetiology and preventive strategies till all the indications were addressed. While conducting interviews, hand-written notes were maintained for each participant. During the process, information was recorded concurrently so that important data was not missed. The data obtained from direct encounter was the primary material for further workup. There was no bias or fallout.

Both for booked and un-booked patients presenting for obstetric care and delivery at LAH are managed under a unit policy according to which decision of CS is taken by specialists and is properly documented in patient files. A monthly statistical meeting is conducted on the first Friday of each month. It was observed at these meetings that CS rate was rising, especially in the cases of primigravida who undergo the procedure either electively or in emergency.[11]

The collected data was analysed in a stepwise procedure by making various segments. Data Winnow process was used in which some important data is retained while other parts of it are not taken into account.[12] Winnowing means to transform massive data streams into useful information. A sequence of winnowing stages was used in which each step reduced the size of data, like extracting wheat from the chaff. During the interview process, analysis was started concurrently in contrast to quantitative methods where the whole data is collected before subjecting it to analysis.

The data was first properly organised, and it was extensively scrutinised to generate codes that were mentioned in the actual language of the participants (in vivo). During the process of making codes, the general sense of the whole of data was obtained by appropriate reading of all the notes, and the main ideas were written in front of the relevant text. Each interview was taken into account one by one, and the in-depth meaning was understood and important thoughts were written on the side. A list of all thoughts was made and important thoughts were decided. With this list, the data was entertained and codes were made and written adjunct to the appropriate segments of the text while new codes, if necessary, could be made during the process. From these codes, themes and descriptive categories were developed, and the data was trimmed by interrelating its meanings. Themes were the strategies employed to reduce the CS rate and these emerged from the life worlds of the participants through the process of coding.[12]

Results

Of the 10 subjects interviewed, 1(10%) was the department head, 2(20%) were associate professors, 2(20%) were assistant professors and 5(50%) were senior registrars. Main CS indications in primigravida were foetal distress, failed induction, failure to progress, social demand, malpresentation, eclampsia and antepartum haemorrhage (APH). There were 5-7 themes that fell under each of these seven codes (Table).

Based on the feedback, foetal distress can be prevented by regular antenatal visits, electronic foetal monitoring

Table: Phenomenological analysis of indications of caesarean section.

Serial Number	Codes	Themes
1.	Foetal distress	Regular antennal visits, Intrapartum electronic foetal monitoring, Supportive therapy, CTG interpretation workshop, Foetal blood sampling
2.	Failed Induction	Preinduction consultant assessment, limit hospital burden, Antenatal counselling, Cold chain maintenance of prostaglandins,3 doses of PGE2
3.	Failure to progress	Intrapartum consultant assessment, Adequate analgesia, Avoidance of induction at poor bishop, Mobilization and counselling, Active management for cause.
4.	Social demand	Antenatal counselling, good intrapartum monitoring, Epidural analgesia, one to one monitoring, Addressing precious pregnancy
5.	Malpresentation	Consultant ultrasound at term, Updated unit policy, Stabilized Induction, Proper BSL control
6.	Eclampsia/severe pre-eclampsia	Intensive Care unit monitoring, awareness of eclampsia symptoms, Antenatal and postpartum B.P monitoring
7.	APH	Ultrasound at 20 and 32 weeks, Timely admission, Risk factors for abruption and previa addressed, Availability of operation theatre and blood transfusion services in massive haemorrhage

CTG: Cardiotocogram, PGE2: Prostaglandin E2, ECV: External cephalic version, APH: Antepartum haemorrhage.

and foetal blood sampling. Consultant assessment, antenatal counselling, less hospital burden, cold chain maintenance of prostaglandins and three doses of prostaglandin E2 (PGE2) can be given to limit failure of induction. Failure to progress can be dealt with consultant assessment, analgesia, avoiding induction at poor bishop, mobilisation and counselling. Social demand can be addressed with one-to-one monitoring. Eclampsia can be prevented by awareness of symptoms and antenatal and postnatal blood pressure monitoring. APH can be dealt with through timely ultrasound, admission and availability of operation theatre and blood transfusion services.

Discussion

Indications of CS were coded into seven categories: foetal distress, failed induction, failure to progress, social demand, malpresentation, eclampsia and APH. For each code, 5-7 themes were formed addressing the underlying causative factors and preventive measures needed to reduce the rising CS rate.

The CS rate at LAH was 55.4% which is comparable to a study conducted in China 54.90%[22] while a study done in Hyderabad, Pakistan, showed a higher CS rate 67.7% because of high ratio of un-booked patients. Studies from Europe have reported lower CS rate 25% close to the WHO reference limit.[23]

Foetal distress was largely attributable to prolonged latent phase of labour, dehydration, un-booked and poorly compliant patients.[13] It is affected by two factors: distress of obstetrician; and distress of patients and relatives. On the basis of cardiotocogram (CTG), early decision is made and false positive rate cannot be ignored. The LAH also receives a large number of referrals from various hospitals, and patients are also received with abnormalities of foetal heart rate from other cities. Distress is noted based on CTG and meconium staining of amniotic fluid.[14] To deal with it, counselling of all antenatal patients during the antenatal period regarding importance of regular visits should be done. During the intrapartum period, electronic foetal monitoring of high-risk pregnancies and supportive therapy, like left lateral tilt, hydration, oxygenation and adequate analgesia, are employed. Workshops should be conducted for proper CTG interpretation. Foetal scalp blood sampling facility should be available in hospital in case of abnormal or suspicious CTG. Proper training for instrumental deliveries can reduce CS rate. In low-risk patients, it should not be done frequently.[15]

Failed induction occurred due to poor pre-induction assessment for cephalopelvic disproportion, malpositioning and poor bishop score. Pre-induction assessment should be done by senior most trainees or consultant. Other strategies include limiting hospital burden, proper cold chain maintenance of prostaglandin gel, induction doses up to 3 can be given to improve spontaneous vaginal delivery (SVD), patients should be reassessed at consultant level according to patient situation, counselling of patient in antenatal period for patience, and waiting for at least 6 hours after the second dose of prostaglandin before taking a CS decision.[16]

Failure to progress was due to poor assessment during the antenatal period regarding foetal weight, maternal pelvic dimensions, malpositioning and foetal head engagement. There was no adequate pain reliefm and lack of mobilisation was an issue. Overload of patients in the labour room makes patient assessment poor and the partogram is not maintained. Patients also present with comorbidities. Intrapartum assessment by consultants should be done. Analgesia and induction at poor bishop score were also relevant factors. There should be one-doctor-one-patient policy along with proper monitoring and augmentation of labour, partogram maintenance and consultant's supervision for every patient. The cause

of poor progress should be managed actively.[17]

Social demand is mainly due to precious pregnancy i.e. conceived after prolonged history of infertility, male baby, conceived after medication, and fear of labour pains. Counselling regarding good intrapartum monitoring to avoid asphyxia-related birth complications, use of epidural analgesia, telling pros and cons of SVD versus CS, pelvic floor exercises during pregnancy, and membrane sweep at 39 weeks can be employed to negate this indication.[18]

Foetal malpresentation is associated with excessive liquor, foetal anomaly, uterine pathology and failure to make diagnosis in the antenatal period. It can be addressed by the involvement of consultant radiologist to determine the attitude and position of the foetal head. Intrapartum assessment by a consultant should be done, especially in high-risk cases, like grand multipara and in patients with associated uterine pathology. The policy of doing external cephalic version in primigravida with breech presentation at term must be implemented. Proper blood sugar level control should be employed and the process of stabilised induction should be followed. Workshops should be conducted on a regular basis for external cephalic version and breech deliveries. The institutional policy should be updated according to local protocols.[19]

Patients present to labour ward with complications of hypertension, like severe pre-eclampsia and eclampsia, although initially induced, in many cases operative intervention has to be introduced. Most of patients are un-booked and non-compliant, with no proper antenatal visits. To counteract this issue, proper antenatal assessment, like complete personal, past, medical and family history should be evaluated, blood pressure should be checked by authorised and responsible persons during the antenatal and postpartum periods, counselling should be done regarding eclampsia symptoms, intensive care unit (ICU) monitoring of high-risk patients and multidisciplinary approach should be followed.[20]

Massive abruption is indication for CS if it happens in the early phase of labour. In moderate to mild abruptions, augmentation should be done for progress of labour. In case of massive postpartum haemorrhage, operation theatre should be available at all times, blood transfusion protocol and blood arrangement protocol should be strictly followed, consultant obstetrician, anaesthetist should deal with this emergency, ultrasound at 20-32 weeks in all pregnancies must be done to rule out placenta previa, and risk factors for abruption should be avoided. Timely admission of patient's policy needs to be followed.[21]

The current study showed no imprecision and potential bias. Also, there were no limitations of the study.

Conclusion

With putting extra effort and strictly following the uniform implementation of strategies and policy of proper antenatal assessment, cardiotocographic monitoring, workshops and regular teaching of obstetric skills, consultant involvement in examination and decision-making, external cephalic version, counselling of patients who are afraid of labour pains, not doing induction at poor bishop score and intensive care unit, multidisciplinary management of high-risk cases can make a difference and CS rate for primigravida can be reduced.

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