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Probing the Nexus Between the Levels of Religious Affinity and Fertility Among Muslims in Rural West Bengal

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Abstract

The causes of the higher fertility rate of Muslims in India than Hindus give birth to controversy. Although several researchers have identified the socio-economic backwardness and demographic characteristics of the Muslims for their high fertility rate, still a section of people in India blame the religious identity of the Muslims for the high fertility rate of Muslims in India. This paper tries to identify the relation between the religiosity level of Muslims and their high fertility level in rural West Bengal. The prime source of data for the study is the field survey. A composite religiosity index is prepared to assess the religiosity level of Muslims. In this study, no significant relationship is observed between the religiosity level of Muslims and their fertility level. The study also shows that Muslims are more comfortable in using temporary modern contraceptives than permanent ones.

Keywords

Contraceptives, Fertility, Islam, Muslims, Religiosity

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Introduction

Religion is a set of beliefs on supernatural power that provides a distinct cultural setting to our society (Subbotsky, 2016; Carus, 2021; Howerth, 2021). Many religions in the world like Christianity, Islam, Hinduism, Buddhism, Judaism, etc. are largely responsible for the cultural difference in our society (Lubaba & Shahed, 2007; Setta & Shemie, 2015). The role of religion is very important in our daily life and decision-making process (Schieman, 2011). Hinduism and Islam are the two main religious communities both in the county (India) and in the state (West Bengal) and their share of the population is 79.80 percent and 14.23 percent respectively in the country and 70.54 and 27.01 percent respectively in the state of West Bengal (Census of India, 2011). Although the decision to childbirth once considered the personal choice of the couple, now several countries are trying to control the fertility rate of their people (Srinivasan, 2007; Khan, 1984; Mazzocco, 1988; Kwankye & Cofie, 2015; Warwick, 1986). The Government of India launched a government-supported family planning programme in the year 1952 to follow an ante-natal population policy (Bhende & Kanitkar, 2015; Srinivasan, 2007; Wang, 2019). The adoption of ante-natal population policies can successfully help to reduce the overall fertility rate of the people of the country but the fall of fertility of Hindu people is observed as higher than Muslims (Ram, 2012; Dharmalingam, Rajan, & Morgan, 2014; Dharmalingam & Morgan, 2004; Bhagat & Praharaj, 2005; Borooah, 2004; Jeffery & Jeffery, 2000).

The higher fertility rate of Muslims than Hindus gives birth to communal and anti-secular kinds of rumour like ‘Muslims soon will outnumber Hindus in India' which in many cases responsible for the social and political tension in the society and hindered the positive effect of development (Shariff, 1995; Pasupuleti, Pathak & Jatrana, 2016; Jeffery & Jeffery, 2000; Mistry, 2005; Jeffery & Jeffery, 2002). A majority-minority conflict was raised between Hindu-Muslims in India because of the higher fertility rate of Muslims than Hindus (Bhagat & Praharaj, 2005). Several eminent research works suggest that the reasons behind the high fertility rate of Indian Muslims are their socio-economic backwardness (Chandna, 2015; Khraif et al., 2017; Martin, 1995; Kim, 2010; Borkotoky and Unisa, 2014; Mahanta, 2016; Basu, 2002; Sleebos, 2003; Pathak & Murty, 1982; Siddiqui, 1996; Wang & Sun, 2016; Mostert & Hofmeyr, 1988; Gani, 1999). Still, a significant portion of common people and few researchers are trying to link the religious identity of Muslims with the high fertility rate of Indian Muslims (Shariff, 1995; Jeffery & Jeffery, 2000). Several previous studies support that religious women or couples have comparatively higher fertility than non-religious (Hayford & Morgan, 2008; Bein, Gauthier, & Mynarska, 2021). The situation gets more complicated by 'Saffron Demographers' who use demographic data to fulfill their non-demographic particularly political purpose, blamed on religious identity as the high fertility rate of Indian Muslims (Jeffery & Jeffery, 2005; Anwaruzzaman, 2012). Although many researchers tried to wipe out the confusion that there is no significant role of Islam behind the high fertility rate of Indian Muslims, in reality, it is still believed by a significant portion of Indians. Hence, it seems very important to enlighten the

interrelation between the religiosity level of Muslims and their fertility level to understand the role of practicing Islam in the high fertility rate of Indian Muslims.

Objectives

The prime objectives of this study are as follows:

a) To find out the impact of religion on the use of modern contraceptives among Muslims.
b) To assess the relation between the religiosity level of Muslims and their fertility behaviour.

Materials and Methods

The study is based on primary as well as secondary sources of data. Census of India (2011) data have been used as the secondary source of data. While, the primary data were collected in the year 2018, through a field survey using a pre-designed survey schedule. West Bengal is one of the major states of the Eastern Indian region extending from 85° 50' to 89° 50' east longitudes and from 21° 38' to 27° 10' north latitudes (Fig. 1). The state is the twelfth largest in India in terms of geographical area covering approximately 88,752 km^2. It is the fourth most populous state of India with a population of 9,12,76,115 persons. For administration, the state has been divided into 19 districts and 341 Community Development (CD) blocks. In the present study 600 [100 from each sample Community Development (CD) block] married Muslim women in the reproductive age group of 15 to 49 years have been identified as respondents. The data relating to the respondents' husbands were also collected from the respondents during the time of the field survey. Besides, an interview of the local imams (religious heads of mosques) of sample CD blocks of the study area (total 24 number of imams) also has been conducted. The selection of respondents (600 respondents) has been done by following a multi-stage random sampling technique. In the first stage, based on Census of India (2011) data (excluding the population of statutory towns), Muslim majority CD blocks with at least 50 percent Muslim population have been identified. Considering the Census of India (2011) database on infrastructural indicators like amenities and services such as the percentage of residence houses in good condition (x_1); percentage of households with safe drinking water facilities (x_2); percentage of households using electricity as the main source of lighting (x_3); percentage of households with latrine facilities within premises (x_4); the ratio of primary (x_5), middle (x_6), secondary (x_7), higher secondary (x_8) and higher studies institutions (college and university) (x_9) to total population; the ratio of medical institutions to total population (x_{10}); the ratio of doctor and para-medical staff strength in medical institutions to total population (x_{11}) and the ratio of medicine shops to total population (x_{12}), a z scores of all the Muslim majority CD blocks of the state of West Bengal have been calculated. The CD blocks have been then arranged in descending order based on their respective z scores. Two CD blocks of Barasat-II and English Bazar have been selected from the top 1/3rd z-scoring CD blocks using simple random sampling techniques. Two CD blocks of Mograhat-II and Nalhati-II have been selected from the middle 1/3rd z scoring group of CD blocks and remaining two CD blocks of Kaliachak-

III and Suti-II have been selected from the bottom 1/3rd z score ranking CD blocks (Fig. 1). At the second stage of sampling, based on same principle of Muslim majority and availability of amenities and services, two villages have been selected from each sample CD blocks for conducting study. While selecting the sample villages from the z-score list of villages of respective sample CD blocks, the first village has been selected from the top of the z-score list and the second one has been selected from the bottom of the list. In the third stage of sampling, the list of Muslim households with married women in the age group 15 to 49 years has been collected from Integrated Child Development Scheme (ICDS) Centres and from the Accredited Social Health Activist (ASHA) workers. The respondents were selected randomly using a simple random sampling technique with the help of a random number table. The sample CD blocks occupy 1.16 percent of the total geographical area of the state accounting for 2.13 percent of the total population. Besides that, these sample CD blocks account for 3.86 percent of the total Muslim population of the state.

The databases on infrastructure, amenities, and services have been taken into consideration to assess the socio-economic backwardness of the households selected for the survey. The educational attainment of the respondent Muslims, particularly females, is largely dependent on the socio-economic advancement, of the family which in turn influences fertility. The formula by which Z scores have been calculated is as follows:

$$Z = \frac{x - \mu}{\sigma}$$

where, Z = standard score, x = observed value, μ = mean of the sample, and σ = standard deviation of the sample.

A composite religiosity index is formed for the Muslim couples to understand its impact on their fertility behaviour. To form a composite index of religiosity of the Muslim couples of sample CD blocks, weightage is given to their various religious performance (Table 1). Here weightage values have been given to various religious festivals and faiths according to their importance in Islam with the help of discussions with the local religious head (head of local Mosque) of the study area. The details of various religious activities of the Muslim couples considered here as variables for the religiosity index and their scales are represented in Table 1. After the calculation of all weightage values, summarization is done and then the summation value is transformed out of ten. The composite religiosity index value derived from out of ten represents the final composite religiosity index value of the Muslim couples of the respective sample CD blocks. In the process of formation of the composite religiosity index, those variables are ignored which shows more or less the same results for all the respondents like the importance of the celebration of festival 'Eid' (an important festival for Muslims).

To achieve the enlisted objectives, several statistical tools and techniques have been applied. The statistical test ANOVA and Tukey HSD at a 95% confidence level have been applied to measure statistical differences in fertility levels among various groups of Muslim couples with different levels of religiosity. For the conduction of ANOVA, the respondents having more than 1.5 years duration of conjugal life or having at least one live birth are considered for

analysis. Based on the composite religiosity index value the Muslim couples are divided into three groups i.e., 'High' 'Moderate' and 'Low'. The test of ANOVA is calculated by following the linear model:

$$X_{ij} = \mu_i + e_{ij}$$

where, X_{ij} denotes the j-th observation in the i-th group; μ_i denotes the mean of the i-th population; and e_{ij} denotes error due to many unspecified causes. The ANOVA test indicates only the overall statistical difference in fertility levels among various religious groups of Muslim couples. Besides, for the calculation of the statistical difference in the fertility level among those groups of couples having different levels of religiosity level, concerning each other, the Tukey HSD test is conducted. The test helps to understand where the mean difference of fertility lies actually and where does not. The formula used in the calculation of Tukey's test is very similar to that of the t-test. After ANOVA, the conduction of Tukey's test is essential in understanding whether the mean fertility of various groups of couples statistically differ from each other or not. After calculating ANOVA, the formula that has been used in the calculation of Tukey's test is as follows:

$$q_s = \frac{Y_{max} - Y_{min}}{SE}$$

where, Y_{max} is the larger of the two means being compared; Y_{min} is the smaller of the two means being compared, and SE is the standard error of the sum of the means. This q_s value can then be compared to a q value from the studentized range distribution. If the q_s value is larger than the critical value q_α obtained from the distribution, the two means are said to be statistically different at a 95 % confidence level. Pearson's product-moment correlation coefficient has been conducted to identify the strength of linear correlation between the level of religiosity of Muslim couples and the number of live births per woman.

Result and Discussion

To identify the role of Islam as a religion over the fertility rate of Muslim people the composite religiosity index has been constructed (Fig. 2). Here the composite religiosity index can be defined as a medium to measure the intensity of religious practices and faiths of the Muslim couples. The analysis of field survey data reveals that the religiosity level is the highest among the Muslim couples of the CD block of Mograhat – II (Fig. 2); where the religiosity index value is 5.84. In the case of CD blocks of Barasat – II, and Kaliachak – III, too, the religiosity index value is quite high, i.e., 5.16 and 4.82 respectively. The analysis of the composite religiosity index shows that the Muslim couples of the CD blocks of Mograhat – II (5.84), Barasat – II (5.16), and Kaliachak – III (4.82) are comparatively more religious. On the other side, the CD block of Suti – II of Murshidabad district has the lowest composite religiosity index value (4.08).

There is no such relationship witnessed between the level of religiosity and the fertility level of the Muslims in sample CD blocks. Fig. 2 shows level of religiosity of Muslims and fertility (TFR) of Muslims in the sample CD blocks. It is witnessed that the CD block of Suti – II has the lowest value for religiosity index (4.08), but there the rate of fertility is observed to be very high (TFR 3.79). On the other hand, the CD block of Barasat – II has the lowest value of TFR, i.e., 1.95 for Muslims, but there the religiosity

index is found to be quite high (5.16). The CD block Mograhat – II has the highest religiosity index value (5.84); the level of fertility is observed to be moderate (TFR 3.39). Moderate religiosity index values (4.53 and 4.56) with comparatively low TFR (TFR 2.45 and TFR 2.60) for local Muslim people are seen in the CD blocks of Nalhati – II and English Bazar. The result of the analysis of religiosity level and fertility shows that the role of religion is not very important in controlling the fertility rate for Muslim people in the state of West Bengal. Had there been a positive relationship between them (religiosity level and fertility) then the CD block of Barasat – II would have represented a high fertility rate and Suti – II would have represented a very low total fertility rate. The analysis also shows that the relationship is not negative between the religiosity level and fertility rate of the Muslims. Rather it can be concluded that there may not be a significant relationship at all between the practices of Islam or the religiosity level of Muslims to their high fertility rate.

To understand the relationship between the religiosity level of Muslims and their fertility level in detail a Pearson correlation coefficient (two-tailed) analysis is conducted (Fig. 3). Here the hypothesis is as follows:

H_0: There is not any statistically significant relationship between the religiosity level of Muslims and their fertility rate.

H_1: There is a statistically significant relationship between the religiosity level of Muslims and their fertility rate.

The result of the correlation analysis rejected the alternative hypothesis and accepted the null hypothesis. Here the value of r = - 0.06, p = > 0.05, where N = 578. The value of r (-0.06) indicates that the religiosity level of Muslims is not positively related with their high fertility level in the state. Rather it is express very low negative relation to the fertility level of Muslims. In a clearer word the total number of live births/ married Muslim couple is slightly decrease with the increase of the religiosity level of the Muslims. In this correlation analysis those Muslim couples are not considered for analysis whose duration of conjugal life is less than 1.5 years and have no live birth record.

To analysis the impact of the religiosity level of the Muslims on their high fertility level in more detail a one-way, between-groups, analysis of variance (ANOVA) is conducted (Table 2). Based on the composite religiosity index value the Muslim couples are divided into three groups i.e., 'High' (composite religiosity index value more than 6), 'Moderate' (composite religiosity index value ranges between, 4 – 6), and 'Low (composite religiosity index value less than 4). Levene's statistic (based on mean) is non-significant (p = > 0.05), thus the assumption of homogeneity of variance can be assumed.

The result of the analysis shows that there is no statistically significant relation between the religiosity level of Muslim couples and their fertility level. Here the value of p is more than 0.5 where, F (2, 575) = 1.477, p = 0.229 at a 95 percent confidence level (Table 2). The non-significant statistical relationship validated the null hypothesis and established that there is no statistically significant relation between the religiosity level of Muslims and their fertility level.

Table 2 only reveals that there is no significant relation between the religiosity

level of the Muslims and their fertility. Table 3 ensures that among various groups of Muslims with different mean religiosity index values ('High', 'Moderate', and 'Low') the fertility level does not differ significantly. Table 3 shows that the significance values are more than 0.05 in all cases (0.20, 0.74, and 0.55). According to this post-hoc comparison using the Tukey HSD (honestly significant difference) test (Table 3), no statistically significant mean difference of total live births is witnessed between the three groups i.e., 'High', 'Moderate', and 'Low'. The value of eta squared (η^2) in ANOVA analysis helps to understand the strength of the relationship between independent and dependent variables. According to Cohen's d criteria if the value of eta-squared is 0.01, it indicates a small effect, while 0.06 suggests a moderate effect, and 0.14 or higher indicates a large effect. In the present analysis the effect size, calculated using eta squared (η^2), is 0.005 (by Cohen's d criteria) which denotes a very low effect size of the religiosity level of Muslims to their fertility behaviour. The low value of eta squared (η^2) suggests that the actual difference in mean scores between the groups was quite small and the religiosity level of the Muslims is not significant to the high fertility level of the Muslims in the state.

Now it seems to be important to discuss the perception of local Muslim people towards the practice of various modern contraceptives (Fig. 4). The result of field survey data analysis reflects that around 89.67 percent of Muslim couples in the study area consider that there is no problem in Islam for using various temporary modern contraceptives. However, the percentage of Muslim couples who consider sterilization to be prohibited in Islam is observed to be quite high (72.50 percent). The overall analysis reflects that among Muslim couples the practice of temporary contraceptives is more popular; according to them, there is no prohibition in the religion for practicing temporary modern contraceptives. Besides, the overall analysis, the CD block-wise analysis also seems to be important here (Fig. 5).

It is observed that in the case of CD blocks of Nalhati – II (100 percent) and English Bazar (98 percent), the percentage of Muslim couples who consider that there is no problem in Islam in practicing temporary modern contraceptives is comparatively high. It is derived from the analysis that although the CD block of Barasat – II reflects the lowest fertility level (TFR 1.95) in comparison to other sample CD blocks, the percentage of Muslim couples who think that the practice of various modern temporary contraceptives (90 percent) and sterilization (2 percent) are not prohibited in the religion of Islam is relatively low. This is because the value of religiosity is witnessed to be quite high here (5.16). However, religiosity level is not a significant barrier to using various modern contraceptives by Muslim couples. It is observed in several cases (19.50 percent) that although Muslim couples consider that the practice of modern contraceptives is prohibited in religion, nevertheless they practice it for their desire for small family size and socio-economic development; this can be considered to be a success of the government family planning programme. In the CD block of Mograhat – II the composite religiosity index is the highest (5.84) among all six sample CD blocks and the fertility level is low (TFR 3.39)

compared to the CD blocks Suti – II (TFR 3.79) and Kaliachak – III (TFR 4.19); it has the lowest percentage of Muslim couples considering the practice of temporary modern contraceptives not to be an issue in religion (78.75 percent). The CD block of Kaliachak – III has a high religiosity index value (4.82) compared to the CD blocks of Nalhati – II (4.53), English Bazar (4.56), and Suti – II (4.08) and represents a high fertility rate (TFR 4.19) for Muslim people; there the percentage of Muslim couples considering sterilization not to be prohibited in Islam is quite high (17. 17 percent). On the other hand, the CD block of Suti-II has a comparatively low religiosity index value (4.08) and high fertility rate (TFR 3.79) for Muslims, and the percentage of Muslim couples believing that the practice of various modern temporary contraceptives (10 percent) and sterilization (76 percent) prohibited in religion is significantly high.

The above analysis clearly indicates that the relationship between the practice of religion Islam and the use of various modern contraceptives is not significant. Islam is not a significant barrier in the practice of various modern contraceptives by the Muslim couples in the study area, rather there may be other issues that influence their fertility behaviour as well as the rate of modern contraceptives use. The CD block-wise analysis also reflects that the practice of sterilization and abortion is not very popular among Muslim couples, they are more attracted to the practice of various temporary modern contraceptives. In some cases (4 percent of sterilization cases) the local health workers and doctors of local health institutions force them to go through the sterilization process (mainly tubal ligation). This forceful sterilization process creates fear among them for using various family planning methods. Hence, in many cases (3 percent cases) they avoid various local health workers during the stage of pregnancy and childbirth. This, in turn, gives birth to various health problems to the mothers and child and may be increase the risks of infant and maternal deaths; ultimately promoting high fertility levels.

Conclusion

It is brought out from the above discussion that the relation between the high fertility rate of Muslims and their practice of Islam as a religion is not significant. A high proportion of Muslim couples (89.67 percent) considered the practice of temporary but modern contraceptives as acceptable in Islam. Therefore, it is very important to continue the supply of various modern temporary family planning gadgets to the Muslim community to check their fertility rate in the study area. A high percentage of Muslim couples (72.50 percent) considered sterilization as not welcome in Islam. It is not necessary to go through sterilization to check the family size. The government programs for checking high fertility should focus on education and awareness about temporary contraceptives, rather than promoting sterilization specially in Muslim majority areas. The practice of temporary modern contraceptives by Muslims also limited their family size and helped to fulfill the purpose of the family planning programme launched by the Government of India. Therefore, it is very important to stop the forceful sterilization process by local health workers. Forceful sterilization, in many cases (3 percent) shows lower interest in Muslims regarding various

family planning methods. In this way, it also creates a question about the success of the Indian family planning programme. Therefore, it can be concluded that religion is not significant in controlling the fertility rate of Muslim people. To reduce the fertility rate of the Muslims in the state of West Bengal as well as of India it seems very important to promote the use of various modern temporary family planning methods and to educate them of the same.

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Appendix

Table 1 Variables and Scale of Composite Religiosity Index for Muslims in rural West Bengal

Sl. No.	Variables	Maximum Value	Minimum Value	Scale
1	Frequency of visiting Mosque/day for Prayer	5	0	1 time visiting = 1 and for Friday special prayer only it is 7
2	Salah (Namaz) Frequency/day	5	0	1-time Salah/Day =1
3	Performance of Ramadan	30	0	Perform 1 Ramadan Day = 1
4	Celebration of Muharram	10	0	Celebration of Muharram with fasting = 10, and without fasting = 5
5	Celebration of Prophet's Birth	10	0	Celebration of Prophet's Birth =10
6	Celebration of Shab-e-Barat	10	0	Celebration of Sab-e-barat with fasting= 10 and without fasting =5
7	Perform Hajj	20	0	Perform Haj = 20

Source: Compiled by Authors

Table 2 Impact of religiosity level on fertility among Muslim couples in rural West Bengal

ANOVA

TFR

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.829	2	3.915	1.477	0.229
Within Groups	1524.171	575	2.651		

Source: Compiled by Authors

Table 3 Post-hoc multiple comparisons test using the Tukey HSD Analysis for Religiosity level of Muslim couples and total no. of Live Births/Married Muslim Women in rural West Bengal

Religiosiy Level (I)	μ	σ	Religiosity Level (J)	Mean Difference of TFR (I-J)	Significance
Low	2.65	1.78	Moderate	0.294	0.20
			High	0.116	0.74
Moderate	2.36	1.46	Low	- 0.294	0.20
			High	- 0.177	0.55
High	2.54	1.58	Low	- 0.116	0.74
			Moderate	0.177	0.55

Source: Compiled by Authors