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## Original Research Article

# Factors influencing the reproductive health of women in rural areas of Ujjain, Madhya Pradesh

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## ABSTRACT

**Background:** A woman's health is an integral part of any country. There are numerous factors that influence a woman's decision of her reproductive health. A better understanding of these factors could help address gaps and barriers influencing the reproductive health choices of women in rural areas.

**Methods:** A community based cross-sectional study was carried out among women of ages 18-45 years in rural areas of Ujjain, Madhya Pradesh to study factors influencing the reproductive health choices of women in rural areas of Ujjain. 300 women were asked comprehensively about their reproductive health via a semi structured questionnaire which comprised of domains from their menarche history to their menopausal history. Data was analyzed and chi square test was used to find factors influencing the reproductive health choices of women.

**Results:** The median age of the participants was 30.8 years (IQR: 25, 36). Around 61% of the participants were aware of the family planning methods but only 29% of the participants used modern contraceptive methods. Age, educational background of participants, employment, partner education were all factors significantly ( $p < 0.05$ ) associated with the reproductive health choices of women.

**Conclusions:** The reproductive health of women was shown to be significantly associated with her education, her employment status, her age, and her partner's education. Therefore, it is important to raise awareness among women, their partners and, the family members about importance of the reproductive health of a woman.

**Keywords:** Antenatal care, Female sterilization, Modern contraceptive methods, Post-natal care, Reproductive health

## INTRODUCTION

Every day, approximately 830 women die from preventable causes related to pregnancy and child birth<sup>1</sup> Maternal death tops the deaths in the developing countries and is high among women living in the poor communities of the rural areas.<sup>1</sup>

Women who undergo their first pregnancy around the age of 18-21 years contribute to a higher percentage of these deaths. Majority of them die due to the complications resulting during/following pregnancy and child birth. Most of these diseases are preventable and treatable but

the lack of income, distance from the health care facility, lack of awareness, and the cultural practices women are not receiving and seeking care.

Many of these health care facilities near the villages are either underequipped or lack skilled workers.<sup>1</sup> In 2015, births in the richest 20 per cent of households were more than twice as likely to be attended by skilled health personnel as those in the poorest 20 per cent of households.<sup>1</sup> Women do not receive or do not attain full antenatal care visits.<sup>1</sup> Maternal Mortality is higher in rural areas and among poorer and less educated communities in developing countries like India. Home deliveries by

midwives is a cultural norm in rural areas of India since it's a common belief that it's a natural phenomenon and it does not require medical attention and should be conducted at home.

However, it is not just the cultural belief but poverty, illiteracy, and ignorance regarding the complications of delivery that contribute to a lot of women in India delivering at home.<sup>2</sup>

Additionally, women in rural areas of India do not access antenatal care services because of the socio-economic and health factors. In India, according to National Family Health Survey (NFHS) 4, more than three-quarters of pregnant women received at least some antenatal care, but only half of the women had received at least three ANC visits as prescribed mandatory by the government norms of ANC in India.<sup>3</sup>

Similarly, in Ujjain, literacy rate among woman accounts for 58.6% and woman with 10 more years of schooling is just about 20.7%.

Mothers who have had complete antenatal checkups account for just 40.5%. Only 19.1% consumed folic acid for 100 days or more during pregnancy and 56.1% are receiving complete postnatal care. Female sterilization in Ujjain is 26.1% whereas male sterilization is 0.2%.<sup>4</sup>

As for District Level Household Survey 3 (DLHS3) majority (38.3%) of the women do not go to health institutions for delivery reporting that they do not have time to go or do not find it necessary to go due to the lack of awareness among the women and her family members.

Also 74.9% women discussed reproductive tract infection/ sexually transmitted infections problems with their husbands/ partners but women who sort treatment for these are just 30.3%.<sup>5</sup> The data above suggests that reproductive health is very poor in Ujjain.

Therefore, it is important to understand relationship of the reproductive health of women with various biological and socio-economic factors like age, sex, educational level, occupation, income and expenditure of the household, family size, religion, etc.

The study was carried out to understand the role of socio-demographic factor's contribution to the reproductive health choices of a women in rural areas.

Studying these factors would help address the barriers and gaps in the utilization of services and implement measures to improve the reproductive health of women.

The study would contribute to bring critical reproductive health services to millions of women living in low income areas and address factors that are contributing to the choices women make about their reproductive health.

## METHODS

The study was a community based cross-sectional study carried out in rural areas of Ujjain district in, Madhya Pradesh from January 2018 to June 2018. All women in 18-45 years of age in the household who had ever been married and have given birth were eligible to participate in the study. Sample size was calculated considering 57.7 % as the percentage of pregnant women who had one or more living children with respect to a study carried out in Jamnagar and was considered as the anticipated proportion.<sup>6</sup>

The total sample size of the study was calculated to be 300. The list of villages was attained from the District Health officer and 20 villages in Nagda Tehsil were selected through simple random sampling procedure.

The list of women of ages 18-45 years who have given birth was obtained from the ASHA worker of each village. The participants were then numbered. A random number table was generated using excel where 15 participants were selected from each village.

The study was initiated after approval from the Institutional Ethical Committee was obtained. The participants were provided with information about the study by the principal investigator and were informed that their participation in the study was solely voluntary. Informed written consent was obtained from the participants. Participants were then asked comprehensively about their reproductive health.

The questionnaire was validated. It included the following domains; socio-demographic characteristics, menstrual cycle and menstrual hygiene details, obstetric history of each pregnancy, antenatal care history of each pregnancy, delivery details, postnatal care history of each pregnancy, family planning and contraceptive use, history of reproductive tract infections used in their lifetime, menopausal history, and healthcare facility details.

### Statistical analysis

Data was analyzed using SPSS15. The categorical variables were expressed in frequency and percentage and the continuous variable in median and interquartile range (IQR). Chi-Square test was performed to find the associations. A p-value <0.05 was considered to be statistically significant.

## RESULTS

The study had a total sample size of 300 participants. The median age of participants was 30 years (IQR: 25, 36). Among the participants, 123 (41%) had no formal education, 44% were semi-skilled workers working in agricultural fields or lifting bricks at construction sites, and 40% were homemakers. Majority of the participants

were Hindus and currently married, and 54% were from joint families. This is depicted in Table 1.

**Table 1: Socio-demographic characteristics of the study participants (n=300).**

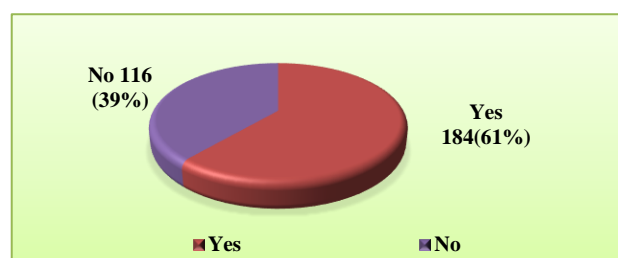
Variables	Categories	Frequency n (%)
Age (years)	18-24	59 (19.667)
	25-31	124 (41.333)
	32-38	55 (18.333)
	> 38	62 (20.667)
Educational background	Uneducated	123 (41.000)
	Primary school	85 (28.333)
	Middle school	55 (18.333)
	High school	36 (12.000)
	Graduate	1 (0.333)
Religion	Hindu	296 (98.667)
	Muslim	4 (1.333)
Marital Status	Married	289 (96.333)
	Separated	2 (0.667)
	Widow	9 (3.000)
Family Type	Joint family	161 (53.667)
	Nuclear family	133 (45.667)
	Single parent family	5 (1.667)
	Arithmetic skill jobs	27 (9.000)
Occupational Profile	Semi-professional	1 (0.333)
	Semi-skilled worker	132 (44.000)
	Skilled-worker	19 (6.333)
	Unskilled worker	1 (0.333)
	Homemakers	120 (40.000)

Table 2 illustrates the socio-demographic factors influencing the utilization of antenatal care services and postnatal care services. 93% of the participants attended antenatal care and 84% of the participants had some postnatal care. Significant association was found between the socio-demographic variables age, educational background, employment status, number of children, and partner education (p value <0.05). This implies that educated women less than 31 years old and who are working are more likely to utilize antenatal and postnatal services when compared to uneducated older women without jobs.

Furthermore, the education of the participant's husband played a significant role in the utilization of antenatal and postnatal care services. Women with educated partners were more likely to attend antenatal and postnatal care when compared to partners who had no education.

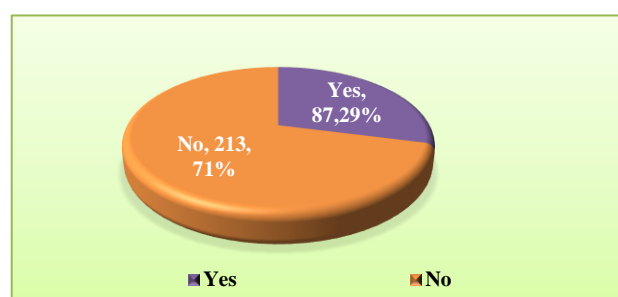
Lastly, women with 1-3 pregnancies were more likely to attend antenatal care and postnatal care when compared to women with 4-6 pregnancies. The use of modern family planning method was significantly associated with the educational background of the participants and their husband. This implies that education of both the partners plays a significant role in the utilization of modern

contraceptive methods. Female Sterilization on the other hand, was seen to be significantly associated with the participant's age, educational background, employment, family type, and the number of children. Women older than or equal to 31 years old and no education were more likely to undergo female sterilization when compared to younger and educate women. Furthermore, women working and living in nuclear families were more likely to undergo sterilization when compared to women at home and living in joint families. Lastly, the number of children contributed significantly to the choice of undergoing female sterilization. Women with 1-3 children were more likely to have undergone female sterilization when compared to women with 4-6 children. This is depicted in Table 3.



**Figure 1: Distribution of participants with respect to the awareness of family planning methods.**

As illustrated in Figure 1 and Figure 2, majority (61.333%) of the study participants were aware of family planning methods but only 29.000% participants were utilizing modern contraceptive methods. Additionally, female sterilization was observed to be significantly associated with the age, educational background of the participant, and the no of children.



**Figure 2: Distribution of participants with respect to the use of modern family planning methods.**

Older and uneducated study participants were more likely to undergo sterilization when compared to younger and educated women; older and uneducated women reported being unaware of other family planning methods when compared to the younger and educated women. Participants who had children between the ages of 1-3 were more likely to undergo female sterilization when compared to participants with 4-6 children. This was depicted in Table 3.

**Table 2: Relation of demographic factors with utilization of antenatal care and postnatal care services.**

Domains	Variables	Categories	Yes, n (%)	No n (%)	p-value
Antenatal care	Age	<31 years	175 (61.837)	2 (11.765)	0.002
		≥ 31 years	108 (38.163)	15 (88.235)	
	Educational background	Uneducated	109 (38.516)	14 (82.353)	0.014
		Educated	174 (61.484)	3 (17.647)	
	Employment	Working	168 (59.364)	12 (70.5888)	0.993
		Not working	115 (40.636)	5 (11.765)	
	Family type	Nuclear	132 (46.643)	7 (41.176)	0.072
		Joint	151 (53.357)	10 (58.824)	
	Number of children	1 to 3	182 (64.311)	5 (29.411)	0.005
		4 to 6	101 (35.689)	12 (70.588)	
Post-natal care	Age	< 31 years	163 (67.355)	14 (24.137)	0.001
		≥ 31 years	79 (32.644)	44 (75.862)	
	Educational background	Uneducated	91 (74.000)	32 (26.000)	0.017
		Educated	151 (85.333)	26 (14.667)	
	Employment	Working	136 (56.198)	44 (75.862)	0.007
		Not working	106 (43.802)	14 (24.138)	
	Family type	Nuclear	109 (45.000)	30 (51.667)	0.284
		Joint	133 (55.000)	28 (48.333)	
	Number of children	1 to 3	161 (66.529)	26 (44.828)	0.004
		4 to 6	81 (33.471)	32 (55.172)	
	Number of pregnancies	1-4	219 (90.496)	53 (91.379)	1.000
		5-8	23 (9.504)	5 (8.621)	
	Partner education	Uneducated	47 (19.421)	18 (31.034)	0.015
		Educated	195 (80.579)	40 (68.966)	

**Table 3: Factors influencing use of modern family planning methods among study participants and female sterilization.**

Domains	Variables	Categories	Yes n (%)	No n (%)	p-value
Use of modern contraceptive methods	Age	< 31 years	53 (61.6279)	123 (57.746)	0.604
		≥31 years	33 (38.372)	90 (42.253)	
	Educational background	Uneducated	13 (15.116)	109 (51.173)	0.001
		Educated	73 (84.883)	104 (48.836)	
	Employment	Working	50 (58.139)	130 (61.032)	0.696
		Not working	36 (38.967)	83 (38.967)	
	Family Type	Nuclear	34 (39.535)	105 (49.065)	0.159
		Joint	52 (60.465)	109 (50.935)	
	No. of pregnancies	1 to 4	57 (66.279)	129 (60.563)	0.827
		5 to 8	29 (33.720)	84 (49.436)	
Female sterilization	No. of children	1 to 3	79 (91.860)	192 (60.563)	0.429
		4 to 6	29 (33.720)	84 (39.4366)	
	Partner education	Uneducated	8 (12.333)	57 (87.667)	0.001
		Educated	78 (33.222)	157 (66.778)	
	Age	< 31 years	73 (48.344)	104 (69.798)	0.001
		≥31 years	78 (51.656)	45 (30.201)	
	Educational background	Uneducated	81 (53.642)	42 (28.188)	0.001
		Educated	70 (46.357)	107 (71.812)	
	Employment	Working	107 (70.861)	73 (48.993)	0.001
		Not working	44 (29.139)	76 (51.007)	
	Family type	Nuclear	81 (53.642)	59 (38.926)	0.01
		Joint	70 (46.357)	91 (61.064)	
	No. of pregnancies	1to 4	81 (53.642)	106 (71.140)	0.321
		5 to 8	70 (46.357)	43 (28.859)	
	No. of children	1 to 3	134 (88.741)	138 (92.617)	0.002
		4 to 6	17 (11.258)	11 (7.382)	
	Partner education	Uneducated	39 (25.828)	26 (17.450)	0.093
		Educated	112 (74.172)	123 (82.550)	



## DISCUSSION

The study was designed to analyze the reproductive health of women in rural areas of Ujjain and to find factors that influence the reproductive health choices of women. Majority of the participants were in the age group of 25-31 years old and were uneducated. However, majority of them were semi-skilled workers. Furthermore, the study revealed that educational background, employment, age, family type, number of pregnancies, type of delivery, and number of children have been factors significantly associated with the reproductive health of a woman.

The study indicated a significant association of antenatal care with educational background, employment status, and age of the study participants. Younger educated women who were working were more likely to attend ANC while compared to older and uneducated women without jobs. Furthermore, women with educated partners were more likely to attend ANC when compared to participants with uneducated partners. Participants reported that since their partners were educated they would encourage them and take them to the hospital for regular checkups during pregnancy.

The study also indicated that women with less children were more likely to use ANC services when compared to women with more children. A similar study conducted in Nepal also revealed that women in the age group of 19-25 years and 26-30 years were more likely to receive ANC care when compared to women older than 30 years of age. The utilization of antenatal care services was significantly associated with the age of the women at last child birth, religion, castes was also observed.<sup>7</sup> Furthermore, a study carried out in Ethiopia revealed similar findings where a woman's education level, employment status, and age of mothers was significantly associated with the use of antenatal care services.<sup>8</sup>

A similar pattern was observed for the utilization of postnatal care services. The study indicates that younger women were more likely to receive postnatal care while compared to women  $\geq 31$  years. Educated (56.2%) and employed women were more likely to receive postnatal care when compared to illiterate and unemployed women since literate and employed women were more aware of the services. Older participants reported that during the time when they were pregnant services were not available, and if they were they were either too far away or they did not understand the importance of postnatal care. Majority of the participants received postnatal care only twice that too during their stay in the hospital after their delivery. Some participants reported that they would be sent back home the same day after their delivery.

However, ASHA workers would come home for postnatal care. Also, educated partners of the participants encouraged them to attain postnatal care after delivery when compared to uneducated partners. Participant's

reported that their partners who were educated would inform ASHA workers about the delivery and encourage them to visit for a regular checkup. Also, participants with 1-3 children were more likely to attend postnatal care when compared to participants with 4-6 children.

A study carried out in Nepal depicted that household wealth status, maternal education, maternal occupation, paternal education and paternal occupation were significantly associated with the postnatal care attendance.<sup>9</sup> A study conducted in Ethiopia expressed that place of delivery was one of the strongest predictors of postnatal care service utilization.<sup>8</sup>

The study revealed that majority (61.333%) of the participants were aware of the different family planning methods, however only 29.00% of the participants were utilizing modern contraceptive methods. Participants reported that they were not comfortable using modern contraceptive like contraceptive pills because they were scared that it would lead to infertility. Some reported that their husbands were not willing to use condoms and that is why female sterilization was their choice of contraception.

However, the use of modern contraceptive methods was significantly associated with the educational background of the study participant and her husband. Educated participants discuss about modern contraceptive methods with their partners and educated partners also suggest the use of contraceptive pills to their wives. Increase in the education raises the likelihood to use contraception than among those without education. Similarly, in a study conducted in Malda District in West Bengal, it was observed that education level of the women has a highly significant effect on awareness and use of contraceptive methods. It was observed the educated women would freely discuss the contraceptive options with their partners.<sup>10</sup>

Female sterilization remains the most popular modern contraceptive method in India. According to the NFHS4 data, among the currently married women age 15-49, 36% use female sterilization.<sup>3</sup> In this study, 151 (50.333) study participants had undergone female sterilization, among which 91.389% had undergone tubectomy. Age, educational background, type of family, employment, and the number of children had expressed significant association with female sterilization. Older and uneducated women were more likely to undergo female sterilization when compared to women who were younger and educated.

Older women during the course of the study reported that they were not aware of other family planning methods and the ones they knew were either not effective or they were not allowed to use the same since their husbands and in laws did not consent. Also, the women reported that their parents in law believed that since husbands need to do more physical work a male sterilization

surgery will make them weaker therefore is it preferred a woman undergo female sterilization. Women working and living in nuclear families were more likely to undergo female sterilization when compared to women who were homemakers, because women working believed that if they would be pregnant it would make it difficult for them to work also if they are at work no one would be taking care of the children at home.

Also, women with 1-3 children were more likely to have undergone female sterilization when compared to women with 4-6 children reporting that they had undergone female sterilization as soon as they delivered a baby boy, and women with 4-6 children were continuing pregnancies to be able to bare a baby boy.

A study carried out in Raichur revealed similar findings. 61.43% of participants were unaware of male sterilization. On the other hand, women who were aware of male sterilization still opted for tubectomy because they believed that if a male undergoes vasectomy and the surgery fails, it will have an impact on the family economy, as he is the earning member. Also, the study revealed that husbands are the decision makers of the family and expresses male dominance when option for tubectomy.<sup>11</sup>

## CONCLUSION

To conclude, socioeconomic factors like age, education, and economic backgrounds play a crucial role in maintaining the health of a woman. Number of children and number of pregnancies also contribute in the decisions a woman makes about her reproductive health.

Educated and young women were more likely to avail health care services when compared to older and uneducated women. One of the major reasons being that today there is an increased awareness about these services and that it is now easier to attain health care facilities because they have become affordable due to the schemes that have been implemented by the government.

Henceforth, socio-cultural aspects that affect and shape reproductive health motivations and behavior are important in understanding key issues in the utilization of services more effectively and in assessing the gaps in knowledge, concepts and notions relating to reproductive health.

To be able to do this, there is a need to increase awareness via health education camps for family planning methods and utilization of antenatal and postnatal care services among women, their partners, and their family members. Also, a qualitative study can be conducted in depth to have a better understanding on the reasons and barriers in accessing care, information on sensitive cultural factors affecting reproductive health and also information on gender preferences.

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