

Disparities in the contraceptive use among currently married women in Muslim densely populated States of India: An evidence from the nationally representative survey

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ABSTRACT

Background: The rationalizations for low use of contraception and high fertility among Muslims compared to other religious group in India are highly controversial. The study was aimed to explain to what extent differences in the use of contraception exist among the religious groups and also to examine its associated factors in the Muslim populated States in the country.

Methods: The third round of District Level Household and Facility Survey (DLHS-3) was used to accomplish our objectives. Bivariate analysis was used to show the religion wise distribution of limiting, spacing and traditional methods of contraceptive use in relation to socio-economic characteristics. The multivariate logistic regression was employed to estimate the odds ratio (95% CI) for contraceptive use. The Fairlie decomposition model has also been applied to identify the determinant factors of differentiating contraceptive utilization among Muslims and Non-Muslims. SPSS 20.0 version and Arc GIS 10.0 softwares were employed to carry out the analyses.

Results: The study found that the prevalence of limiting contraceptive use was comparatively much lower among Muslims (19.9%) than Non-Muslims (39.3%). In comparison to Non-Muslims, Muslims used 3.5 percentage points and 2.6 percentage points spacing and traditional methods of contraception respectively. The Muslims women from Assam (3.4%), Uttar Pradesh (4.4%) and Bihar (8.3%) reported low use of limiting contraceptive methods as compared to other Muslim populated States. The highest difference in the limiting method was observed in Bihar (21 percentage points) followed by West Bengal (19 percentage points) between Muslim and Non-Muslim. The decomposition model found educational attainment level as the significant explaining factor for differentiating contraceptive utilization among Muslims and Non-Muslims.

Conclusion: The study concluded that the significant inequalities exist among Muslims and Non-Muslims concerning the current use of limiting methods. The policy design and programmes should take into account the uneducated women to address the inequalities in the contraceptive use.

Key words: Differentials, Contraceptive use, Muslims, Non-Muslims, India

INTRODUCTION

It is estimated that near about 54% of currently married women aged 15-49 years adopt the contraceptive method in India [1]. The use of contraception is considered as the proximate determinants of fertility and fertility transition [2, 3]. The low contraceptive use resulted into unintended pregnancies and maternal mortality, complication related to pregnancy and childbirth [4]. Though, the number of effective contraceptives available to women, unintended pregnancies continuously occur in large numbers and sexually transmitted infections rate remained high [5, 6]. Among the barriers to effective use of contraception are personal beliefs that can be shaped by both culture and religion [5]. When a couple's faith is not similar to those of the health care provider, the chance of taking as well as keeping those medical recommendations will be less [5]. Religious differentials in contraceptive use gleam socioeconomic differences between individual members of different religions [7-9]. In India, Islam has traditionally been portrayed in such a way that it never permits birth control or abortion in any situation [10] but, some demographers argued that the view of Islam on birth control and abortion depends upon the interpretation of different schools of Islamic jurisprudence [10].

Reproductive and Child Health indicators like antenatal care, post-natal care, family planning use, institutional delivery and child immunization are crucial for the improvement and maintenance of health for women and children in any society [11-13]. Where some of the indicators are essential to maintain child health, some of the indicators are helping to maintain maternal health directly and indirectly [12]. Using and non-using of various family planning methods determine the maternal mortality and morbidity, premature deliveries, infant morbidity and mortality, born of underweight baby and fertility [4]. Mostly Muslims are lacking behind in the facilities of family planning methods and other RCH facilities somehow due to lack of knowledge or low socio-economic conditions [14].

The family planning has been considered as one of the top 10 public health successes of the 20th century declared by Centers for Disease Control [15]. Approaches to contraceptive services are significant factors in planning for healthy pregnancies. The role of contraceptive use in reducing fertility is well documented in the literature [3, 16]. The country has witnessed various planning and programmes (National Family Planning Programme, Reproductive and Child Health (RCH), National Rural Health Mission (NRHM)) to address the unmet need and universal access to contraceptive services [17, 18]. Despite the consistency in programme design throughout the country, there is considerable variation in the proportion of contraceptive use among different groups [4, 9]. The use of sterilization among non-Muslims was much higher than Muslims [19]. There is also large variation in the use of any other modern methods among different religion [11]. Therefore, this study aimed to examine the differences in

the use of contraception among the Muslims and Non-Muslims in the Muslim populated States of India. An attempt has also been made to investigate the confounding factors attributed to contraceptive uses among these two major religious groups. The findings of such differentials will be helpful to policy framing and make strategies for successful implementations of plans.

METHODS

Data Source

The data source of this study was India's third District Level Household and Facility Survey (DLHS-3), conducted in 2007-08. The DLHS-3 adopted a multi-stage stratified systematic sampling design and it covered more than 720 thousand households of 34 States and Union Territories of India (excluding Nagaland). DLHS-3 gathered information concerning the contraceptive use from more than 604 thousand currently married reproductive-aged women (15-49 years) during the survey. The total population for this study was 2,40,946 currently-married women from seven Muslim populated States viz. Jammu & Kashmir (15,175), Assam (30,243), West Bengal (21,878), Kerala (12,360), Uttar Pradesh (87,564), Bihar (46,840) and Jharkhand (26,886). The currently-married women and their husbands were interviewed to capture the data related to contraceptive use. A set of structured questionnaires were employed to collect the DLHS-3 data.

Study Settings

We have selected only those States which are exceptional for having the percentage of Muslim population more than the national average (13.4%). Therefore, Muslim densely populated mean higher proportion of Muslim compared to other States. Those States are Jammu & Kashmir (67%), Assam (31%), West Bengal (25.2%), Kerala (24.7%), Uttar Pradesh (18.5%), Bihar (16.5%) and Jharkhand (13.8%) (Census of India, 2011, <http://censusindia.gov.in/>).

Variable Measures

Outcome Variable: The Current Use of Contraceptive (CUC) was utilized as the outcome or dependent variable in the study. The CUC was dichotomous as currently using contraceptive (1) and not using contraceptive (0).

Explanatory Variables: Women Age (15-24, 25-34 and 35-49 age group), Residence (Rural and Urban), Education (Illiterate and literate) and Wealth Index (Poor and non-Poor) have been selected as independent

variables. The 0-4 years of schooling were considered as illiterate and above 4 years of schooling as literate. We have taken lowest and second lowest groups of the wealth quantile to define the poor whereas the middle, fourth and highest groups were considered for non-poor category.

Control Variable: Muslims and non-Muslims were considered as control variables. The non-Muslims included the respondent belonging to Hindu, Christian, Sikh, Buddhist/Neo-Buddhist, Jain, Jews, Parsi/Zoroastrian, No religion and Other.

Statistical Analysis

Bivariate analysis was used to show the religion-wise distribution of limiting, spacing and traditional methods of contraceptive use in relation to some selected socioeconomic and demographic background variables. The multivariate logistic regression was employed to estimate the odds ratio (95% CI) for contraceptive use. The Fairlie decomposition model has also been applied to identify the determinant factors for differentiating contraceptive utilization among Muslims and Non-Muslims. SPSS 20.0 version and Arc GIS 10.0 softwares were employed to carry out the analyses.

Operational Definitions

Limiting Method: Female Sterilization, Male Sterilization were seized as limiting method.

Spacing Method: Intra Uterine Device (IUD), Daily Pills, Weekly Pills, Injectable, Condom/Nirodh, Female Condom were coded as Spacing Method.

Traditional Method: Rhythm Method, Withdrawal Method, Other Methods were coded as traditional method.

RESULTS

The table 1 indicates that the study has tried to include closely proportional Muslims and Non-Muslims population in these seven Muslim populated States of India. The highest proportion of Muslim population has been taken from Jammu & Kashmir (65.5) followed by Kerala (30.7) and Assam (27.0) whereas the highest proportion of Non-Muslim has been included from Jharkhand (89.9), Bihar (86.9) and Uttar Pradesh (83.9). The maximum number of currently married women belonged to 35-49 age group in all selected States. Most of the States had more illiterate respondents than literate ones except Kerala where female literacy is higher than all selected States of India.

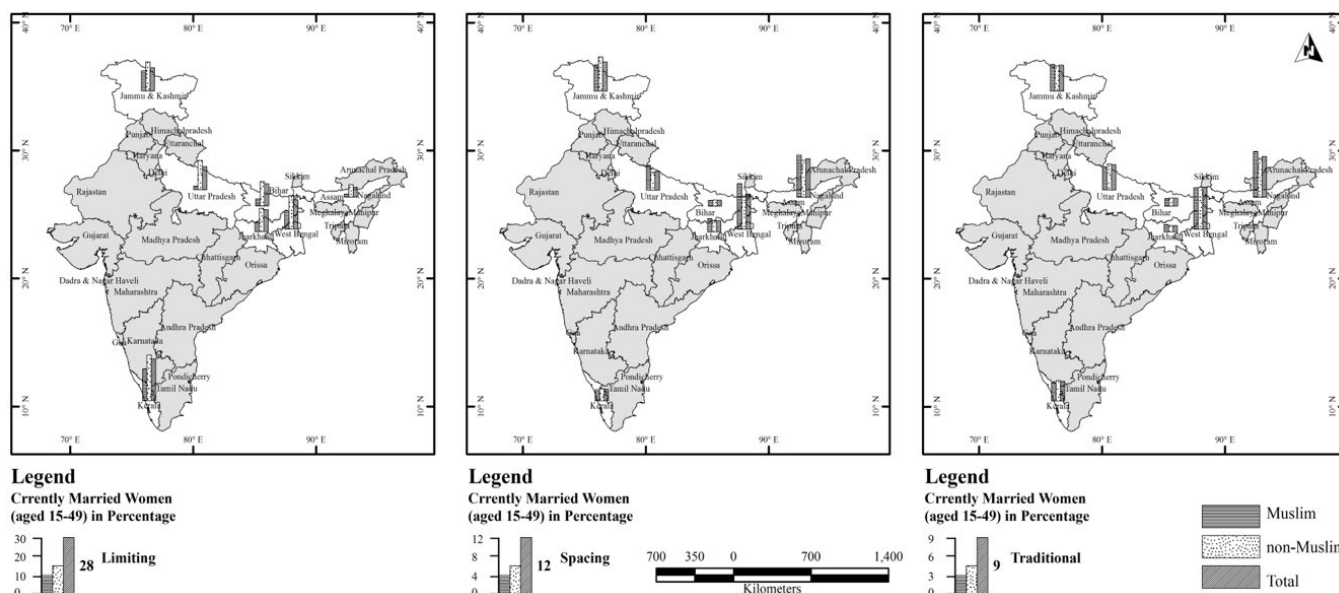
Figure 1 depicts that limiting method was the highest prevalence mode of contraceptive use (36.9%) followed by spacing (11.3%) and traditional methods (6.4%). It was found that Muslims adopted spacing and traditional methods more than Non-Muslims. Near about 20% Muslim women used limiting method whereas it was approximately double among non-Muslims.

It (Figure 1) also illustrates that almost half of the women in Kerala used limiting method which was the highest among all selected states. The worst situation

TABLE 1. State wise distribution of study population according to selected background characteristics

BACKGROUND CHARACTERISTICS	JAMMU & KASHMIR	UTTAR PRADESH	BIHAR	ASSAM	WEST BENGAL	JHARKHAND	KERALA
Religion							
Muslim	9936 (65.5)	14075 (16.1)	6115 (13.1)	8178 (27.0)	5305 (24.2)	2727 (10.1)	3792 (30.7)
Non- Muslim	5239 (34.5)	73489 (83.9)	40725 (86.9)	22065 (73.0)	16573 (75.8)	24159 (89.9)	8568 (69.3)
Age group							
15-24	2046 (13.5)	24719 (28.2)	14895 (31.8)	6144 (20.3)	5765 (26.4)	6899 (25.7)	1754 (14.2)
25-34	6147 (40.5)	31825 (36.3)	16454 (35.1)	12153 (40.2)	7671 (35.1)	11037 (41.1)	4449 (36.0)
35-49	6982 (46.0)	31020 (35.4)	15491 (33.1)	11946 (39.5)	8442 (38.6)	8950 (33.3)	6157 (49.8)
Residence							
Rural	12626 (83.2)	72355 (82.6)	42768 (91.3)	26628 (88.0)	17718 (81.0)	23127 (86.0)	9484 (76.7)
Urban	2549 (16.8)	15209 (17.4)	4072 (8.7)	3615 (12.0)	4160 (19.0)	3759 (14.0)	2876 (23.3)
Education							
Illiterate	9005 (59.3)	57005 (65.1)	34353 (73.3)	14427 (47.7)	12762 (58.3)	18745 (69.7)	1299 (10.5)
Literate	6170 (40.7)	30559 (34.9)	12487 (26.7)	15816 (52.3)	9116 (41.7)	8141 (30.3)	11061 (89.5)
Wealth Index							
Poor	2166 (14.3)	35023 (40.0)	31027 (66.2)	11837 (39.1)	10491 (48.0)	18403 (68.4)	289 (2.3)
Non- Poor	13009 (85.7)	52541 (60.0)	15813 (33.8)	18406 (60.9)	11387 (52.0)	8483 (31.6)	12071 (97.7)

FIGURE 1. Percentage of currently married Muslim and non-Muslim women aged 15-49, who are using Limiting, spacing and Contraceptive Methods in selected states of India



was found in Assam where both the communities have adopted least limiting method (15% among non-Muslims whereas only 3% among Muslims). In all the seven states non-Muslim women have performed better than the Muslims. The highest difference (21 percentage points) has been observed in Bihar followed by West Bengal (19 percentage points) in using limiting method. As far as spacing method was concerned, it was higher among Muslims as compared to the non-Muslims in West Bengal (21.4%) followed by Jharkhand (11.1%) and Uttar Pradesh (4.4%).

The Muslim women in West Bengal have reported the maximum (23.0%) use of spacing method while it was highest (21.2%) among non-Muslims in Assam.

The highest gap in the use of traditional method was observed in Assam (3.1 percentage points). The practice of traditional method has been observed higher in West Bengal (18.1%) and Assam (17.6%) whereas it was lowest in Jharkhand (2.6%) and Bihar (3.5%).

The use of limiting method increases with an increase of age among both Muslims and Non-Muslims (Table 2). Women in the age group of 35-49 were using maximum limiting method (54 percent) whereas women in the age group of 15-24 using only 8 percent. The women who belonged to the age group of 25-34 used the highest percentage of spacing and traditional methods. There was no significant effect of the place of residence in using limiting and traditional methods among non-Muslims. But it has affected both the Muslim and non-Muslim women in using the spacing methods. The data also showed that the use of limiting method has decreased by eight percentage points among literate Non-Muslim women than the illiterate non-Muslims. But in the case of Muslims, it has increased

by 3 percentage points. The wealth index indicated, except non-poor Muslim women in traditional method, that all non-poor women have reported higher adaptation of contraceptive methods.

In table 3, interestingly the women in rural areas in West Bengal have adopted more limiting methods (17 percentage points) than the women in urban areas. In addition, the non-Muslim rural women in Jammu & Kashmir and Kerala have also adopted higher limiting method than their counterparts. As compared to the literate women, illiterate women were using more limiting method in Jammu & Kashmir, West Bengal and Kerala. In West Bengal poor women in the wealth index have adopted higher limiting method than the economically advanced group.

Table 4 demonstrates that the use of spacing method was higher in 25-34 age group among Muslim as well as non-Muslim women in all states except Kerala. Women in urban areas had adopted higher spacing method as compared to rural women except non-Muslims in Kerala. It has also been found that the use of spacing method was higher among literate women as compared to illiterate women in all the states. In all the cases non-poor women were using more spacing method than the poor group except Muslims in Kerala.

Table 5 depicts that there was a minor difference in the use of traditional method among Muslim and non-Muslim in each age group in Jammu & Kashmir, Bihar, and Jharkhand. It also indicates that women in the age group of 25-34 have adopted higher traditional method than the other age group women in all the states. When we analyzed from spatial perspective, we found rural Muslim women were using more traditional method than urban Muslim women except in Uttar Pradesh and Bihar. On the

TABLE 2. Percentage of currently married Muslim and Non-Muslim women aged 15-49, who are using limiting, spacing and traditional contraceptive method by selected background characteristics, India.

BACKGROUND CHARACTERISTICS		LIMITING			SPACING			TRADITIONAL		
		Muslim	Non-Muslim	Total	Muslim	Non-Muslim	Total	Muslim	Non-Muslim	Total
Age group	15-24	3.4	8.7	8.0	12.6	10.3	10.6	7.1	5.3	5.5
	25-34	19.0	38.5	36.1	18.9	15.1	15.6	9.6	6.9	7.2
	35-49	32.1	57.2	54.4	10.6	7.0	7.4	8.9	5.8	6.2
Residence	Rural	16.7	39.0	36.8	11.6	8.4	8.7	10.1	5.8	6.2
	Urban	24.0	39.7	37.1	17.9	16.4	16.7	6.9	6.9	6.9
Education	Illiterate	18.3	44.0	40.4	11.2	4.8	5.7	8.7	4.8	5.3
	Literate	21.5	35.8	34.3	17.3	15.2	15.4	8.8	7.1	7.3
Wealth Index	Poor	12.0	34.5	32.3	9.6	4.8	5.2	10	5.3	5.8
	Non-poor	22.6	41.5	39	15.9	13.7	14	8.3	6.5	6.7

TABLE 3. Percentage of currently married Muslim and Non-Muslim women aged 15-49, who are using limiting contraceptive method by selected background characteristics in seven Muslim densely populated states of India.

BACKGROUND CHARACTERISTICS		JAMMU & KASHMIR		UTTAR PRADESH		BIHAR		ASSAM		WEST BENGAL		JHARKHAND		KERALA	
		Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim
Age group	15-24	1.8	1.3	0.4	3.1	1.7	5.2	0.1	1.9	5.0	11.3	2.1	4.6	3.3	8.0
	25-34	16.1	22.3	4.1	22.1	9.8	34.5	2.8	12.0	24.3	41.5	12.3	28.7	36.3	45.8
	35-49	38.6	55.7	7.7	31.9	13.1	45.9	7.2	23.5	34.5	57.9	18.3	45.3	62.8	70.8
Residence	Rural	21.7	35.8	3.3	19.9	7.7	28.5	2.9	13.8	21.5	43.5	9.7	25.6	38.3	56.3
	Urban	36.4	32.6	6.0	22.6	14.2	37.0	10.3	20.6	20.7	26.9	18.2	42.1	38.7	50.5
Education	Illiterate	27.3	45.6	4.2	21.5	8.3	27.4	3.2	17.4	27.3	54.5	11.1	26.7	60.8	64.8
	Literate	18.5	29.0	4.7	18.5	8.4	32.6	3.6	13.6	16.7	31.7	11.1	29.9	37.5	54.7
Wealth Index	Poor	13.7	32.1	2.9	16.8	7.4	25.1	1.9	12.0	23.3	47.8	7.8	22.3	48.3	53.9
	Non-poor	26.0	35.7	5.0	22.8	10.5	37.0	5.3	16.1	19.1	33.6	15.9	40.5	38.3	55.0

other hand, the rural non-Muslim women have adopted more traditional method than the urban non-Muslim women in Jammu & Kashmir, Uttar Pradesh and Assam. The data also directs that education level has significant influence on family planning adaptations because it has been found that the use of the traditional method is higher among literate women as compared to illiterate women in both communities except Uttar Pradesh and Jharkhand. However, we found no significant difference between poor and non-poor Muslims in the use of the traditional method in Jharkhand, Jammu & Kashmir and West Bengal.

The logistic regression model in table 6 shows that the women belonged to 25-34 age group, literate and urban women from both Muslim as well as non-Muslim community were more likely to use family planning services as compared to their counterparts. The economically advanced non-Muslims were 1.7 times ($p > 0.001$) more likely to use

contraceptive methods but this odds ratio for Muslim women was not statistically significant. The Fairlie decomposition model in table 7 demonstrates that the education (1.531%; $P, 0.000$; $CI, -0.003$ to -0.001) increases the differences in adaptation of contraceptive methods.

DISCUSSION

It is a well-established fact that the high fertility and low family planning use among Muslims is historically prevalent in India and other south Asian countries [20]. Studies of Bhat and Xavier [21] and Tilahun et al. [22] manifested that the religious barriers are responsible for this regressive scenario whereas Jeffery and Jeffery [23] categorically denied this explanation. However, the reasons for low

TABLE 4. Percentage of currently married Muslim and non-Muslim women aged 15-49, who are using spacing contraceptive method by selected background characteristics in seven Muslim densely populated states of India.

BACKGROUND CHARACTERISTICS		JAMMU & KASHMIR		UTTAR PRADESH		BIHAR		ASSAM		WEST BENGAL		JHARKHAND		KERALA	
		Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim
Age group	15-24	11.8	10.6	8.5	7.3	2.4	2.7	14.3	14.8	25.5	23.0	4.5	5.5	8.7	13.2
	25-34	17.7	25.5	16.5	12.5	3.4	4.2	29.0	24.2	29.7	21.2	9.4	6.7	6.5	9.2
	35-49	9.7	12.0	10.9	6.3	2.4	1.9	17.2	14.5	13.7	6.7	4.9	3.9	2.4	2.6
Residence	Rural	12.4	15.6	8.6	7.4	2.5	2.4	20.5	18.1	22.1	15.0	5.6	4.6	5.7	6.1
	Urban	18.0	24.7	18.9	18.2	5.6	8.8	29.4	21.7	29.4	20.7	11.7	11.5	4.8	6.3
Education	Illiterate	11.7	12.3	10.5	4.5	2.1	1.1	18.2	14.5	15.8	7.9	4.6	2.9	0.8	0.9
	Literate	16.2	20.1	17.9	15.0	4.7	6.2	23.5	20.2	28.6	20.9	10.2	10.0	5.7	6.3
Wealth Index	Poor	7.7	7.1	5.8	4.1	2.0	1.4	18.0	17.1	19.8	10.9	4.3	3.6	6.9	3.9
	Non-poor	14.4	18.5	15.2	12.2	4.7	5.9	24.9	19.3	26.6	20.5	10.0	9.8	5.5	6.2

TABLE 5. Percentage of currently married Muslim and non-Muslim women aged 15-49, who are using traditional contraceptive method by selected background characteristics in seven Muslim densely populated states of India.

BACKGROUND CHARACTERISTICS		JAMMU & KASHMIR		UTTAR PRADESH		BIHAR		ASSAM		WEST BENGAL		JHARKHAND		KERALA	
		Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim	Muslim	Non-Muslim
Age group	15-24	9.1	8.5	6.6	8.3	2.0	2.8	16.0	12.5	16.5	19.6	2.4	2.4	10.8	10.8
	25-34	14.6	13.7	10.0	13.0	3.8	4.0	21.0	18.5	19.0	18.9	3.4	2.7	8.6	10.5
	35-49	9.6	9.1	11.4	11.9	4.2	3.6	21.7	16.9	18.4	16.3	3.5	2.5	5.1	7.2
Residence	Rural	11.8	11.1	8.9	11.4	2.9	3.4	20.2	16.9	17.9	15.5	3.1	2.4	7.9	8.5
	Urban	10.6	9.9	10.7	10.8	7.5	5.0	14.6	15.7	18.3	28.1	3.0	3.5	7.6	9.9
Education	Illiterate	10.3	9.8	9.6	11.1	2.6	2.8	19.8	15.3	16.4	11.0	3.3	2.2	3.8	4.1
	Literate	13.9	11.5	9.3	11.6	5.3	4.8	19.8	17.3	19.2	22.1	2.7	3.2	8.0	9.0
Wealth Index	Poor	11.8	17.9	8.2	11.4	2.8	3.2	21.0	17.2	17.2	12.5	2.9	2.2	3.4	6.1
	Non-poor	11.5	9.9	10.1	11.2	4.7	4.2	18.4	16.5	18.9	22.7	3.3	3.3	7.9	8.9

family planning use and high fertility among Muslims have remained highly debated and sensitive in public health sphere [24]. Here in this study we found the low socio-economic status and less years of schooling were the prime impediments in the low family planning use and plausibly, in turn, have resulted in high fertility. Previously many studies have been carried out in India to address the aforementioned issues [25, 26]. But studies focusing only on the Muslim densely populated states are very rare. Therefore, this study made an attempt to examine the differences in family planning method adaptations among the Muslims and non-Muslims and its associated factors in seven Muslim populated states of India.

It was found that Muslims preferred to adopt spacing and traditional methods more than the non-Muslim groups who adopted modern limiting methods as well [27]. These modern limiting methods were more likely to use by the women who were under 35-49 age group. Hence this study also upholds the findings of several Indian demographers [28, 29] who argued that Muslim women in India adopt lesser family-planning services than non-Muslim women.

Different studies across the developing societies have reported that religion has dominant role in the decision of contraceptive adaptation for family planning [4, 30]. Here in this study also we have found that Muslim women adopted spacing and traditional methods over modern limiting

TABLE 6. Logistic regression showing odds ratios (95% CI) for contraceptive use among Muslim and Non-Muslim currently married women by different socioeconomic and demographic variables in Muslim densely populated states of India.

VARIABLES		MUSLIM		NON-MUSLIM	
		OR (95% CI)	p-Value	OR (95% CI)	p-Value
Age group	15-24 [®]	1.00		1.00	
	25-34	1.86 (1.72-2.01)	0.000	2.47 (2.37-2.57)	0.000
	35-49	1.32 (1.21-1.45)	0.000	1.65 (1.57-1.72)	0.000
Place of residence	Rural [®]	1.00		1.00	
	Urban	1.10 (1.02-1.19)	0.019	1.36 (1.30-1.42)	0.000
Education	Illiterate [®]	1.00		1.00	
	Literate	1.16 (1.07-1.27)	0.000	1.15 (1.09-1.21)	0.000
Wealth Index	Poor [®]	1.00		1.00	
	Non-poor	1.01 (0.92-1.09)	0.988	1.67 (1.59-1.74)	0.000

[®]Reference category

TABLE 7. Fairlie decomposition for contraceptive methods

Pr(Y!=0G=0), Muslim	0.126955				
Pr(Y!=0G=1), non-Muslim	0.248126				
Difference	-0.12117				
Total explained	0.005842				
BACKGROUND CHARACTERISTICS	Coef.	Percentage contribution	p-Value	95 % CI	
Age Group	0.002	-1.307	0.000	0.002	0.002
Place of Residence	0.000	0.251	0.237	-0.001	0.000
Education	-0.002	1.531	0.000	-0.003	-0.001
Wealth Index	0.006	-5.277	0.000	0.006	0.007

methods [4]. Several studies [31, 32] have explained the reasons for the preponderance of traditional and spacing methods over limiting methods among Muslims. Majority of the study argued that low family planning use and high fertility among Muslims is due to their lower socioeconomic status [33, 27], while some of the scholar argued that it is due to pronatalist ideology and greater opposition to contraceptive uses among Muslims [34, 35]. On the other hand, some of the demographers have explained that it is mainly due to their differential marriage patterns [36, 37] and due to gender differential roles [27].

It was found that highest number of women in Kerala adopted all the three family planning methods whereas women in Assam have adopted the least family planning methods. This reflects the prevalence of general awareness about the adoption of family planning methods in Kerala due to advanced socioeconomic and demographic factors [37, 38]. The main explanation for less use of contraceptives in Assam is the low educational attainment of the women. The study by Basu [38] also established that there is high fertility and low family planning method used in Assam and Uttar Pradesh. However, the highest difference among

Muslim and Non-Muslim women in adopting limiting method has been reported in Bihar followed by West Bengal. This difference is due to environmental and socio-cultural variations which play significant roles in the use of these modern limiting methods in different regions of the country [31]. The results also demonstrated that education, age-group, religion, place of residence have dominant influence on the adaptation of family planning methods because these variables determine the knowledge and effectiveness of use of family planning with better access to information on contraception [29]. Surprisingly the results showed that the income does not have any effect on the family planning adaptation among Muslim women. This finding contradicts with the study of Banerjee [39] and Hussain [40] who argued that higher income groups have higher rate of family planning method adaptations due to better access to contraceptives. The multivariate logistic regression model showed the association between various independent factors and contraceptive use. But decomposition model identified education as the main explaining factor for lower utilization of contraceptives among Muslims and higher utilization among Non-Muslims [41, 42].

Limitations: This study did not include the recent DLHS-4 data which is essential to show the recent scenario of religious differentiations in contraceptive use. But the latest DLHS data, which was published in 2012-14, did not cover our methodologically accepted states; it only covered West Bengal and Kerala.

CONCLUSION

In conclusion, the findings of this study echoed previous findings concerning the contraceptive use among Muslims and non-Muslims. The limiting contraceptive prevalence was low among Muslims, while the uses of spacing and traditional methods were comparatively higher among Muslims than non-Muslims. The education attainment has been found as the significant explaining factor for widening the gap in the contraceptive utilization. Hence we recommend that the focus should be given on illiterate Muslims to reduce the gap in contraceptive use among religious groups.

Ethical Consideration

The study is based on secondary data analysis. No data were collected for this study. The data are easily accessible on the International Institute for Population Sciences website (<http://rchiips.org/PRCH-3.html>). Hence, the study did not require the ethical clearance.

Conflict of interest

There are no conflicts of interests in preparation of this article.

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References

1. International Institute for Population Sciences, District Level Household and Facility Survey (DLHS-3), 2007-08. Mumbai: IIPS; 2010.
2. India, 2010 Davis K and Blake J. Social structure and fertility: An analytical framework, *Economic and Cultural Change*, 1956; 4: 211-235.
3. Bongaarts J. A framework for analyzing the proximate determinants of fertility. *Population and development review*. 1978 Mar 1;105-32.
4. Babalola S, Kusemiju B, Calhoun L, Corroon M, Ajao B. Factors associated with contraceptive ideation among urban men in Nigeria. *International Journal of Gynecology & Obstetrics*. 2015 Aug 1;130(S3).
5. Srikanthan A, Reid RL. Religious and cultural influences on contraception. *Journal of obstetrics and gynaecology Canada*. 2008 Feb 1;30(2):129-37.
6. Sharing responsibility: women, society and abortion worldwide. Alan Guttmacher Institute; 1999. Available at: <http://www.agi-usa.org>.
7. Chamie J. Religious differentials in fertility: Lebanon, 1971. *Population Studies*. 1977 Jul 1;31(2):365-82.
8. Riccio JA. Religious affiliation and socioeconomic achievement. The religious dimension: New directions in quantitative research. 1979:199-228.
9. Westoff CF. The blending of Catholic reproductive behavior. The religious dimension: New directions in quantitative research. 1979:231-40.
10. Obermeyer CM. Islam, women, and politics: The demography of Arab countries. *Population and Development Review*. 1992 Mar 1:33-60.
11. Obasohan PE. Religion, Ethnicity and Contraceptive Use among Reproductive age Women in Nigeria. *International Journal of MCH and AIDS*. 2015;3(1):63.
12. Chaurasia AR. Contraceptive use in India: a data mining approach. *International Journal of Population Research*. 2014;2014.
13. Sk M, Kurlikar P, Chourase M, Yadav R, Biswas A. Status and determinants of child immunisation coverage in three South Asian countries, India, Bangladesh and Nepal: Evidence from the Demographic and Health Survey. *Sri Lanka Journal of Child Health*. 2018 Mar 5;47(1):56-63.
14. Mishra VK. Muslim/non-Muslim differentials in fertility and family planning in India. 2004, Working papers, Population and Health Series no 112:1-49.
15. Centers for Disease Control and Prevention (CDC). Ten great public health achievements—United States, 1900-1999; *MMWR: Morbidity and mortality weekly report*. 1999 Apr 2;48(12):241.
16. Klerman LV. Family planning services: an essential component of preconception care. *Maternal and child health journal*. 2006 Sep 1;10(1):157-60.
17. Visaria L, Jejeebhoy S, Merrick T. From family planning to reproductive health: challenges facing India. *International family planning perspectives*. 1999 Jan 1:S44-9.
18. Pachauri S. Priority strategies for India's family planning programme. *The Indian journal of medical research*. 2014 Nov;140(Suppl 1):S137.
19. De Oliveira IT, Dias JG, Padmadas SS. Dominance of sterilization and alternative choices of contraception in India: an appraisal of the socioeconomic impact. *PLoS One*. 2014 Jan 28;9(1):e86654.
20. ORC-Macro II. National Family Health Survey, 1998-1999: India. Mumbai, India: International Institute for Population Sciences. 2000.
21. Bhat PM, Zavier AF. Role of religion in fertility decline: The case of Indian Muslims. *Economic and Political Weekly*. 2005 Jan 29:385-402.
22. Tilahun T, Coene G, Luchters S, Kassahun W, Leye E, Temmerman M, Degomme O. Family planning knowledge, attitude and practice among married couples in Jimma Zone, Ethiopia. *PLoS one*. 2013 Apr 23;8(4):e61335.
23. Jeffery R, Jeffery P. Religion and fertility in India. *Economic and Political weekly*. 2000 Aug 26:3253-9.
24. Worku AG, Tessema GA, Zeleke AA. Trends of modern contraceptive

- use among young married women based on the 2000, 2005, and 2011 Ethiopian demographic and health surveys: A multivariate decomposition analysis. *PLoS one*. 2015 Jan 30;10(1):e0116525.
25. Stephenson R. District-level religious composition and adoption of sterilization in India. *Journal of health, population and nutrition*. 2006 Mar 1;100-6.
 26. Tayyaba SK, Khairkar VP. Obstacles in the use of contraception among Muslims. *Researchers World*. 2011 Jan 1;2(1):157.
 27. Mistry M. Role of religion in fertility and family planning among Muslims in India. *Indian Journal of Secularism*. 1999;3(2):1-33.
 28. Singh RP, Saxena U, Saxena AK, Gupta RB. Family planning practices among Muslims in selected districts of Uttar Pradesh. 1997.
 29. Rajaram S. Timing of sterilization in two low fertility states in India. *Demography India*. 1998;27(1):179-91.
 30. Pearce LD. Religion's role in shaping childbearing preferences: The impact of Hinduism and Buddhism. In *Population Association of America annual meeting*, March 2001 (pp. 29-31).
 31. International Institute for Population Sciences. (IIPS). District Level Household and Facility Survey (DLHS-3), 2007-08. Mumbai: IIPS; 2010.
 32. Ram F, Shekhar C, Chowdhury B. Use of traditional contraceptive methods in India & its socio-demographic determinants. *The Indian journal of medical research*. 2014 Nov;140(Suppl 1):S17.
 33. Iyer S. Religion and the decision to use contraception in India. *Journal for the Scientific Study of Religion*. 2002 Dec 1;41(4):711-22.
 34. Alagarajan M, Kulkarni PM. Fertility differentials by religion in Kerala: a period parity progression ratio analysis. *Demography India*. 1998;27(1):213-7.
 35. Lamidi EO. State variations in women's socioeconomic status and use of modern contraceptives in Nigeria. *PLoS one*. 2015 Aug 10;10(8):e0135172.
 36. Bhagat RB, Unisa S. Religion, caste/tribe and marriage age of females in India: A study based on recent census data. *Journal of Family Welfare*. 1991 Mar 1;37(1):17-22.
 37. Thulaseedharan JV. Contraceptive use and preferences of young married women in Kerala, India. *Open access journal of contraception*. 2018;9:1.
 38. Basu AM. POSTMODERN CONTRACEPTION: THE USE OF TRADITIONAL METHODS OF BIRTH CONTROL AMONG UPPER CLASS WOMEN IN INDIA. LaRay Denzer • Mary FE Ebeling Jonathon Glassman • Karen Tranberg Hansen • David Schoenbrun. 2002:71.
 39. Banerjee B. Socio-Economic and Cultural Determinants on Acceptance of Permanent Methods Contraception. *The Journal of Family Welfare*. 2004;50: 54-60.
 40. Hussain N. Demographic, Socio-Economic and Cultural Factors Affecting Knowledge and Use of Contraception Differentials in Malda District, West Bengal. *J Community Med Health Edu*. 2011;1:102. doi:10.4172/jcmhe.1000102
 41. Darroch JE, Singh S. Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. *The Lancet*. 2013 May 18;381(9879):1756-62.
 42. PLOS ONE Staff. Correction: Dominance of Sterilization and Alternative Choices of Contraception in India: An Appraisal of the Socioeconomic Impact. *PLoS one*. 2014 Jun 6;9(6):e100050.

