



PERCEPTION AND ATTITUDES OF PREGNANT WOMEN TOWARDS CAESAREAN SECTION- CROSS-SECTIONAL STUDY

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Abstract:

Introduction: Caesarean section is an operative procedure whereby the foetuses after the end of 28th weeks are delivered through an incision on the abdominal and uterine walls. This excluded an abdominal incision delivery where the foetus lying free in the abdominal cavity following uterine rupture or in secondary abdominal pregnancy. Aim of study: To know perception and attitudes of pregnant women towards caesarean section. The objectives of the study were: To find out the perception of pregnant women towards caesarean section. To assess the attitude of pregnant women towards caesarean section. To determine the correlation between perception and attitudes of pregnant women towards caesarean section. To determine the association between the perception with selected demographic variables of pregnant women. To find out the association between the attitudes with selected demographic variables of pregnant women. Material and Methods: A descriptive cross-sectional study was conducted at Rohilkhand Medical College and Hospital, Bareilly. A sample of 270 pregnant was selected through convenient sampling technique. The data were collected by using five-point Likert scale for attitude assessment and perception checklist regarding cesarean section. Descriptive statistics i.e., frequency, percentage mean, Standard Deviation was used to described. Inferential statistics Chi square test was used to find the association. Karl Pearson Coefficient (r) was used to find out the correlation of attitude and perception of pregnant women towards caesarean section. Results: The study interpreted that the mean and standard deviation of perception of pregnant women towards caesarean section was (9.04 ± 1.30) . And 83 % of the pregnant women have Average perception of caesarean section and 17% of the women have good perception towards caesarean section. In this study the mean and standard deviation of level of attitude of pregnant women towards caesarean section was (68.46 ± 7.01) . And 8% pregnant women have neutral attitude and 92% of pregnant women have positive attitude towards caesarean section. And also, the study reveals that the correlation between level of perception and attitude of pregnant women toward caesarean section was 0.143 and p value was 0.01. It shows that there was positive correlation between level of perception and attitude of pregnant women. In the present study shows that there is significant association of perception levels established with the selected socio- demographic variables except occupation, religion, educational qualification, history of any chronic disease, number of children's, previous history of caesarean section and sources of information about the birth delivery mode. In another analysis the study reveals that there is no significant association established with the selected socio-demographic variables except first degree relative (parents + siblings) experience of caesarean section. Conclusion: The present study is concluded that the assessment of perception and attitude of pregnant women towards caesarean section was found good perception and positive attitude towards caesarean section. The nursing educators can use the results of the study and can enhances the knowledge, perception and attitude of the pregnant women towards caesarean section and pregnant women.

Keywords: caesarean section, Perception, attitude, pregnant women, cross-sectional study

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INTRODUCTION:

Caesarean section is an operative procedure whereby the foetuses after the end of 28th weeks are delivered through an incision on the abdominal and uterine walls. This excluded an abdominal incision delivery where the foetus, lying free in the abdominal cavity following uterine rupture or in secondary abdominal pregnancy. The first operation performed on a patient is referred to as a primary caesarean section. When the operation is performed in subsequent pregnancies, it is called repeat caesarean section. Amidst controversy, it appears that the operation derives its name from the notification 'Lex Caesarea' – a Roman law promulgated in 715 BC which was continued even during caesar's reign. The law provided either performing an abdominal delivery in a dying woman hoping for a live baby or performing post-mortem delivery through abdominal for separate burial. The name of the operation does not derive from the birth of Caesar, as his mother lived long time after his birth. The other explanation is that the word caesarean is derived from the Latin verb "Cedere" which mean "to cut". French obstetricians, Francois Mauriceau, in 1668 reported first caesarean section. Porro, in 1876 performed subtotal hysterectomy. It was Max Sanger in 1882, who first stitch up with a sutured the uterine walls. In 1907, Frank described the extra peritoneal operation. In 1912, Kroning introduced vertical incision through the lower segment and in 1922, De Lee popularized it. Although Kehrer in 1881 did the transverse lower segment operation for first time, Munro Kerr in 1926 not only reintroduced the present technique of lower segment operation but also popularized.¹

The incidence of caesarean delivery has been progressively rising throughout the world. In the last 15 – 20 years, there was two-to-three-fold increase in the caesarean rate from about 10% to 15 – 20%. Exact incidence in India is not known but probably varies from 10 – 20% (up to 40% in some private hospitals).²

This four-fold increase has been the result of: increasing avoidance of mid forceps delivery, avoiding vaginal deliveries in breech presentation, detecting deteriorating foetal environment in utero by monitoring techniques, and a rising trend of resorting to caesarean section for delivery of such compromised babies, unwillingness to take the risk of scar rupture in future, by submitting the patient to vaginal delivery in future.³

Without a medical need, performing a caesarean section can have negative effects on both mothers

and babies. From a survey by WHO in 2008, 373 facilities surveys across 24 countries found that caesareans done unnecessarily were associated with high risk of maternal mortality and dangerous outcomes for mothers and new born babies which compared with spontaneous vaginal delivery.⁴ The strong associations between delivery by caesarean and increased neonatal mortality rate in countries that having low and medium caesarean section rates also highlighted by the recent ecological analyses⁵. Unnecessary caesareans mainly causes to considerable costs for families and the health systems: in 2008, an estimated 6.2 million procedures that were unnecessarily performed which costing US\$2.32 billion approximately.⁶

In the Indian context, 17% of live births, as per the National Family Health Survey (NFHS-4), in the 5 years before the survey were C-section deliveries. Moreover, about 45% of the deliveries through caesarean-section were reportedly getting ready after labour pains started (NFHS-4). In India all the cases of the caesarean section was 8.5% in NFHS-3 while data in NFHS-4 shows an increased rate to 17.2%. Thus, over the 10 years there is almost 9% that has increased.⁷

In Uttar Pradesh, 3.6 lakh babies were delivered in the last 80 days. Usually, the women opted for C-section, but during Covid-19, they have avoided the procedure. In the last 20 days, just one thousand babies out of a total number of 90,000 were born surgically. In January month, there were 4,572 children born and from this total number of January, 1,194 children were born through C-section. In May month, 2,204 babies were delivered, out of that 708 children were born through surgical.⁸

Maternal Mortality Ratio (MMR) of India for the period 2016-18, as per the latest report of the national Sample Registration system (SRS) data is 113/100,000 live births, declining by 17 points, from 130/ 100,000 live births in 2014-16. This translates to 2,500 additional mothers saved annually in 2018 as compared to 2016. Total estimated annual maternal deaths declined from 33800 maternal deaths in 2016 to 26437 deaths in 2018.⁹

Caesarean section (CS) when indicated is a live saving procedure but when performed without appropriate indications can add risk to both mother and baby. Globally there is an ongoing debate on what should be the optimal rates of CS deliveries. As per recently published WHO report, "At

population level, Caesarean section rates higher than 10% are not associated with reductions in maternal and new-born mortality rates". World-wide large disparity is observed in CS rates, highest rates being reported in Latin America and the Caribbean region (40.5), followed by Northern America (32.3), Oceania (31.1), Europe (25), Asia (19.2) and Africa (7.3). In India as per District level household survey 3 (DLHS) CS rate is 28.1% in private sector and 12% in public sector health facilities.¹⁰

Caesarean section is a life-saving surgical intervention for women and their new born though recent overutilization of caesarean section is a global public health concern.^{11,12} The annual rise of caesarean section rates worldwide is 4.4% on average during the period 1990-2014, with Asian countries become the second highest annual increase. during the period.¹¹ In this context, a 10–15% national caesarean rate of global recommendation has been critiqued and a revision urged.¹³ A multi-country survey in 178 WHO member states found that the rate of caesarean sections at the population level should not be more than 19% because of the neonatal and maternal mortality increased level have been reported above this level.¹³ Unnecessarily high caesarean rates¹⁴ had detrimental effects at the individual, family, and national levels in terms of the well-being of the mother, health expenditure, and the efficient use of resources.¹²

There were equal important factors of non-clinical factors and clinical factors when considering the reasons for rapidly increasing caesarean section rates.¹⁵ Some of the non-clinical factors were fear of litigation, and patient's requests to physicians to conduct caesarean sections.¹⁶ Women preferred caesarean birth as they thought that the birth by normal would be a procedure of more painful and more dangerous just without considering the negative results of the un-necessary surgical intervention¹⁷ Educated women and women of higher economic status were likely for self-request for the caesarean section.^{18,19} Conversely, illiterate and lower economic status women with little education who didn't have adequate knowledge about the procedures of the caesarean section.²⁰ which was considered an important obstacle to associate women and their households in the process of decision making in option of delivery mode.¹³ So, the service providers were associated as the individual decision makers on taking decision on delivery mode in low-income settings.^{16,18}

The physicians' decisions were also different based on the place of the clinical practice. The Doctors of public sector advice caesarean indications on the clinical guidelines basis, while concerning more with the litigation issues, the private practitioners were likely to perform more caesarean operations to make more business profits out of this procedure.^{21,22} This might be a reason in increasing the rate of caesarean section in private health facilities for profit. As an example, in Brazil there was 72% caesarean rate in the private institutions and in the government sector it was about 31%.²¹

The institutional delivery rates were different widely between settings ranged from about 21% in the rural area to 90% in urban area in India. The proportion of delivery through C-section in private and charitable facility births was 73% in Bangladesh, with 30% in rural area in Nepal, 18% in urban area and 5% in the rural area in India.²³ In the last decade, it was registered a jump over 300% in C-section deliveries at public hospitals, and 400% in private hospitals in India. According to the Union Ministry of Health and Family Welfare under the Health Management Information System (HMIS) data over 14% of the total births in 2018-19 have been done through a Caesarean section — births around 19 lakhs from a total of 1.3 crore — in the public sector hospitals.²⁴

Objectives

1. To find out the perception of pregnant women towards caesarean section.
2. To assess the attitude of pregnant women towards caesarean section.
3. To determine the correlation between perception and attitudes of pregnant women towards caesarean section.
4. To determine the association between the perception with selected demographic variables of pregnant women
5. To find out the association between the attitudes with selected demographic variables of pregnant women

CONCEPTUAL FRAME WORK:

In this study, modified Health belief model was used as the investigator aimed to assess the perception and attitude of pregnant women towards caesarean section Rohilkhand Medical College and Hospital, Bareilly. The purpose of this model is to explain and predict preventable health behaviours. The Health belief model was spelled out in terms of four construct representing the perceived threat and benefits and perceive barriers.

These concepts were proposed as accounting for people's "readiness to act".

The health belief model determinants of health were based on-

- ✓ Cognitive perceptual factor
- ✓ Modifying factors
- ✓ Assessment
- ✓ Probable outcome

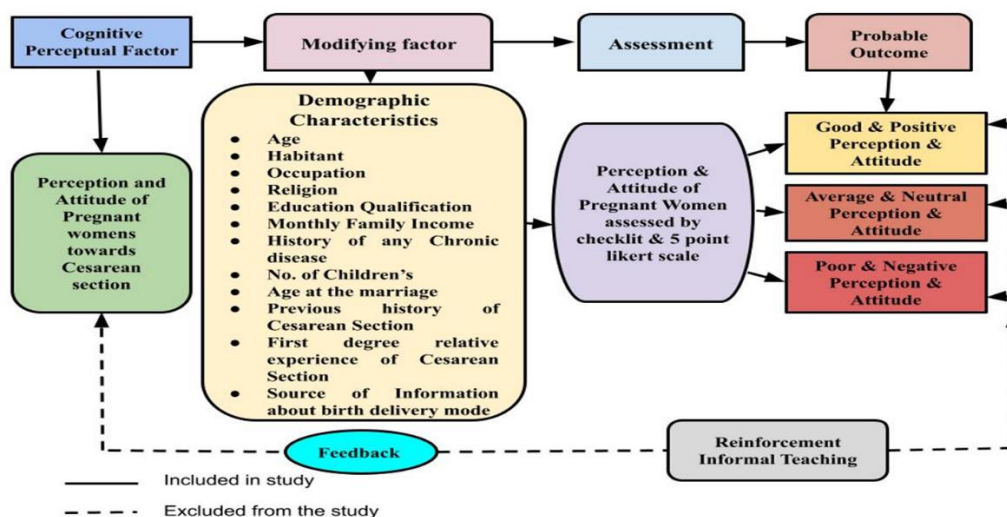


Figure 1: Conceptual Framework Based On Modified Health Belief Model (1950)

MATERIAL AND METHODS:

RESEARCH APPROACH: The present research study was used Quantitative research approach to assess the perceptions and attitudes of pregnant women towards caesarean section.

RESEARCH DESIGN: The research design is the overall plan of how to obtain answer to the question being studied and how to handle some of the difficulties encountered during the research process. The present study used a cross sectional research design to assess the perceptions and attitudes of pregnant women.

RESEARCH SETTING: The study was conducted in Obstetrics and gynecology department of Rohilkhand Medical college and hospital, Bareilly.

STUDY DURATION: The period of the study was one year which was used for the collection of data, evaluation and preservation of findings.

POPULATION: Population is the entire aggregation of pregnant women that carry similar Characteristics and on whom the researcher would generalize the study finding. The population includes the target population and accessible population.

SAMPLE: All the pregnant women under the gestational age of 32 weeks

SAMPLING TECHNIQUE: A convenient sampling technique was used for sample collection.

DESCRIPTION OF RESEARCH TOOLS:

Section- I: structured questionnaire on Demographic variables

This section of the tool consists of items pertaining to demographic variables of pregnant women like age in years, habit, occupation, religion, educational qualification, monthly family income, history of chronic disease, number of children, age at marriage (in years), previous history of caesarean section, first-degree relative (parents and siblings) experience of caesarean section, and sources of information about the birth delivery mode.

Section- II: Tool to assess the – attitude

This section consists of Likert scale for assessing attitude regarding C.S.

Section-III: Tools to assess perception

This section consists of checklist questions for perception regarding C.S.

DATA ANALYSIS:

Data collected were analysed using descriptive and inferential statistics through SPSS version 20. Frequency and percentage were used for analysis of demographic data. Karl Pearson Coefficient (r) was used to determine the correlation between perception and attitudes of pregnant women

towards caesarean section. Chi-square was used to find out the association between association between the perception with selected demographic variables of pregnant women and the association between the attitudes with selected demographic variables of pregnant women used at the significance level of 0.05.

RESULT:

SECTION A: DESCRIPTION OF THE DEMOGRAPHIC PERFORMA

Table No.1 – Description of sample characteristics in terms of frequency and percentage(n=270)

DEMOGRAPHIC VARIABLE		Frequency(f)	Percentage (%)
Age in Years	Below 20	14	5
	21-30	196	73
	31-40	52	19
	Above 40	8	3
Habitant	Urban	110	41
	Rural	160	59
Occupation	Service	47	17
	Labourer	0	0
	Business	5	2
	Student	2	1
	Housewife	216	80
Religion	Hindu	184	68
	Muslim	59	22
	Christian	23	8
	Others	4	2
Educational Qualification	Primary	25	9
	Secondary	118	44
	Higher Secondary	86	32
	Graduate	37	14
	Post-graduate	4	1
	Others	0	0
Monthly Family Income	Upto Rs. 20,000	100	37
	Rs. 20,001-Rs.30,000	129	48
	Rs. 30,001- Rs40,000	38	14
	Above Rs. 40,000	3	1
History of any chronic disease	Yes	1	0.4
	No	269	99.6
Number of children’s	No	38	14
	Single	148	55
	Multiple	84	31
Age at the marriage (in years)	18-21	58	22
	22-25	149	55
	Above 25	63	23
Previous history of cesarean section	Yes	15	6
	No	255	94
First degree relative (parents + siblings) experience of cesarean	Yes	136	50
	No	134	50
Sources of information about the birth delivery mode	Obstetrician or midwife	3	1
	Internet	16	6
	Husband or partner	83	31
	Television	28	10
	Parents or relatives	65	24
	Social media	25	9
	Friends	48	18
	Newspapers/magazines/books/journals	2	1
	Through a course	0	0
Others	0	0	

SECTION B: DISTRIBUTION OF LEVEL OF PERCEPTION OF PREGNANT WOMEN TOWARDS CAESAREAN SECTION

Table No.2:Frequency and percentage distribution, Mean \pm SD of level of perception of pregnant women towards caesarean section:

Level of perception	Score range	Mean \pm SD	Frequency	Percentage
Poor	0-5		0	0
Average	6-10	9.04 \pm 1.30	225	83
Good	11-15		45	17

SECTION C: DISTRIBUTION OF LEVEL OF ATTITUDE OF PREGNANT WOMEN TOWARDS CAESAREAN SECTION

Table No. 3:Frequency and percentage distribution, Mean \pm SD of level of attitude of pregnant women towards caesarean section:

Level of attitude	Score range	Mean \pm SD	Frequency	Percentage
Negative	20-40		0	0
Neutral	41-60	68.46 \pm 7.01	21	8
Positive	61-100		249	92

SECTION D: CORRELATION AMONG THE LEVEL OF PERCEPTION AND ATTITUDE OF PREGNANT WOMEN TOWARDS CAESAREAN SECTION

The correlation between level of perception and attitude of pregnant women towards caesarean section was 0.143 and p value was 0.01. It shows that there was positive correlation between level of perception and attitude of pregnant women.

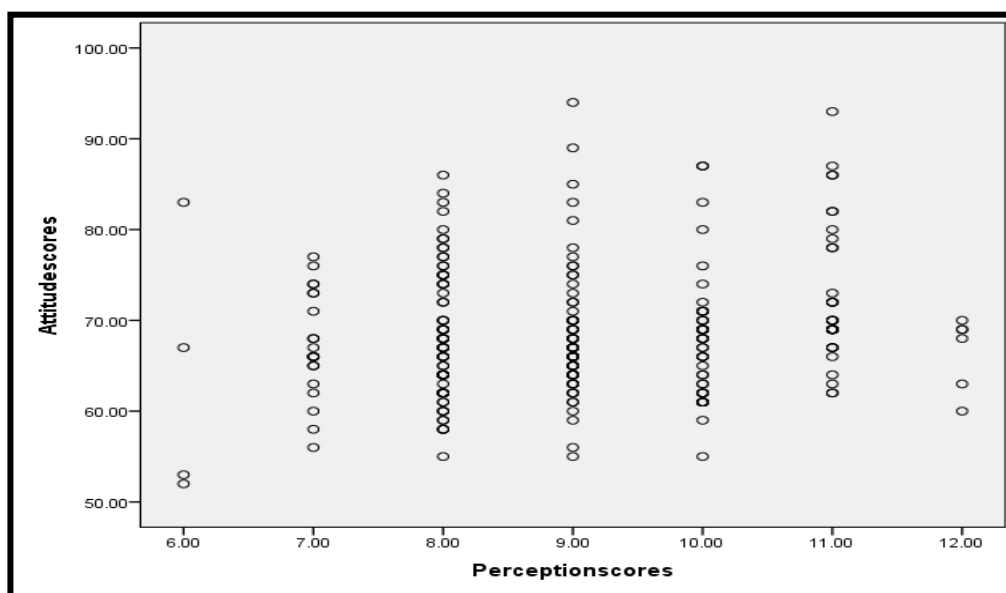


Figure 2. Scatter diagram showing correlation between perception and attitude.

SECTION E: ASSOCIATION OF DEMOGRAPHIC CHARACTERISTICS WITH PERCEPTION AND ATTITUDE SCORE

Association of demographic characteristics with perception scores:

The analysis revealed that there is significant association established with the selected socio-demographic variables except occupation, religion, educational qualification, history of any chronic disease, number of children's, previous history of caesarean section & sources of information about the birth delivery mode.

Association of demographic characteristics with attitude scores:

The analysis revealed that there is no significant association established with the selected socio-demographic variables except First degree relative (parents + siblings) experience of caesarean.

DISCUSSION:

In this study majority of the participants i.e., 73 % were belongs to 21-30 years age group, 19 % of the participants were belongs to 31-40 years, 5% below 20 and remaining 3 % were belongs to age group above 40 years. Whereas 59% of the

participants were belongs to rural area and remaining 41 % were belongs to urban area. The majority of the participants i.e. 80 % were housewife, 17 % were in service, 2 % in business and remaining 1 % were students. Around 68 % of the participants were Hindu, 22 % were Muslim, 8 % were Christian and rest of the participants i.e., 2 % were belongs to others religion. The majority of the participants i.e., 44 % were having secondary education, 32 % of the participants were having higher secondary, 14 % of them were graduate, 9 % were having primary education and remaining 1 % were also having post-graduate education. Sum 48 % of the participants monthly family income was having more than Rs. 20,001-Rs. 30,000, 37 % were having up to Rs. 20,000 and 14 % of them were having Rs. 30,001- Rs. 40,000 and remaining 1% above Rs. 40,000. Among them 99.6% the participants were not having history of any chronic disease, only 0.4% of the participants were having history of any chronic disease. 55 % of the participants were having single children, 31 % were having multiple children's and 14 % of the participants were not having children. Around 55% of the participant's age at the marriage were 22-25 years, 23 % were above 25 years and remaining 22 % were above 18-21 years. In this study 94 % of the participants were not having any previous history of caesarean section, only 6 % of the participants were having any previous history of caesarean section whereas it showed that equal i.e. 50 % of the participants were first degree relative (parents + siblings) experience of caesarean. Around 31 % of the participants were getting information from husband or partner, 24 % were getting from parents or relatives, 18 % of the participants were getting information from friends and 10 % from television, 6 % from internet, 9 % from social media and 1 % of each participant were getting information from newspaper /magazines /books/journals and obstetrician or midwife.

Present study interpreted that the mean and standard deviation of perception of pregnant women towards caesarean section was (9.04 ± 1.30) . And 83 % of the pregnant women have Average perception of caesarean section and 17% of the women have good perception towards caesarean section.

In this study the mean and standard deviation of level of attitude of pregnant women towards caesarean section was (68.46 ± 7.01) . And 8% pregnant women have neutral attitude and 92% of pregnant women have positive attitude towards caesarean section.

The present study reveals that the correlation between level of perception and attitude of

pregnant women toward caesarean section was 0.143 and p value was 0.01. It shaws that there was positive correlation between level of perception and attitude of pregnant women.

Findings of the present study in similar with study conducted **Naa Gandau BB et.al (2019)** a cross – sectional study involving pregnant women attending antenatal clinics was conducted at two hospitals in the upper west region, most of the women (87.4%; n = 348) preferred spontaneous vaginal delivery to caesarean. Most of the respondents (73%) indicated their willingness to have a caesarean if necessary. Among the women interviewed, almost half of them (45.1%, n = 180) did not know or feel that caesarean section can promote child survival. Majority of the women in this study had a positive attitude towards the uptake of caesarean section if it becomes necessary.²⁵

In the present study shows that there is significant association of perception levels established with the selected socio-demographic variables except occupation, religion, educational qualification, history of any chronic disease, number of children's, previous history of caesarean section and sources of information about the birth delivery mode. In another analysis the study reveals that there is no significant association established with the selected socio-demographic variables except first degree relative (parents + siblings) experience of caesarean section.

Findings of the present study in similar with study conducted **Oinam J, Shantibala K, Singh YN (2016)** a cross sectional study was conducted in Kakwa, an urban area of Imphal west district of Manipur. To summarize quantitative variables, mean (SD) and percentages were used. The value of $P < 0.005$ was taken as statistically significant. Majority of respondents among the 300 women were in the age group of 30 to 35 years. 29.4 ± 4.9 years was the mean age. There was neutral attitude towards caesarean section by majority of the respondents about 78%. There were only 6.7% and 15.3% women that have favourable and unfavourable attitude towards caesarean section respectively. The knowledge level was statistically higher among the age group of 30 to 35 years of age who studied graduate and above, higher socio-economic status and those who ever had caesarean section.²⁶

RECOMMENDATIONS FOR FUTURE RESEARCH AND SUGGESTION

Based on the findings of the study the following recommendations have been recommended for further research:

- ✓ An experimental study can be conducted to aware the mothers about short-term and long-term effects of caesarean section on the health of women and children.
- ✓ A survey can be done in India to find out the complications of Post caesarean section.
- ✓ A study can be conducted in India on the impact of caesarean section on mother and child.
- ✓ The study can be done based on the awareness of risk of future pregnancies after caesarean section.
- ✓ A study can be conducted on the awareness on risk of future caesarean section surgeries after a caesarean section delivery.
- ✓ A study can be conducted in India on the psychoeducation for women with fear of childbirth.
- ✓ A study can be conducted in India on Psychosocial couple-base prevention programme.

CONCLUSION

The present study concludes that the assessment of perception and attitude of pregnant women towards caesarean section revealed good perception and a positive attitude towards the procedure. And after the data collection, informal education regarding caesarean sections was given to the pregnant women. The nursing educators can use the results of the study to enhance the knowledge, perception, and attitude of the pregnant women towards caesarean sections, and pregnant women can utilize the information to make their own decisions regarding the mode of delivery. The result of the study will inspire future researchers and explorers to do some research such as study about the short- and long-term effects of caesarean sections on the health of women and children and a survey can be done in India to find out the complications of post-caesarean sections. The study can be done based on the awareness of the risk of future pregnancies after a caesarean section. So that we can avoid the higher caesarean section rate.

REFERENCES:

1. Dutta DC. Textbook of obstetrics. Edited by Hiralal Konar, 7th edition, Jaypee Brothers Medical publishers (P) Ltd., Delhi.2018:669
2. Dr. Sharma JB. Textbook of Obstetrics. First Edition; 2014.Avichal Publishing company:648
3. Cavallaro FL, Cresswell JA, França GVA et al. Trends in caesarean delivery by country and wealth quintile: cross-sectional surveys in

- southern Asia and sub-Saharan Africa. *Bull World Health Organ* 2013; 91:914–22D. 10.2471/BLT.13.117598
4. Souza JP, Gülmezoglu A, Lumbiganon P et.al. WHO Global Survey on Maternal and Perinatal Health Research Group. Caesarean section without medical indications is associated with an increased risk of adverse short-term maternal outcomes: the 2004–2008 WHO Global Survey on Maternal and Perinatal Health. *BMC Med* 2010; 8:71 10.1186/1741-7015-8-71
5. Kyu HH, Shannon HS, Georgiades K et. Al Caesarean delivery and neonatal mortality rates in 46 low- and middle-income countries: a propensity score matching and meta-analysis of demographic health survey data. *Int J Epidemiol* 2013; 42:781–91. 10.1093/ije/dyt081
6. Gibbons L, Belizán JM, Lauer JA et al. *The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage*. World Health Report, Background paper Geneva: World Health Organization, 2010.
7. Roy N, Mishra PK, Mishra VK, Chattu VK, Varandani S, Batham SK. Changing scenario of C-section delivery in India: Understanding the maternal health concern and its associated predictors. *Journal of Family Medicine and Primary Care*. 2021 Nov;10(11):4182.
8. Amit Chaturvedi, Covid-19 impacts C-section deliveries, most states register a drop: Report, *Hindustan times*, Jun 14, 2020
9. Maternal health [Internet]. 2022[Cited 2022 November 2022] Available from: <https://www.unicef.org/india/what-we-do/maternal-health>
10. Singh P, Hashmi G, Swain PK. High prevalence of caesarean section births in private sector health facilities-analysis of district level household survey-4 (DLHS-4) of India. *BMC public health*. 2018 Dec;18(1):1-0.
11. Betrán AP, Ye J, Moller AB, Zhang J, Gülmezoglu AM, Torloni MR. The increasing trend in caesarean section rates: global, regional and national estimates: 1990-2014. *PloS one*. 2016;11(2).
12. Molina G, Weiser TG, Lipsitz SR, Esquivel MM, Uribe-Leitz T, Azad T, Shah N, Semrau K, Berry WR, Gawande AA, Haynes AB. Relationship between cesarean delivery rate

- and maternal and neonatal mortality. *Jama*. 2015.1;314(21):2263-70.
13. World Health Organization. Caesarean sections should only be performed when medically necessary. News Release. 2015;10.
 14. Gibbons L, Belizán JM, Lauer JA, Betrán AP, Meriáldi M, Althabe F. The global numbers and costs of additionally needed and unnecessary caesarean sections performed per year: overuse as a barrier to universal coverage. *World health report*. 2010. 1;30(1):1-31.
 15. Lo JC. Patients' attitudes vs. physicians' determination: implications for cesarean sections. *Social Science & Medicine*. 2003. 1;57(1):91-6.
 16. Yazdizadeh B, Nedjat S, Mohammad K, Rashidian A, Changizi N, Majdzadeh R. Cesarean section rate in Iran, multidimensional approaches for behavioral change of providers: a qualitative study. *BMC health services research*. 2011. ;11(1):159.
 17. Ajeet S, Jaydeep N, Nandkishore K, Nisha R. Women's knowledge, perceptions, and potential demand towards caesarean section. *National Journal of Community Medicine*. 2011;2(2):244-8.
 18. Anwar I, Nababan HY, Mostari S, Rahman A, Khan JA. Trends and inequities in use of maternal health care services in Bangladesh, 1991-2011. *PloS one*. 2015;10(3).
 19. Feng XL, Xu L, Guo Y, Ronsmans C. Factors influencing rising caesarean section rates in China between 1988 and 2008. *Bulletin of the World Health Organization*. 2012; 90:30-9A.
 20. Stanton C, Ronsmans C. Caesarean birth as a component of surgical services in low-and middle-income countries. *Bulletin of the World Health Organization*. 2008;86(12): A.
 21. Aminu M, Utz B, Halim A, Van Den Broek N. Reasons for performing a caesarean section in public hospitals in rural Bangladesh. *BMC pregnancy and childbirth*. 2014. 1;14(1):130.
 22. Einarsdottir K, Kemp A, Haggard FA, Moorin RE, Gunnell AS, Preen DB, Stanley FJ, Holman CA. Increase in caesarean deliveries after the Australian private health insurance incentive policy reforms. *PloS one*. 2012;7(7).
 23. Neuman M, Alcock G, Azad K, Kuddus A, Osrin D, More NS, Nair N, Tripathy P, Sikorski C, Saville N, Sen A. Prevalence and determinants of caesarean section in private and public health facilities in underserved South Asian communities: cross-sectional analysis of data from Bangladesh, India and Nepal. *BMJ open*. 2014. 1;4(12): e005982.
 24. Caesarean deliveries have become an 'epidemic' in India — record 300% jump in last decade. The print [newspaper on the Internet].2019 Dec 13[cited 2019 Dec 13]; para.5-6. Available from: <https://theprint.in/health/caesarean-deliveries-have-become-an-epidemic-in-india-record-300-jump-in-last-decade/334291/>
 25. Naa Gandau BB, Nuertey BD, Seneadza NA, Akaateba D, Azusong E, Yirifere JY, Kankpeyeng HB, Tette E. Maternal perceptions about caesarean section deliveries and their role in reducing perinatal and neonatal mortality in the Upper West Region of Ghana; a cross-sectional study. *BMC pregnancy and childbirth*. 2019 Dec;19(1):1-4.
 26. Oinam J, Shantibala K, Singh YN. Women's knowledge and attitude towards caesarean section in Imphal west district, Manipur. *The Journal of Community Health Management*. 2016 Oct;3(4):194-8.