



International Journal of Innovative Pharmaceutical Sciences and Research

www.ijiprsr.com

FACTORS INFLUENCING WOMEN'S CHOICE OF MODE OF DELIVERY IN RURAL AREAS OF NANDYAL

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Abstract

Raised concerns over the raising caesarean rates. This was a hospital based prospective cross sectional study to identify factors that are influencing woman's choice of mode of delivery that is either caesarian delivery or vaginal delivery. Pregnant womens, who are attending antenatal checkups in our hospital, were interviewed with a structured questionnaire form, and data was analyzed. 76 responses were analyzed, wherein, 52 women preferred vaginal delivery and 24 women preferred caesarian delivery. The characteristics of women, those who choose caesarian delivery were compared with the women those who choosed vaginal delivery. Age, religion, occupation, and economic status had not influenced a women's choice of mode of delivery. Factors that are strongly included is educational status, wherein, more educated women were liked to prefer caesarian delivery. Contrast to gravida, para, number of miscarriages or living children had not influenced the mode of delivery. 85% of women, who had previous caesarian delivery, preferred caesarian delivery for this delivery as they were not aware of the option for trial of labour after caesarian. The caesarian rates in private hospitals are partly driven by caesarian delivery on maternal request. Counselling the pregnant women regarding the benefits and the producre of normal vaginal delivery, as well as the risks that are associated with unnecessary caesarian delivery these can influence the patient's decision-making and can decrease caesarian delivery rates.

Keywords: caesarian delivery, vaginal delivery, mode of delivery, preference.

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INTRODUCTION

Cesarean delivery when indicated in necessary is a live saving procedure but when performed in inappropriate indications can add risk to both mother and baby [1]. There is an ongoing debate globally on the optimal rates of caesarean deliveries [2–5]. As per the recent report of WHO, “At population level, caesarean section rates higher than 10% are not associated with reductions in maternal and newborn mortality rates.” [1]. World-wide there is a large disparity in CS rates, highest rates are 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) [6]. In India as per the survey of District level household survey 3 (DLHS) CS rate is 28.1% in private sector followed by 12% in public sector health facilities [7]. This survey shows the raise in Caesarean deliveries in India, especially in private sector health facilities. DLHS 4 reports also shown similar results in various states though out the country but reports are not currently available [8].

Increase in CD rate has been attributed to unnecessary nonevidence-based indications, convenience of professionals, on the maternal request and monetary considerations [9]. Over the years there is a shift in the women’s attitude towards childbirth and the mode of delivery. Instead of having a positive attitude towards the vaginal delivery (VD), many more women are opting for unhealthy trends by ‘Caesarian Delivery on Maternal Request’ (CDMR).

Efforts of the world medical community are to decline the CD rates will be useless, it can be achieved unless we can influence the decision of women regarding their mode of delivery. Childbirth is the most important life event, and many factors like social and psychological factors plays an important role in the decision-making process, for example, influence of family members, her own expectations, her previous delivery, her knowledge towards the potential complications, etc.

The aim of this study was to identify the factors that are influencing the preference of women for mode of delivery. This knowledge will help us to understand the factors that are influencing decision-making process and modify them to bring about a paradigm shift in overall CD rate.

MATERIALS AND METHODS

A prospective systematic cross sectional hospital based study was performed with a structured questionnaire which is used to collect the information from pregnant women; those who are attending to antenatal checkups in a tertiary care teaching hospital. A convenient sampling strategy was used to enrol the participants. The participants who are signed in patient consent

form and who are willing to join the study are included. Apart from socio demographic data the questionnaire also contain the preference and factors responsible for the mode of delivery. Previous studies that discussed influencing factors and attitudes towards the vaginal delivery and caesarian delivery formed the basics for the present questionnaire [10-12].

Statistical Analysis:

The data was divided in to two groups. Women who choose caesarian delivery as preferred mode of delivery were considered as caesarian delivery group. These caesarian delivery group characteristics were compared with vaginal delivery group. Chi-square and descriptive statistics are used to identify and compare the demographic details and factors that influencing the two preference groups. The significance level was set as 0.05

RESULTS

A total of 100 women was signed in consent form to take part in the study out of them 18 women choose both modes of delivery, that is, either caesarian delivery or vaginal delivery was 'OK' for them. This group of women was counselled and motivated them for vaginal delivery. However, this group of women were excluded from the study. 6 returned questionnaires were in complete. So they are excluded from the study. 76 valid questionnaires are analyzed in the study. 52 out of 76 women preferred vaginal delivery, and 24 women choose caesarian delivery as they preferred caesarian delivery mode of delivery

The demographic details of the women participated in the study was shown in Table 1. This table represents that the age, religion, address, occupation and monthly income of our study participants was not associated with choice of vaginal delivery and caesarian delivery. Educational status of the women played a significant role in their choice of vaginal delivery and caesarian delivery Table 2 shows the obstetrics score of the study population and it was not a significant parameter The experience from previous child birth is a significant contributor to the participants preferring, there were 12 primigravidae and 8 nulliparas with previous abortions, and hence data from 52 multigravidae was analyzed from vaginal delivery group. The group preferring caesarian delivery there were 3 primigravidae and 2 nulliparas with previous abortions; hence data from 19 multigravidae was analyzed from the vaginal delivery group.

Table 4 shows factors associated in influencing the current pregnancy of women's choice of vaginal delivery or caesarian delivery. Women who had chosed caesarian delivery were more

likely attended the regular antenatal checkups (ANC), compared to women who had chosen vaginal delivery.

Table 1: Demographic Data

Characteristics	Grouping	VD (n = 52)	CD (n = 24)
Age	18 – 25	40 (77%)	19 (79%)
	25	12 (23%)	5(21%)
Religion	Hindu	42 (80%)	18 (75%)
	Muslim	8(16%)	6 (25%)
	Others	2 (4%)	0
Address	Urban	14(27%)	8(33%)
	Rural	38 (73%)	16(67%)
Occupation	Homemaker	36(69%)	15(63%)
	Farmer	4 (7%)	3 (13%)
	Laborer	6 (11%)	1 (4%)
	Shop / Office	1 (3%)	1 (4%)
	Student	1 (3%)	3 (12%)
	Others	4 (7%)	1 (4%)
Monthly Income (in Rupees per month)	Less Than 5000	9 (17%)	3(13%)
	5000-10000	30 (57%)	12 (50%)
	10001-50000	12 (23%)	6 (25%)
	>50001	1(3%)	2 (8%)
Education	Nil	5 (9%)	1(4%)
	School	12 (23%)	10 (42%)
	High School	32 (61%)	10(42%)
	Graduate	2(4%)	2 (8%)
	Post Graduate	1 (3%)	1 (4%)

Table 2: Obstetric Score

Characteristics	Grouping	VD (n = 52)	CD (n = 24)
Gravida	1	14 (27%)	4 (19%)
	2	22 (42%)	13 (54%)
	3	10 (19%)	4 (19%)
	4	4(8%)	2 (7%)
	5	1 (2%)	0
	6	1 (2%)	1 (1%)
Para	0	12 (24%)	7 (29%)
	1	26 (50%)	14(58%)
	2	8 (15%)	3(13%)
	3	4 (7%)	0
	4	2 (4%)	0
Living	0	14(27%)	8 (34%)
	1	28 (54%)	14(58%)
	2	7 (13%)	2(8%)
	3	3 (6%)	0
Miscarriages	0	34(65%)	17(72%)
	1	13(25%)	3(12%)
	2	3(8%)	2(8%)
	3	1(2%)	1(4%)
	4	1(2%)	1(4%)

DOI: 10.21276/IJIPSR.2020.08.01.860

Table 3: Past obstetric history

Characteristics	Grouping	VD (n = 38)	CD (n = 20)
Previous delivery	Previous VD	32(84%)	7 (35%)
	Previous CD	6(16%)	13 (65%)
Place of delivery	Home	4(10%)	0
	PHC*	8 (21%)	0
	Government	15 (40%)	6 (30%)
			VD: 1
			Elective CD: 2
			Emergency CD: 3
	Private Hosp	11 (29%)	14 (70%)
			VD: 1
		Elective CD: 8	
		Emergency CD: 5	
Postpartum Hemorrhage	Yes	1 (3%)	1 (5%)
	No	37 (97%)	19(95%)
Received Blood Transfusion	Yes	3(8%)	3 (15%)
	No	35(92%)	17 (85%)
NICU Admission	Yes	6(15%)	4(20%)
	No	32(85%)	16(80%)
Hyperbilirubinemia	Yes	8(21%)	4 (20%)
	No	30 (79%)	16 (80%)
Preterm / SGA	Yes	10(11%)	2 (10%)
	No	28(89%)	18 (90%)
Neonatal death or disability	Yes	7 (4%)	0
	No	31(96%)	20 (100%)

* Primary Health Centre

Table 4: Current pregnancy

Characteristics	Grouping	VD (n =58)	CD (n = 24)
Conceived	Spontaneously	54(93%)	22(91%)
	After infertility treatment	4 (7%) Primary: 2 Secondary: 4	2 (9%) Primary: 0 Secondary: 2
Regular ANC checkup	Attending	50 (86%)	21(96%)
	Not attending	8 (14%)	3 (4%)
Main source of information about VD	Nil	4	1
	Friends	8	4
	Family	40	16
	Books/TV	1	0
	Nurse/ Doctor	5	3
Main source of information about CD	Nil	1	1
	Friends	3	1
	Family	11	4
	Books/TV	1	0
	Nurse/ Doctor	42	18

DISCUSSION

Factors Influencing Mode of Delivery:

Age:

78% (n =59) of our study population was belonged to the age group of 18-25 years. The elders, as well as, the young women's had not shown any specific preference for the mode of delivery. Similar finding were reported by Ajeet et al from Nagpur [12]. Karna found that women at the age ≥ 25 years had significantly increased CD rates compared to women at younger ages [13]. Yilmaz et al. also reported that women > 30 years, preferred caesarean mode of delivery [14]. Kamal from Bangladesh also reported that women aged between 19-34 years were more likely to undergo caesarean delivery compared to younger women [15]. However, Kathrin Stoll et al studied the fear of childbirth amongst university students and concluded that young adults preferred CD over the vaginal births [16].

Religion:

Our study had 79% (n =60) Hindu women, and 18 % (n = 14) Muslim women. Religious background of the women's had not shown any effect on their choice of mode of delivery. Sarker et al explored various religious views of pregnant women in Bangladesh and concluded that village people had belief in religious restrictions and strict rules of following Islamic principle of purdah, hence, preferred home delivery by the trained birth attendants⁽¹⁷⁾. The preference of institutional delivery was higher in non-Muslim women and that non-Muslim women were more likely to undergo caesarean delivery [15].

Address (Rural or Urban) & Economic Background:

71% (n =54) women had rural background with 71% (n =54) earning less than Rs 10000/- per month. Urban and rural background had not shown any significant difference in the preference for VD or CD. The economic status of our population had not affected their preference for VD or CD. Varghese et al from Punjab, and Poojan Dogra from Himachal Pradesh, India, also reported similar findings [11,17].

Educational Status:

The educational status of the women had showed an important significant difference, less educated women preferred VD, and more educated women preferred CD as their mode of delivery. The less educated women were influenced by senior ladies opinion in the family, who would have already experienced VD. The preference of CD by 'more educated' women is due to

their 'independent thinking'. These women would benefit by detailed counselling about the risks and benefits of CD and VD, so that they could make a beneficial choice. Illiterate pregnant women constituted 8% (n = 6) of our study population, and most (n = 5) preferred VD. Only one multipara woman preferred CD, because she had previous caesarean delivery. Varghese et al stated that illiterate pregnant women constituted only 4% of their hospital-based study population, and they stated that in India, traditional views in illiterate societies preferred to have deliveries by traditional birth attendants on the grounds of privacy [11]. Ajeet et al stated that no difference in education status between women who preferred caesarean, versus women who preferred VD [12].

Obstetric Score:

Primigravidas constituted 24% (n = 18) of our study group. Primigravida or multigravida had not differed in their choice of mode of delivery. 76% (n =58) of our study population were multigravidas with one or more living children and 33% (n =25) of our respondents had one or more miscarriages. The number of previous living children or miscarriages did not influence their choice of mode of delivery.

Amongst the multigravidas in our study, only 5% (n =4) women's are with no living issues. 3 of these women opted for VD and only 1 opted for CD as their preference for mode of delivery. The reasons for the women opting CD woman was gravida 4, para 1, with 2 miscarriages with oligohydramnios and previous caesarean delivery and she had been advised CD for the current delivery.

5% (n =4) of primigravidae chose CD as their preferred mode of delivery because of reasons like primarily due to the fear of labour pains, fear of vaginal examination and injury to vagina. This group can be benefitted by counselling and discussion of pain management during labour. 3 of these women stated that their choice for CD was partly influenced by family influence. Counselling by medical professional regarding drawbacks of CD comparing to VD will help to change their mind towards the choice of mode of delivery. Ajeet et al from Nagpur in 2010 , reported that 91.5% of their study population preferred vaginal mode of delivery. They stated that such findings provides strong evidence that patient's preference is unlikely be the most significant factor driving in increase of CS rate [11]. In their study 70% (n = 186) women preferred VD and 30% preferred CD. Similar reports were given by Varghese et al from CMC, Ludhiana, Punjab in 2016 [10]. These results may represent a changing in trend towards patient preference for CS

Past Obstetric History:

When deciding their mode of delivery, all parous women are mostly influenced by their past experience of pregnancy and child birth. The mode of previous delivery, VD or CD, was an important factor influencing the women's preferences. In our study, 65 % of women who had previous CD, preferred CD for this delivery, and 84 % of those having previous VD had preferred same method of delivery. Similar reports have also been given by Yilmaz, Varghese and Ajeet [11,12,14].

Women with previous CD should be counselled and motivated to give trial of labour after caesarian (TOLAC) .Many of these women are not aware of the option of TOLAC, and unfortunately many of the private practitioners do not offer these services. TOLAC resulted in 80% of successful vaginal births. Counselling by their concerned doctor can influence her to undergo TOLAC and successful VD.

12% (n = 7) women, in our study population with previous vaginal delivery opted for CD as their preferred mode of delivery. Almost all of them stated that they were afraid of labour pains and had not received any form of pain relief during their previous VD. Five of these women had delivered in government hospitals, whereas, one woman had delivered in a private hospital. Counselling regarding availability of epidural pain killers in hospitals will motivate them to opt for vaginal mode of delivery. Labour pains was a major factor for preferring CD over VD in many studies [10,12,15,17,18] . But in one study by Varghese et al stated that women disagreed with the opinion that CD is preferred due to unpleasant pain of vaginal delivery [11].

Women who had previously delivered by CD but now desired VD, constituted 10% (n =6) of our study population⁽¹²⁾. Of these women expected a faster recovery by vaginal delivery and felt they could take better care of the baby. These views need to be included in counselling for every antenatal woman, and hopefully more women will opt for TOLAC.

Place of Delivery

17% (n = 5) of the 29 patients delivering in PHCs or government hospitals underwent CD. Whereas, 56% (n =14) of the 25 patients delivering in private hospitals underwent CD. A high rate of caesarean deliveries in private hospitals has become the norm with the reporting of Telangana 10% in public and 42.3% CD rates in private health facilities [13]. Another Indian study stated that CD rates more than three times in private hospitals compared to public hospitals and recommend for examination of incentive structures of private hospitals to identify strategies to rationalize CD rates [19-21].

The high caesarean rates in private hospitals are partly influenced by caesarean delivery on maternal request (CDMR) due to families requesting delivery at an auspicious time. CDMR is defined as a primary pre labour CD on maternal request, in the absence of any maternal factors or a fetal indication, which is an unhealthy growing trend in the medical practice.

Factors Associated with Current Pregnancy

Yilmaz and Varghese stated that more number of women choose CD after an infertility treatment [11,14]. 7% (n = 6) of our study participants had conceived through infertility treatment. 4 patients opted for VD and 2 for CD, there is no significant statistical difference. A significant difference was seen between the two groups of women attending regular antenatal checkups (ANC). 96% (n = 21) of women choosing CD often attended ANC than women opting for VD. For women who underwent CD is due to awareness regarding the importance of ANC and institutional delivery could account for this difference. Those women's who are not on regular antenatal checkups are not aware of the importance of ANC and institutional delivery.

Ajeet et al and Deber et al observed that most women who are unable to take decisions are accepting the decision of their attending doctor regarding the mode of delivery [12,22]. The nurses and doctors should take more time in counselling their patients about VD.

CONCLUSIONS

The most disturbing trend in India is rising of caesarean rates and it is drastically increasing by intense fear of labour pains, caesarean delivery on maternal request, previous obstetrics experiences. The results of this current study provide a better understanding towards the factors that are influencing the women's choice of mode of delivery among childbearing women. This study also encourages the health professionals to actively participate in counsel the patients and their spouses about the benefits and the process of normal vaginal delivery by comparing with disadvantages of caesarean delivery

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