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Area and Category–Wise Disparities in Reproductive Health Awareness and Issues among Muslim Women in North 24 Parganas, West Bengal, India

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ABSTRACTS: *Reproductive health care and awareness among Muslim women differ significantly between rural and urban areas due to social, cultural, economic, and infrastructural differences. This study examines the differences in awareness about the use of sanitary napkins and contraceptives among these women. It also evaluates variations in age at marriage and age at first conception. This cross-sectional study randomly selected participants from various rural and urban areas of the North 24 Parganas district, West Bengal. The sample included 652 adult women (273 rural, 379 urban), with 324 from the General category and 328 from the OBC-A category. Menstruation-related data, such as duration, gynecological problems, and flowwere also collected. The results show that the average age at marriage was lower in rural areas (Mean = 17. 91 years, ± 2. 96) compared to urban areas (Mean = 18. 91 years, ± 2. 89). Within the categories, the General group had a lower mean age at marriage (Mean = 17. 84, ± 3. 07) than OBC -A (Mean = 19. 13, ± 2. 70). Similarly, the age at first conception was significantly lower in rural areas (Mean = 19. 41 years, ± 3. 19) than in urban women (Mean = 20. 35 years, ± 3. 01). Significant differences in age at marriage and first conception were observed between urban and rural areas as well as between the General and OBC- A category (p < 0. 001). A higher percentage of urban women reported using sanitary pads (67.37%) compared to rural women (47.80%). Regarding contraceptive methods, the pill and ligation were more common in rural areas (35. 2% and 5. 9%) than in urban areas. Among the categories, the use of the oral contraceptive pill was slightly higher in the General category (36. 4%) than in OBC- A (31. 4%). In rural areas, 61. 2% of women experienced painful periods, which was higher than in urban areas. Additionally, 5. 1% of women in rural areas had no formal education, compared to 5.1. 3% in urban areas; among OBC-A women, the rate was 4.0%, slightly higher than the general category. Higher education levels were observed among 10. 8% of urban women and 9.9% of OBC-A women. Addressing these disparities can improve health outcomes and empower Muslim women in both rural and urban settings. Policy efforts should focus on improving education, delaying early marriages, and increasing access to sanitary products and contraception in rural areas.*

KEYWORDS: *Age at first conception, Contraceptives, Gynecological problems, Menstruation, Reproductive health*

I. INTRODUCTION

Reproductive health is a vital part of overall health and plays a key role in human development. It reflects health in childhood and remains essential in adolescence and adulthood, establishing the foundation for health beyond the reproductive years for both women and men. It also influences the health of future generations (Jhansi, 2010). The new WHO (1998) definition of reproductive health states that "it refers to a spectrum of conditions, events, and processes throughout life, ranging from healthy sexual development, physical comfort, intimacy, and the joys of childbearing to the prevention of disease and death. Reproductive health encompasses both life-affirming and life-threatening conditions. More than in any other area of health, social, psychological, and physiological factors are interconnected in reproductive health, which WHO considers crucial to overall health." We recognize two important terms, 'gynaecology' and 'obstetrics,' as major fields related to women's reproductive health. Both are linked and play vital roles in women's lives. Gynaecology deals with the health of the female reproductive organs, while obstetrics focuses on pregnancy, childbirth, and the postpartum period. Proper management of reproductive organ diseases is crucial for safe childbirth and later health. According to the World Bank (1993), one-third of the total disease burden women face is related to pregnancy, childbirth, abortion, and reproductive tract infections.

Davis & Blake (1956) demonstrate that demographic literature shows that age at marriage has long been regarded as a key factor influencing fertility. Maxwell (1987) states that women with higher educational levels are more likely to deviate from traditional patterns, including early marriage and childbirth. Education indirectly influences the age at first birth and changes in traditional work roles. Wasserheit *et al.,*(1989) emphasize that the timely use of reproductive health services for both maternal complications and reproductive tract infections is essential in preventing the escalation of conditions that can lead to death or permanent disability.

The Millennium Development Goals and Sustainable Development Goals are significant global initiatives that play a crucial role in enhancing maternal and child health (MCH) outcomes. The National Health Mission, which includes the 'Reproductive, Maternal, Newborn, Child Health, and Adolescent' (RMNCH+A) strategy, advocates for a continuum of care approach to improve health results (Reddy et al., 2017; MoHFW, 2013). Kalam et al. (2020) studied Muslim women in West Bengal to investigate how socio-demographic factors, reproductive health, antepartum care, and mothers' lifestyles relate to children's birth weight. Oomman in 2000 reported that RTIs have a relation with the lack of menstrual and personal hygiene. Moreover, RTIs depend on the socio-economic and cultural determinants. Study reveals the fact that a strong relationship is present between women's livelihood, work and their reproductive health.

This study investigates reproductive health awareness, health-seeking behavior, and related issues among Muslim women in North 24 Parganas, West Bengal. It also aims to analyze disparities based on area and category. The goal is to improve understanding of women's reproductive health at the community level and emphasize the need for more accessible health interventions.

II. OBJECTIVES

The study's objectives were

- To examine reproductive health-seeking behavior and awareness among Muslim women in the studied area.
- To examine disparities across areas and categories in reproductive health awareness and issues among Muslim women in North 24 Parganas, West Bengal, India.

III. MATERIALS AND METHODS

This study is cross-sectional, field-based, and retrospective. It was conducted among Muslim mothers and their children in the North 24 Parganas district. Data were collected from a specific Muslim community in both rural and urban areas of North 24 Parganas, West Bengal. While they are spread across various rural and urban regions, this research focused on those with a higher presence in certain residential areas. The largest Muslim populations, accounting for about 47% of the total, are in Uttar Pradesh, West Bengal, and Bihar.

The present study was conducted among the Muslim community in West Bengal, primarily concentrated in the North 24 Parganas district. This district was chosen using purposive sampling. After selecting the district, both random and purposive sampling methods were used to choose the blocks. The selected blocks include Barasat I, Swarupnagar, Bagda, Habra I, Barasat II, Amdanga, and Habra II. Villages were selected through both sampling methods, including rural areas such as Kurulia, Birpore, Balisha Tangra, Madhabpur, Dariyala, Gopalpur Chandigarh, and Bira Mallickpara. Urban areas include Barasat Kajipara, Berunanpukuria, Madhyamgram, Bongaon, Gobordanga, and Chaltaberia. In this study, participants were selected using random sampling methods; a total of 652 mothers aged 15 to 49 years participated.

Both qualitative and quantitative data are collected for this community's reproductive health study. Reproductive history of women (e.g., age at menarche, age at marriage, age at first conception, menstruation flow, duration of periods, gynecological problems, use of sanitary napkins, use of contraceptives) was collected.

Data was analyzed using both qualitative and quantitative methods. Qualitative data were assessed based on the researcher's impression, while quantitative data were analyzed with appropriate statistical tests at a significance level of $p<0.05$. For quantitative data, descriptive statistics such as percentages, means, frequency distributions, and standard deviations were used, along with inferential statistics such as the chi-square test to analyze the data. Microsoft Office Excel was used for data entry, and SPSS (version 26.0) was used for statistical analysis.

The protocol was submitted for ethical clearance to the institutional ethics committee of WBSU and was approved vide letters. Written/verbal informed consent was obtained as per protocol.The present study excluded participants who have recently converted to Islam from other religions. Research participants will be characterized by their mother tongue, Bengali, and their religion, Islam; they have belonged to the same subsistence pattern for at least two or three generations.

Some limitations are that participants were not always present at home or were difficult to contact. Often, they were busy with their work and avoided interviews. Collecting data from some women was particularly challenging because their husbands tended to be quite conservative and skeptical.

IV. RESULTS

Table 1 illustrates that educational attainment is much higher in urban areas than in rural areas. Non-literacy rates are lower in urban areas (1.3%) than in rural areas (5.1%). It has been found that most individuals in both areas have completed primary and secondary education. Graduation rates are also higher in urban areas (10.8%) than in rural areas (8.1%). When all categories are considered, there is a clear trend of better educational qualifications in urban settings. It has been found that 1.9 percent of the general category are non-literate, compared with 4.0 percent in the OBC-A category. The remaining categories show a similar pattern. Hence, no significant difference has been observed between these categories.

Table 1: Percentage distribution of educational qualification of Muslim Mothers between Rural -urban and General -OBC-A Category

Educational Qualification	Non-Literate	Primary and Upper Primary	Secondary and H.S	Graduation and above	Total
Rural	14(5.1%)	92(33.7%)	145(53.1%)	22(8.1%)	273(100.0%)
Urban	05(1.3%)	166(43.8%)	167(44.1%)	41(10.8%)	379(100.0%)
p-Value			15.958, df= 3 0.001***		
General	06(1.8%)	139(42.9%)	147(45.4%)	32(9.9%)	324(100.0%)
OBC_A	13(4.0%)	119(36.3%)	165(50.3%)	31(9.5%)	328(100.0%)
p-Value			5. 159, df= 2 0.160		
Total	19(2.9%)	258(39.6%)	312(47.9%)	63(9.7%)	652(100.0%)

***Significant at the level of P <0.001

Table 2 summarizes reproductive health variables—age at menarche, age at marriage, and age at first conception—across rural and urban areas, categorized as General and OBC-A. Data from rural regions show the mean age at menarche is 12.65 years (N=273, ±1.16), while in urban areas, it is 12.72 years (N=379, ±1.16), with

a p-value of 0.461, indicating no significant difference. For the General category, the mean age is 12.76 years (N=324, ±1.18), and for the OBC-A category, it is 12.62 years (N=328, ±1.14), with a p-value of 0.133, also non-significant. The mean age at marriage in rural areas is 17.91 years (N=273, ±2.96), compared to 18.91 years (N=379, ±2.89) in urban areas, with a p-value of <0.001***, showing a significant difference. Among the categories, the General category's mean is 17.84 years (N=324, ±3.07), and the OBC-A category's mean is 19.13 years (N=328, ±2.70), with a p-value of <0.001***. Regarding age at first conception, the rural mean is 19.41 years (N=273, ±3.19), while in urban areas, it is 20.35 years (N=379, ±3.01), with a p-value of <0.001***, indicating a significant difference. Within categories, the General category has a mean of 19.46 years (N=324, ±3.32), and the OBC-A category has a mean of 20.44 years (N=328, ±2.83).

Table 2: General Health Statistics of the studied population (Muslim Mothers):

Reproductive Health Variables(in years)	Area and Community	N=652	Mean	Std. Deviation (±)	p-Value
Age at menarche	Rural	273	12.65	1.16	
	Urban	379	12.72	1.16	0.461
	General	324	12.76	1.18	
	OBC-A	328	12.62	1.14	0.133
Age at marriage	Rural	273	17.91	2.96	
	Urban	379	18.91	2.89	<0.001***
	General	324	17.84	3.07	
	OBC-A	328	19.13	2.70	<0.001***
Age at first conception	Rural	273	19.41	3.19	
	Urban	379	20.35	3.01	<0.001***
	General	324	19.46	3.32	
	OBC-A	328	20.44	2.83	<0.001***

***Significant at the level p<0.001

Table 3 shows the distribution of age at marriage by area (rural and urban) and category (General and OBC-A). 68.5 percent of Muslim mothers in rural areas marry before age 18, compared with 52.8 percent in urban areas, which is lower. In rural areas, 28.9 percent of mothers marry between 18 and 25 years old, and 2.6 percent are 25 or older, indicating a trend toward early marriage. In urban areas, 44.6 percent marry between 18 and 25 years old, and 2.6 percent are above 25, suggesting a tendency to marry later.

It has been found that in the General category, 70.2 percent are married before 18 years old, while 48.2% of OBC-A are married before 18 years old, but with a higher percentage, 50.0 percent are married between 18 and 25 years. Chi-square p-values (<0.001***) indicate a significant relationship between area/category and the age of marriage.

Table 3: Percentage distribution of Age at Marriage Among Muslim Mothers of Rural-Urban and General-OBC-A Category (n=652)

	Age at Marriage			Total
Area/ Category	**Below 18 years**	**18-25 years**	**Above 25 years**	
Rural	187(68.5%)	79(28.9%)	7(2.6%)	273(100.00%)
Urban	200(52.8%)	169(44.6%)	10(2.6%)	379(100.00%)
Chi-square value	χ^2=16.839,df=2 0.000**			
General	229(70.7%)	84(25.9%)	11(3.4%)	324(100.00%)
OBC-A	158(48.2%)	164(50.0%)	6(1.8%)	328(100.00%)
Chi-square value	χ^2=40.280,df=2 0.000**			
Total	387(59.4%)	248(38.0%)	17(2.6%)	652(100.00%)

*** Significant at the level of p< 0.001

Table 4 shows the distribution of age at first conception by area (rural and urban) and category (General and OBC-A), along with Chi-square values that indicate statistical significance. In rural areas, 42.9 percent of mothers conceived before age 18, which is significantly higher than in urban areas, where only 24.3 percent conceived before age 18. Additionally, 50.5 percent conceived between 18 and 25 years, compared to 71 percent in urban areas. In the General category, 42.0 percent conceived before age 18, and 51.5 percent between 18 and 25 years. For OBC-A, 22.3 percent conceived before age 18, while 73.2 percent conceived between 18 and 25 years. The Chi-square p-values <0.001*** indicate a strong, statistically significant relationship between age at first conception and both area and category groups.

Table 4: Percentage distribution of Age at First Conception Among Muslim Mothers of Rural-Urban and General-OBC-A Category (n=652)

	Age at First Conception			
Area/ Category	**Below 18 years**	**18-25 years**	**Above 25 years**	**Total**
Rural	117(42.9%)	138(50.5%)	18(6.6%)	273(100.00%)
Urban	92(24.3%)	269(71.0%)	18(4.7%)	379(100.00%)
Chi-Square Value	χ^2=28.680,df=2 p<0.001***			
General	136(42.0%)	167(51.5%)	21(6.5%)	324(100.00%)
OBC-A	73(22.3%)	240(73.2%)	15(4.6%)	328(100.00%)
Chi-Square value	χ^2=33.061,df=2 p< 0.001***			

Total	209(32.1%)	407(62.4%)	36(5.5%)	652(100.00%)

*** Significant at the level of p< 0.001

Table 5 thoroughly examines the duration of menstrual flow among Muslim mothers, categorized by area (rural and urban) and category (General and OBC-A). It shows the percentages of individuals experiencing menstrual cycles of 1-3 days, 4-6 days, and 7 days or more. In rural populations, 56.3 percent report menstrual periods lasting 4-6 days, 36.0 percent experience 1-3 days, and only 7.7 percent have durations of 7 days or more. Overall, 36.5% experience a menstrual flow lasting 1-3 days, while 56.4% have a flow lasting 4-6 days, indicating that most Muslim mothers fall within this range. The Chi-square p-values indicate that differences in menstrual flow durations across these categories are not statistically significant.

Table 5: Percentage distribution of Menstruation Duration of Muslim Mothers of Rural-Urban and General-OBC-A Category (n=649)

	Duration of Menstrual Flow (Days)			
Area/ Category	**1-3 days**	**4-6 days**	**7 days and above**	Total
Rural	98(36.0%)	153(56.3%)	21(7.7%)	272
Urban	139(36.9%)	213(56.5%)	25(6.6%)	377
Chi-Square Value	χ^2=0.297,df=2 0.862			
General	116(35.9%)	189(58.5%)	18(5.6%)	323
OBC-A	121(37.1%)	177(54.3%)	28(8.6%)	326
Chi-Square Value	χ^2=2.659,df=2 0.265			
Total	237(36.5%)	366(56.4%)	46(7.1%)	649

*Excluded those who do not menstruate.

Table 6 displays the conditions during the period. In rural areas, approximately 16.1 percent have scanty menstrual flow, and 25.7 percent of mothers report excessive menstrual flow. In urban areas, 23.8 percent experience scanty menstrual flow. Among the OBC-A category, 27.0 percent have reported excessive menstrual flow, which exceeds the percentage in the General category. The Chi-square values show that differences in menstrual flow across areas are not statistically significant, but there is a significant difference between categories (p<0.001***).

Table 6: Percentage distribution of Menstruation flow of Muslim Mothers of Rural-Urban and General - OBC-A Category (n=652)

	Types of Menstrual Flow			
Area/ Category	**Scanty**	**Medium**	**Excessive**	**Total**
Rural	44(16.2%)	158 (58.1%)	70(25.7%)	272(100.0%)
Urban	90 (23.9%)	219 (58.1%)	68 (18.0%)	377(100.0%)
Chi-Square Value	χ^2=8.936,df=2 0.011			

General	69(21.4%)	204(63.1%)	50(15.5%)	323(100.0%)
OBC-A	65(19.9%)	173(53.1%)	88 (27.0%)	326(100.0%)
Chi-Square Value	χ^2=13.119,df=2 p< 0.001***			
Total	237(36.5%)	377(56.4%)	46(7.1%)	649(100.0%)

***Significant at the level of p<0.001

Table 7 displays the prevalence of painful menstruation (dysmenorrhea) among Muslim mothers in both rural and urban areas, as well as across different social groups. In rural areas, 38.8 percent of mothers experienced painful periods, while in urban areas, the prevalence was higher at 43.3 percent. Although this difference is not statistically significant (χ^2 = 1.292, df = 1, p = 0.256), a similar pattern was observed across social groups. Among General category mothers, 41.4 percent reported experiencing painful periods, whereas 58.8 percent reported no pain during menstruation. This difference is also not statistically significant (χ^2 = 0.001, df = 1, p = 0.978).

Table 7: Percentage distribution of Painful periods during Menstruation among Rural-Urban and General OBC-A Muslim mothers (n=652)

Area/Category	Painful(Dysmenorrhea)	Not-painful	Total
Rural	106(38.8%)	167(61.2%)	273(100.0%)
Urban	164(43.3%)	215(56.7%)	379(100.0%)
Chi-Square value	χ^2=1.292, df=1, 0.256		
General	134(41.4%)	190(58.6%)	324(100.0%)
OBC-A	136(41.5%)	192(58.5%)	328(100.0%)
Chi-Square value	χ^2=0.001,df=1, 0.978		
Total	270(41.4%)	382(58.6%)	652(100.0%)

Table 8 describes the association between the gynecological problem area and categories. It was observed that there was no statistically significant association found between gynecological problems and area(χ^2=0.0455, df=1, p=0.831)and category(χ^2=0.1406, df=1, p=0.707).

Table 8: Chi-Square test of association between Gynecological problems and area /category(n=652)

Area/Category	Gynecological Problems		
	Yes	No	Total
Rural	155	118	273
Urban	212	167	379
Chi-Square Value	χ^2=0.0455, df=1, p=0.831		
General	180	144	324
OBC-A	187	141	328
Chi-Sqaure value	χ^2=0.1406, df=1, p=0.707		
Total	367	285	652

Table 9 shows that 16.1 percent of mothers in rural areas experience symptoms like white discharge and itching, which is lower than the 19.8 percent in urban areas. In rural areas, 40.3 percent of mothers have ovarian cysts or PCOD, compared to 35.4 percent in urban areas, which is also higher. Among OBC-A Muslim mothers, 39.3 percent have ovarian cysts or PCOD, again higher than in the General category.

Table 9: Percentage distribution of various gynecological problems among Muslim Mothers of Rural-Urban and General-OBC-A Category (n=652)

	Gynaecological Problems				
Area/ Category	**White discharge, bad odor, and itching**	**Ovarian cyst or PCOD**	**Uterus-related problem**	**Nothing**	**Total**
Rural	44(16.1%)	110 (40.3%)	1(0.4%)	118(43.2%)	273(100.0%)
Urban	75(19.8%)	134(35.4%)	3(0.8%)	167(44.1%)	379(100.0%)
General	62(19.1%)	115(35.5%)	3(0.9%)	144(44.4%)	324(100.0%)
OBC-A	57(17.4%)	129(39.3%)	1(0.3%)	141(43.0%)	328(100.0%)
Total	119(18.3%)	244(37.4%)	4(0.6%)	285(43.7%)	652(100.0%)

Table 10 shows that in rural areas, most mothers use sanitary napkins every month (47.8 percent). However, 29.04 percent of mothers use old washable cloth, while in urban areas, only 12.73 percent do so. In urban areas, the majority of mothers use sanitary napkins (about 67.37 percent). In rural areas, 12.13 percent of mothers use sanitary napkins or cloths, depending on availability, compared to 3.72 percent in urban areas. A significant association is observed between area and the use of sanitary napkins. Among the General category, the use of old washable cloth is slightly lower than in the OBC-A category (18.27 percent). However, no significant association is found between these categories and the use of different types of napkins.

Table 10: Percentage distribution of sanitary napkin use among Muslim mothers in rural-urban areas and general-OBC-A categories (n=652)

	Use of a sanitary napkin during menstruation				
Area/ Category	Sanitary Pad	New Cloth	Washable old cloth	Both pad and cloth	Total
Rural	130(47.80%)	30(11.03%)	79(29.04%)	33(12.13%)	272(100.0%)
Urban	254(67.37%)	61(16.18%)	48(12.73%)	14(3.72%)	377(100.0%)
Chi-Square Value	χ^2=46.239,df=3 p<0.000***				
General	191(59.13%)	46(14.25%)	59(18.27%)	27(8.35%)	323(100.0%)
OBC-A	193(59.21%)	45(13.81%)	68(20.85%)	20(6.13%)	326(100.0%)

Chi-Square Value	χ^2=1.007,df=3 p=0.800				
Total	384(59.16%)	91(14.02%)	127(19.57%)	47(7.25%)	649*(100.0%)

***Significant at the level of p<0.001
*excluded women who had attained menopause

Table 11 indicates that there was no statistically significant association between contraceptive use and area (χ2=0.1640, df=1, p=0.685) or category (χ^2=0.1640, df=1, p=0.685).

Table 11: Chi-Square test of association between Use of Contraceptives and area /category (n=652)

Area/category	**Use of contraceptives**		
	Yes	No	Total
Rural	181	92	273
Urban	257	122	379
Chi-Square Value	χ^2=0.1640, df=1, p=0.685		
General	225	99	324
OBC-A	213	115	328
Chi-Sqaure value	χ^2=1.5005,df=1, p=0.220		
Total	438	214	652

Table 12 displays the current use of contraceptives among rural and urban mothers, as well as among general and OBC-A category Muslim mothers. Overall, in rural areas, 66.47 percent of Muslim mothers use modern contraceptive methods, with 23.8 percent using condoms and 35.2 percent using oral contraceptive pills. In urban areas, 67.4 percent use modern contraceptive methods, with 33.0 percent using oral contraceptive pills and 27.2 percent using condoms. Additionally, 4.0 percent and 2.1 percent of mothers in urban areas use ligation and DMPA injections, respectively, which is higher than the rates in rural areas.

Among the General category, the use of oral contraceptive pills is higher at 36.4 percent, and withdrawal use is higher at 34.1 percent among OBC-A category Muslim mothers.

Table 12: Percentage distribution of use of different types of contraceptive methods among Muslim Mothers of Rural-Urban and General-OBC-A categories (n=652)

	Contraceptives method							
Area/ Category	**Condom**	**OCP**	**Copper-T**	**Ligation**	**DMPA injection**	**Withdrawal**	**No Methods**	**Total**
Rural	65(23.8%)	96(35.2%)	4(1.5%)	16(5.9%)	0(0.0%)	88(32.2%)	4(1.5%)	273(100.0%)
Urban	105(27.7%)	125(33.0%)	15(4.0%)	8(2.1%)	4(1.1%)	120(31.7%)	2(0.5%)	379(100.0%)
General	86(26.5%)	118(36.4%)	8(2.5%)	11(3.4%)	2(0.6%)	96(29.6%)	3(0.9%)	324(100.0%)
OBC-A	84(25.6%)	103(31.4%)	11(3.4%)	13(4.0%)	2(0.6%)	112(34.1%)	3(0.9%)	328(100.0%)
Total	170(26.1%)	221(33.9%)	19(2.9%)	24(3.7%)	4(0.6%)	208(31.9%)	6(0.9%)	652(100.0%)

V. DISCUSSION:

The findings on reproductive health revealed notable differences in the age at marriage and age at first conception. Mothers from Rural and General categories tend to marry and conceive earlier than their urban and OBC-A counterparts. One possible reason for this pattern could be the gradual increase in educational levels, awareness, financial stability, and government reservation policies, which may lead to delayed marriage and childbearing. Raj et al. (2009) found that early marriage is strongly linked to early conception and poorer reproductive health outcomes, including higher fertility and increased maternal risks.

Desai and Andrist (2010) reported that several studies in India have shown that improvements in female education and social mobility among disadvantaged groups can influence reproductive patterns and delay early conception. Early marriage remains more common in rural areas, aligning with national data indicating higher rates of child marriage in rural India (IIPS & ICF, 2021). Urban women report a higher percentage of spontaneous miscarriages (3.4%) and abortions (9.8%) compared to rural women, with 1.8 percent of urban women experiencing two to three miscarriages. Similar findings have been observed in earlier studies, where urban women tend to report higher rates of abortion (Cleland et al., 2012). This may suggest either better access to healthcare facilities or lifestyle-related stress in urban environments.

A mixed pattern was observed in menstrual health indicators. The duration of menstrual flow does not differ significantly across groups, but menstrual irregularity and excessive flow are somewhat more common among OBC-A mothers. Gynecological problems, such as ovarian cysts and PCOD, appear more prevalent in rural areas and among OBC-A mothers. Although PCOD is often linked to urban lifestyles, recent studies suggest that underdiagnosis in rural areas may have previously concealed its true prevalence (Nidhi et al., 2011).

Menstrual hygiene practices clearly vary between rural and urban mothers. Urban mothers primarily use sanitary pads, while many rural mothers depend on washable cloth. This aligns with studies indicating that financial constraints, lack of awareness, and limited access can influence menstrual hygiene practices in rural India (Das et al., 2015). Enhancing access to affordable menstrual products is essential for reducing reproductive tract infections and improving health.

Contraceptive use patterns show similar adoption rates of modern methods in both areas, indicating progress in family planning programs. Although preferences vary slightly, with a higher use of withdrawal among partners of OBC-A mothers, condom use is more common in urban areas, and urban mothers also use DMPA injections. Ligation and oral pill use are more prevalent in rural areas. This may be due to improved access to family planning services through workers such as Accredited Social Health Activists (ASHA). They play a crucial role in spreading awareness about contraceptive methods and facilitating sterilization camps in rural regions. Oral contraceptive pills are also frequently used because they are easily accessible through public health facilities. Chaurasia (2014) reported that social and cultural issues, early completion of motherhood, and a preference for smaller family sizes may also influence the higher acceptance of sterilization among rural women.

VI. CONCLUSION:

In conclusion, improving maternal health requires a comprehensive approach that not only emphasizes mothers' education but also highlights the importance of fathers' education, employment stability, social welfare support, women's reproductive rights, nutritional adequacy, preventive screening, and community engagement, given the culturally sensitive nature of these issues. This overall strategy can help develop and uplift the community. The findings of the present study underscore the need for better maternal health to support childhood development. Efforts should focus on increasing health awareness and hygiene education, emphasizing their importance, and ensuring access to improved sanitation and safe drinking water facilities at both the household and school levels. Primary health care services in underserved areas and communities should be strengthened. It was observed that poor populations also reside in urban areas, resulting in no significant differences between rural and urban populations. Therefore, development programs should not be limited only to rural areas. Poverty must be addressed thoroughly across all regions, and economically weaker households in the general category may need

greater attention. However, government policies and social welfare programs should aim to support economically disadvantaged groups regardless of their class or location.

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