



Demographic Behaviours and its Determinants, Fertility differential by religion--A case study in Barpeta District of Assam.

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Abstract: The study of human fertility occupies a central position in the study of population; as it is a positive force in population dynamics. Regional variation patterns in the demographic transition of fertility decline and association of the processes with demographic, transition of fertility decline and association of the processes with demographic, Socio-economic, cultural and diffusion process of knowledge have received much attention in the demographic research of recent years. Religion is considered to be an important variable affecting the desires, expectations and experiences of fertility through its philosophical content and in terms of the socio-economic attributes. The level and patterns of fertility vary considerably in various religious groups of the same population. There is a regional variation in differential fertility by religion in India with high differentials in the north than in the southern and western parts.

Keywords: Population, Demographic, Fertility, Transition, Religion

Introduction: The study of human fertility occupies a central position in the study of population; as it is a positive force in population dynamics. Regional variation patterns in the demographic transition of fertility decline and association of the processes with demographic, transition of fertility decline and association of the processes with demographic, Socio-economic, cultural and diffusion process of knowledge have received much attention in the demographic research of recent years. India, as a country of striking demographic diversity, with enormous variations in the conditions and mechanisms of fertility transition offer a rich ground for these analyses. Religious affiliation as a determinant of demographic behaviour was once at the forefront of demographic research especially in studies of differential fertility. An argument of the “particularized theology” says that it is very essence of religion that influences fertility, irrespective of any socio- economic or demographic factors. On the other hand, others argue that fertility differential is the outcome of differences in the socio-economic characteristics of the members of different religious groups. Religion is considered to be an important variable affecting the desires, expectations and experiences of fertility through its philosophical content and in terms of the socio-economic attributes. The level and patterns of fertility vary considerably in various religious groups of the same population. The fertility differentials by religion have been found in various studies (Tomas Frejka and Charles F. West off, 2006, Newman Lareen A.,2006) conducted in different parts of the world. The studies in the west revealed that the fertility of Catholics is higher than that of non- Catholics in almost every country. It is also evident that the fertility differentials by religion have been in the post baby -boom period especially between catholic and non- Catholic population in the United States, Canada and Australia. This is due to the socio-economic development and modification in the religious sanctions relating to the ideology and practice of birth control and the weakening of the influence of religious doctrine and tradition.

Various studies (M. Alagarjan and P.M. Kulkarni, 2008, Rajan, 2005, Jeffery and Jeffery, 2009) in India have found that among major religious groups, Muslim have experienced the highest fertility and Sikhs the Lowest Between these extremes are Hindus and Christians. But the studies about the relative trends among different religious groups show that the differences have narrowed down.

The fertility differences between Hindus and Muslims have begun to narrow down during the 1990s. After 1992-93, the declining trend in the total fertility among the Muslims is sharper compared to Hindus (M. Alagarjan and P.M. Kulkarni,2008).

There is a regional variation in differential fertility by religion in India with high differentials in the north than in the southern and western parts. It is due to the diversity in the socio-economic development and the composition of population within each region. The difference in Hindu-Muslim fertility is far higher in states like West Bengal, Assam the North Eastern states and few northern states. But in other parts of the country, Muslim fertility is falling in line with Hindu fertility as the difference is narrowing (Ranjan, 2005, M.A. Alagarjan and P.M. Kulkarni,2008, Jeffery and Jeffery,2009)

Differences in the socio-economic attributes among the different religious groups are also accountable for fertility differential by religion. It is evident that states with small differentials in Hindu Muslim fertility have low differentials in Hindu Muslim female literacy levels especially in the southern and western parts of India. On the contrary, Haryana, a state of northern India shows large differences in Total fertility rate of Muslims and Hindus as there are largest differentials in Hindu-Muslim female literacy. This is also observed in Meghalaya, Nagaland and Punjab (Rajan, 2005).

Assam, being one of the northeastern states, belonged to the high fertility region of India. In Assam, the fertility differential by religion is revealed in the NFHS-2 with Muslim, Hindu and Christian's total fertility rate being 3.05, 2.00 and 1.69 respectively. It is also evident that higher Muslim fertility (than Hindu) is due to low female literacy level among Muslims compared to Hindus. This is the consequence of interrelationship between socio-economic factors and fertility differentials by religion

Thus, it is not religion per se, but the characteristics of the religious groups that are important in influencing fertility levels (Bhagat and Praharaj, 2005). This paper reviews theoretical and empirical work on that relationship which special attention to a number of cases in which religion has been identified as an important determinant of fertility patterns.

Statement of the problem: The size and growth of population beyond optimum level is one of the factors preventing the effort of the development process of any country. It creates many serious problems such as poverty, unemployment, fragmentation of land holdings, environmental degradation etc. In the context of these serious problems population growth must be controlled to access the gain of developmental effort of the planning process.

Having been positively associated with population, fertility is responsible for the excessive replacement of human numbers, creating the most serious socio-economic problems of poverty, unemployment etc.

In perspective of global population, India is the second most populous country experiencing larger size of population. The population in India is growing rapidly. It occupies about 2.4% of the total area of the world, but the country has to support 16% of the total population. It shows heavy pressure of population on land in India. Total population in India according to 2001 census is 102.7 crores. The annual average growth rate of population during 1991-2001 stood at 1.93%.

In this context, the research question of this study is whether there is any differences in fertility behaviour among different religious groups in the study area and also try to examine whether there are differences in socio-economic characteristics between the religion and to what extent it is attributable to fertility differences of the religion.

Significance of the study: Of the three components fertility is one of the most important components of population change. In fact, fertility is a more complex phenomena and this complexity had made the study of fertility more significant and challenging in the recent past. Various significance for its study.

1). Fertility control requires use of family planning method. It involves ethical choices. Fertility control methods are greatly assessed by studies of AIDS and sexuality.

2) Though fertility is a biological phenomenon it depends heavily on socio economic, technological, cultural, religious, political and legal factors. So it is important to know the influence of various factors on fertility.

3. In a developing countries rapid population growth has been as main cause of slow development in the post-World War II period. Thus, governments in developing countries have been making great deal of efforts towards fertility control since 1960. As a result of this assessment of fertility levels and trends have become very important.

4. Fertility intervention is part of population policies in all countries. Developed countries want to raise it and less developed countries want to reduce it. Both sets of countries are facing tremendous problems in the effective implementation of their policies.

Objectives: This paper's focus is centered towards the achievement of the outlined below objectives.

1. To extensively review the recent trend in fertility level in Assam.
2. To study the impact of religion on fertility.
3. To further explore the determining factors behind fertility preference.

Methodology: The study is based on a quantitative approach to make some inferences regarding the fertility differential (behaviour) of the two selected religions, Hindu and Muslim and the socio-economic factors responsible for variation in it with this perspective, the present work is designed to study the differential effect of religion on fertility behaviour in three two selected villages of Barpeta Development Block in Barpeta district, Assam, Radhakuchi and Barbila.

The sample survey is based on the household survey selecting the ever-married women of children bearing age group as sample unit at random from each household. 20 ever married females were personally interviewed which comprises 1/3rd of the total respondent from each village.

Besides, these primary data, the secondary sources of data will also be considered. The sources of secondary data were NFHS reports, census reports (2001, & 2011) articles of different journals such as Economic and political weekly, Demography India etc. and relevant books etc. Besides Descriptive method the method of correlation and regression will also be used to study the relationship between various factors and fertility and their impacts on fertility.

Review of Literature: Demographers and sociologists have identified a number of factors on the basis of empirical research, which are responsible for differential fertility rate at different levels. Apart from physiological factors various parts of social structure are the ultimate determinants of fertility. Bongaarts listed seven proximate determinants of fertility through which all socio-cultural and economic factors affect fertility. He observed that four of them, marriage, induced abortion, post-partum in fecund ability, use of contraceptive explains 96 percent of the variance in the fertility levels, other three have very little role. (James & Nair 2005) Now we will briefly review the findings of some of the major studies on the determinants of fertility.

There are several arguments advanced relating to religion and fertility. An argument of the "particularized theology" says that it is the very essence of religion that influences fertility, irrespective of any socio-economic or demographic factors. On the other hand, other argue that fertility differentials are the out of differences in the socio-economic characteristics of the members of different religious groups. Thus, it is not religion per se, but the characteristics of the religious groups that are important in influencing fertility level.

Maulasha and Rama Rao (1999) compared the fertility of various religion in specific education classes on the basis of National Family Health Service (NFHS)- 1, reports. They found that fertility among Muslim was higher than that of others in all the education classes in various states. Many studies have incorporated joint family, a unique characteristic of Indian social system, in fertility studies. Studies in this regard reveal that early marriage which is usually prevalent in joint family has a positive effect on

fertility. In Indian context joint family prefers agrarian economy, which needs more manpower and as a result fertility rate increases in joint family (Arora 1989). Bebarta (1967) has reported that more women of nuclear than joint families to be aware of family planning.

Bhende and Kanitkar (1982) also subscribe to the view that higher levels of education provide a higher level of information about keeping fertility under control and create sustain motivation to keep the family size small with a view to achieving better standard of life.

Audinarayana (1986) to found an inverse relationship between wives' age at marriage and fertility behaviour, where as there is a positive relationship between wives' age at marriage and family planning behaviour.

Park (1926), Writh and Redifield expressed the view that secularization, secondary group association increased segmentation of roles and poorly defined norms which characterize urbanizm as a way of life, all depress the fertility of urban community.

Heaton (2011) uses data from 30 developing countries and s Catholic, Muslim and protestant fertility behaviour. He finds substantial differences both Muslim and. Christian fertility rates in many countries, with Muslims having higher fertility, but only small differences both Catholic and protestants.

Researchers further argue that religious differential in fertility could be result of discrimination in access to health care and family planning services between religious groups.

According to Bhat, (2004) family planning alone can account for almost all the current differences in Hindu Muslim fertility. Although the level of family planning practices among Muslims is lower than Hindu, the increase has been faster among Muslims in recent times. (Bhagat & Praharaj 2005).

In India a large number of surveys show that contraceptive prevalence is lower among Muslims than other religions. In 1998-99; the current use of any methods of family planning was observed to be 37 percent among Muslims as compared to 49 percent among Hindus. The Catholic Church's prohibition on contraception was the principal reason for protestant-Catholic fertility differentials in North America.

Mahadevan who has studied a number of roles of children in relation to fertility concludes, "Compared to the other roles, old age support considered to the most common role". He also found that 76% of the respondents wanted sons to perpetuate the lineage, 69% to perform rituals, 60% for economic support and 84% wanted them for old age support.

Discussion: A micro level study is conducted on the sample of 80 ever married female respondents in the study area selected for the present work, which is regarded as an empirical verification of other findings observed from the review of literature and hypothesis enunciated.

Using cross tabulation, an attempt is made to analyse the characteristics of the respondents, the relationship among the characteristics and to compare these. Frequencies and diagrammatic analysis also attempt to highlight the significant features contained in the data for relevant characteristics.

Characteristics of Respondent:

Religious composition: Religion wise distribution of the respondents (Table-1) represents one of the important aspects of household composition in the present study. Out of total 80 respondent 56.25 % are Muslims and Hindu constitutes 43.75%.

Table: (1) Religion wise Distribution of Respondents:

Religion (1)	No. of Respondent(2)	% of Respondent (3)
Muslim	45	56.25
Hindu	35	43.75
Total	100	100

Religion wise distribution of the respondents represents one of the important aspects of household composition in the present study. Out of total 80 respondent 56.25 % are Muslims and Hindu constitutes 43.75%.

Educational Attainment: Educational status of the respondents regardless of religion shows that most of the respondents are illiterate comprising 26.25 % of the total and the respondents under matriculate level show the

Table: (2) percentage distribution of all Respondents according to educational status

Educational Status (1)	% distribution of Respondents (2)	%Distribution of Muslim (3)	% Distribution of Hindu (4)
Illiterate	26.25	33.3	20
Up to primary Level	16.25	17.8	14.28
Up to Middle Level	21.25	22.2	25.7
Up to Matriculate Level	27.5	20	28.57
Up to Graduate level	8.75	6.67	11.4

Maximum 27.5% of the total. A small proportion of respondents (8.75%) belonged to 'graduate and above'. Religion wise distribution of respondent with different educational status reveals that Muslim illiterate comprises 33.3% of total illiterate and for Hindus, it is only 20%. But a higher educational attainment of Muslims (17.8%) than Hindus 14.28% is found under primary level. On the contrary most of the Hindu respondents are matriculates 28.57% and graduates 11.4% and Muslim comprises only 20% and 6.67% respectively out of total matriculates and total graduates for the state.

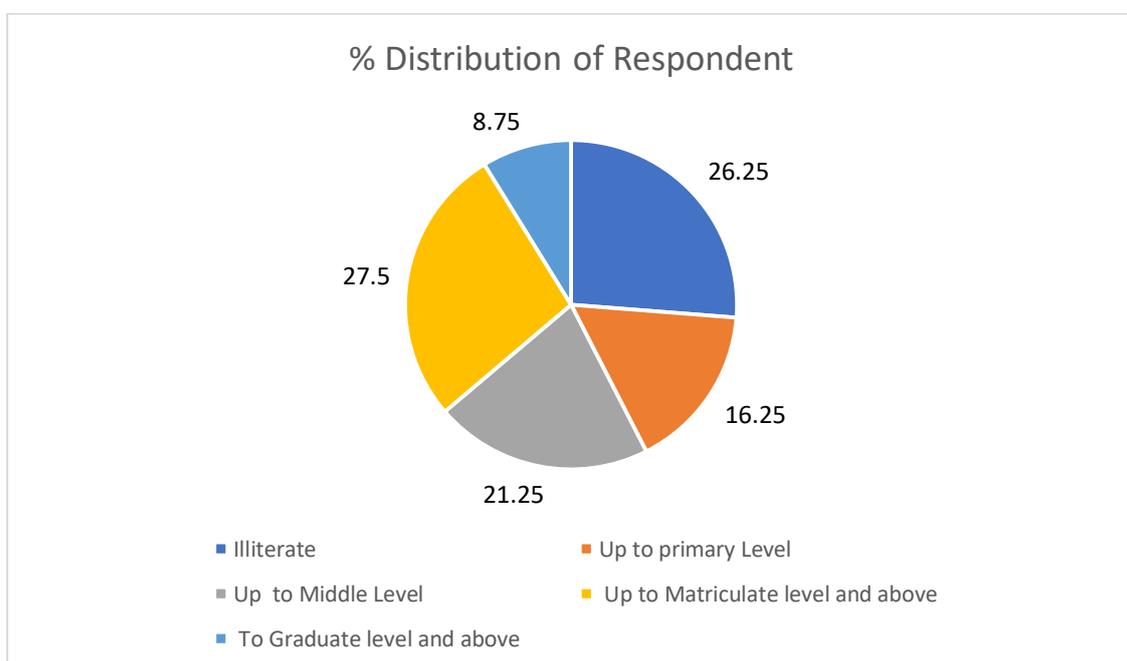
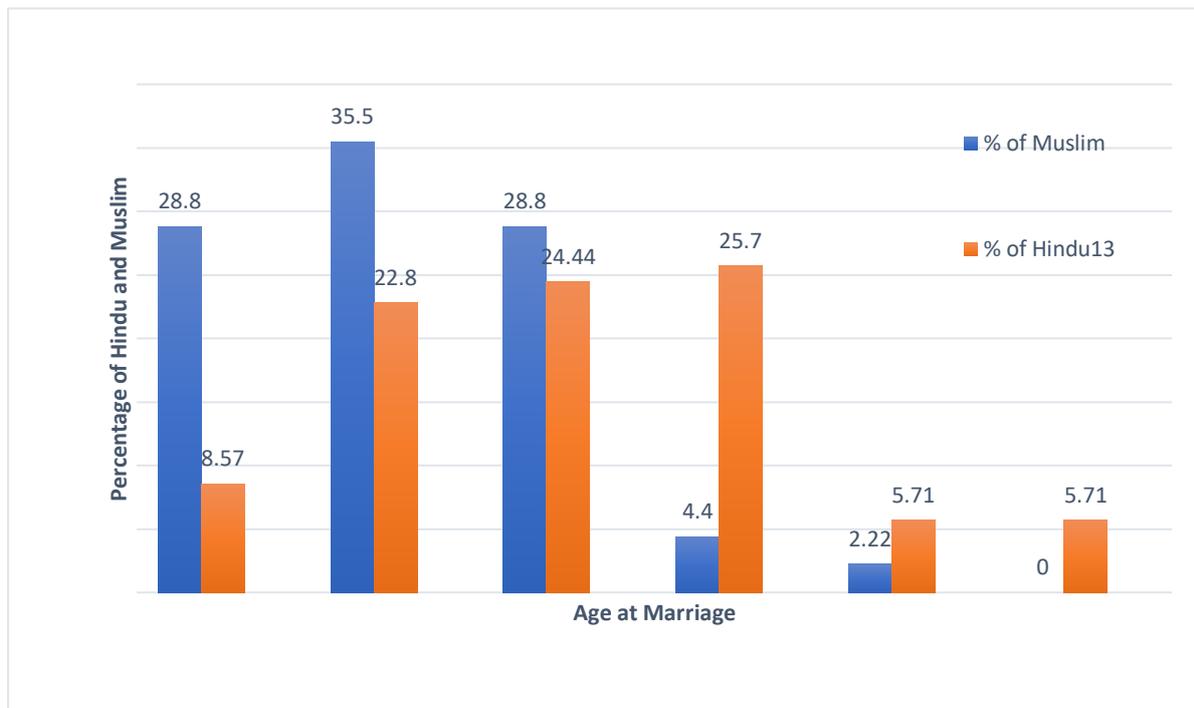
**Pie Diagram: (1)** Percentage Distribution of Respondents according to educational status:

Table: (3) Distribution of Respondents according to age at marriage with religious differentials:

Age at Marriage(1)	Religion (2)	
	% of Muslim	% of Hindu
13-----16	28.8	8.57
17-----20	35.5	22.8
21-----24	28.8	24.44
25-----28	4.4	25.7
29-----32	2.22	5.71
32 & above	0	5.71

Most of the female of both the religion have married at the age interval 17—20. But the age at marriage of Muslim women is observed to be lower. Out of total 45 Muslim women 64% got married before the age of 20. On the contrary, only 31% of Hindu female got married before the 20.

Bar Diagram: (1) Religion wise Distribution of Respondents according to age at marriage:**Fertility Behavior:****Table: (4)** Religion wise distribution of mean number of children:

Religion (1)	No. of Respondent (2)	No. of Children (3)	Mean No. of Children (4)
Hindu	35	79	2.26
Muslim	45	107	2.62
Overall	80	186	2.46

There is a small difference (.36) between mean number of children of Hindu and Muslim as observed in the table: (4). But the average number of Children for the total respondents regardless of religion is 2.46.

Socio -Economic Status and mean number of Children:**Table: (5)** Mean number of children based on educational status:

Educational status (1)	No. of Respondents (2)	No. of children (3)	Mean No. of children (4)
Illiterate	21	69	3.28
Up to Primary Level	13	29	2.23
Up to Middle Level	17	37	2.17
Up to Matriculate level and above	22	41	1.86
Up to graduate level & above	7	11	1.57

The table (5) shows the negative association of educational status and average number of children which implies that lower the educational status higher the average number of children and vice-versa.

Table: (6) Mean number of children based on occupational status of husband:

Occupational status of husband	No. of respondents	No. of children	Mean No. of Children
Farmer	34	81	2.38
Daily wage earner	11	33	3.00
Business	22	42	1.90
Service holder	13	31	2.38

It is observed in the table (6) that respondents whose husband are daily wage earner, have maximum number of children (3) and the wife of businessman have lowest average number of children (1.90).

From the table 7, it is clear that higher the income level, lower the average number of children. Average number of children for the respondents whose average monthly income is below 6000 is 3.12 but it is only 1.18 for the respondents whose average monthly income of the family above 14000.

Most of Muslim respondents (40%) have family income below 9000 than the Hindu respondents (34.27%) for the same. Smaller percentage of Muslim respondents (60%) has family income above 9000 than the Hindu respondents (65.73%).

Table: (7) Mean number of Children based on monthly average income of family:

Average monthly income of Family (Rs)	No. of Respondents	% of Hindu respondents	% of Muslim respondents	No. of children	Mean no. of children

Below 6000	8	8.57	11.1	25	3.12
6000—9000	22	25.7	28.9	70	3.18
9000--14000	39	51.43	46.7	79	2.02
Above 14000	11	14.3	13.3	13	1.18

Birth Intervals: Birth interval is defined as the length of time between two successive live births. Short birth interval implies the adverse effect on mother's health and the children's chances of survival. So it is an important aspect of fertility to study.

Average gap between births maintained by respondent according to past knowledge about birth control device: Religion wise percentage distribution of respondents according to past knowledge about birth control shows that most of Muslim women (60%) have lack of past knowledge of birth control against 33% of Hindu women.

Out of 80 respondents, 46% had past knowledge about birth control devices and 54% did not have any past knowledge about birth control devices. Most of the respondent 68% have maintained only one year or two years gap between births due to lack of past knowledge about birth control devices. On the other hand, a greater proportion of respondents 61% having past knowledge about birth control device were maintaining 3 years birth interval. A smaller proportion 38% of respondents, having no past knowledge maintains 3 years birth interval.

Fertility Preference: Most of Hindu women 94% considered ideal number of children to be two or one than Muslim women 72% for the same. 28% of Muslim women reported that ideal number of children should be three

Table: (8) Religion wise distribution of respondents based on ideal number of children and desired birth intervals:

Ideal No. of children	% of Muslim respondents	% of Hindu Respondents	Desired birth intervals	% of Muslim respondents	% of Hindu Respondents (6)
(1)	(2)	(3)	(4)	(5)	(6)
1	0	12	2	31	5
2	72	82	3	53	82
3	21	6	4	8	9
4	7	0	5	7	5

or four against 6% of Hindu Women.

Distribution of Respondent wanting more children according to religion: 32% of Muslims want more children as against 16.7% of Hindus. A larger proportion of Hindus 82.3% than Muslim 72.4% does not want more children.

It is evident that 22.82% of respondents' regardless religion wants more children due to husband's desire for more children and 74% of respondents do not want more children, as their husbands also do not want children.

Distribution of Respondent having more children according to reasons behind it: To analyse the reasons of having more children it is evident that desire for son influences more. The highest proportion 58% of respondents reported that they have more children due

to son preference. A smaller proportion of respondents have more children because of old age security consideration (17%) and desire for daughter (19%). only 6% respondents reported source of family income as a reason of having more children.

A larger Muslim woman 49% reported that 'old age security', source of family income, and 'desire for son' are three reasons for having children with them than that of Hindu women (36%). It shows strong son preference for Muslim women than Hindu women.

Distribution of Respondent according to sex desired children: Son preference is also evident while analyzing the distribution of respondents according to sex of desired child. Son preference is revealed among 43% of respondent who wants additional children expecting a boy and a daughter preference is revealed among 36% of respondents wanting an additional child expecting a girl.

Most of Muslim women 13% want an additional son than that of Hindu women (5%). Daughter preference is also revealed among 10.6% Muslim women who want additional children against 6% of Hindu women.

Family planning:

Awareness about family planning: Radio, Television and Newspaper are the most common sources of family planning information. 36% of respondents collect information from Radio, 21% from both Radio and Television and 23% from Radio, Television and Newspaper and 19.7% are without any of these sources of Information facilities for family planning.

Religion wise distribution shows that most of Hindu women 83% used the most common source of family planning awareness such as Radio, Television and Newspaper than Muslim women 71% for the same.

Table:(9) Mean number of children based on discussion about family matter with husband:

Discussion with Husband	No. of Respondent	% of Muslim	% of Hindu	No. of Children	Mean No. of children
Regularly	54	69%	74%	113	2.02
Occasionally	23	27%	21%	67	3.19
No discussion	3	4%	5%	7	2.33

Regular discussion about family matter with husband by the respondent leads to decrease in average number of children (2.02) than those who discuss occasionally (3.19). Discussion about family matters with husband among Hindu women 74% is more regular than Muslim women 69%.

Distribution of Respondents using contraception according to religion: Muslim respondents comprise 62% who do not use contraception and Hindus comprise 33% for the same reflecting a larger proportion of Muslims than Hindus as non-user of contraception. The proportion of respondents using contraception is 38% for Muslim and 67% for Hindus.

Distribution of Respondents according to reasons for not using contraceptives: Most of respondents 43% reported that they do not use contraception due to lack of knowledge. 26% of respondent do not use it as they want additional children in future. A small proportion of respondent do not use contraception due to menopausal 4%, post-partum 7% and religious prohibition 8%.

Table: (10) Religion wise distribution of Respondents according to reasons for not using contraception:

Reasons of not using contraceptives (1)	% of Muslim women (2)	% of Hindu women (3)
Husband opposed	13	0
Wants more children	23	9
Lack of Knowledge	39	22
Menopausal	1	6
Post -Partum	1	7
Against religion	8	0

From the Table: 10 it is revealed that according to Hindu women the reasons for not using contraception are desire for additional children, lack of knowledge, Menopausal, post-partum. But Muslim women added that husband opposition and religious prohibition are another two reasons for the same. Most of Muslim women 62% do not use contraception due to desire for additional children and lack of knowledge than that of Hindu women 31%.

Distribution of Respondent according to age at marriage and infant death: It is observed that early age at marriage associated with higher infant deaths. 57% of respondents who have experiences of infant deaths married before the age 18. 39% of respondents who got married after age 17 have experience of infant deaths.

Findings and Conclusion:

The present study has analyzed the differential fertility between Hindu and Muslim ever married women. In the context of different socio- economic characteristics it has been attempted to examine the association between religious affiliation and fertility of the ever-married woman.

Using bi-variate tables, frequencies and regression analysis, the present study is confined to some selected aspects of fertility like age at marriage, birth intervals, ideal number of children, family planning, contraception, son preference etc. The fertility behavior is studied by the mean number of children based on present age group, educational status of the respondents, occupation status of husband, discussion about family matters between spouses, etc.

Fertility Behavior as measured in mean number of children according to differences of socio-economic characteristics supports the characteristics, hypothesis (Bhat and Zavier, 2005). Religion wise mean number of children shows the difference between Hindu women and Muslim women including higher mean number of children for Muslim women.

With the increase of educational status, occupational status and family income mean number of children declines accordingly regardless of religion. Age specific mean number of children shows lower mean number of children for those respondents below age thirty than those above age thirty. It implies present fertility is lower than past fertility.

Due to lack of past knowledge about birth control, most of respondents reported their birth intervals to be one year or two years. As the number of Muslim women is larger than the number of Hindu women in respect of lack of past knowledge about birth control, most of them have maintained only one year or Two years birth intervals than that of Hindu woman.

Family planning is a process of fertility regulation which is examined by discussion about family matters with husband, contraceptive use, reasons of non-use of contraception, awareness about family planning.

Most of Muslim women are non-user of contraception than Hindu women. Desire for additional children, lack of Knowledge, religious prohibition are various reasons behind the non-use of contraception among them. Most of respondents collect information from radio as a family planning awareness. A small proportion of respondents also reported that their sources of awareness about family planning are Radio, Television and Newspaper.

The review of literature so far indicates that Demographers and Sociologists have identified a number of determinants of differential fertility in some developed and developing countries of the world. However, almost all of them, with the exception of few studies, have explained only one to one relationship between the socio-economic variables and fertility behaviour, but the detailed results often show inconsistencies. Thus, the inconsistent results about the relationship between fertility and its determinants like education, income etc. makes it impossible to characterize in a simple way.

With increasing modernization, the societies become more complex and any components of social structure does not affect fertility in isolation. In-stead the casual relationship between the two is intervened by a set of intermediary variables which act as Catalysts and enhance or retard the effect of primary variables. Without incorporating these intermediary variables in the study of fertility, we may remain far from reality. The need for such an approach is more essential in developing countries like India which are characterised by high growth of population. In order to check our growing population, we must comprehend the actual process underlying fertility decisions, so that we may shape our policies accordingly.

Family planning attitude study is necessary for a more thorough understanding of attitudes, motivations and behaviour and their relation to family planning. The scope of these surveys should be widened and more attempts should be made to identify factors influenced by customs attitudes and behaviour patterns associated with different cultures which determine the level of fertility.

Again, carefully plan research on the effect of various social legislation like the increase in the age at marriage, compulsory primary education of children and increased education of females are necessary for the government to make appropriate policy decisions. Fundamental research and mathematical model for studying the impact of population variables on the overall economic and social planning in a country are essential.

As the government planners and policy makers utilise demographic data to a greater degree in planning and policy making, effort should, therefore, be constantly made to increase and improve the reliability of the information available to policy makers.

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