

Determinants of Reproductive Spans among Muslims in India: A Study

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KEYWORDS Age at Marriage. Age at Sterilization. Type of Residence. Survival Analysis. Cox Regression

ABSTRACT Muslims in general practice family planning in spite of orthodox and conventional wisdom. The objective of the study is to see how Muslims in general have been practicing family planning and how the reproductive spans change over time. Data for this study has been taken from National Family Health surveys (NFHS) 1(1990), 2 (1999) and 3 (2005). Around one-tenth (15.74 per cent: 1494), one-fifth (20.1 per cent: 2165) and around one-fifth (17.17 per cent: 2875) women respectively had sterilization during these three surveys. Life table was used for computing median durations. The determinants of reproductive spans have been analyzed using hazard analysis. Ever terminated pregnancy, one or more sons and daughters died, and marriage cohort have emerged as important variables.

INTRODUCTION

Reproductive spans that is, difference between age at effective marriage and age sterilization have been compressing over the years in many countries. It was due to early acceptance of family planning. Certain religious groups may have higher fertility; however, social factors influence the religious groups to adopt family limitation.

Muslims constitute second largest religious group in India and the largest religious minority. The enumerated 2001 census population has over 138 million Muslims. The Muslim population of India comes next to Indonesia and exceeds the Muslim population of Pakistan and Bangladesh. Most of the population lives in West Bengal, Bihar, Maharashtra and Uttar Pradesh and they are relatively younger population too (TPMS 2008). Total fertility rates (TFR) according to 2001 census of Muslims have been 3.06 (Rural: 3.52 and Urban: 2.29) whereas TFR of Hindus has been 2.47 (Rural: 2.77 and Urban: 1.72).

Low levels of contraceptive use among Muslims have been associated with low socio-economic and differential influence of religious leaders (Weigl 2010). Mishra (2004) opines that religious differentials in contraceptive use are

transitional phenomena and fertility is falling among Muslims too. Lack of autonomy and social and economic handicaps of women might have promoted low contraceptive use among Muslims (Weigl 2010). The largest ever survey of Indian Muslim women (2004) demonstrates that neither cultural restrictions nor religion influences the status of women. Community specific disadvantages arise out of poverty. The status of Muslim women is determined by social and economic class, urban and rural residence and regional location (TPMS 2008). In Kerala too Muslims have lower uptake of family planning methods than Hindus (Rob Stephenson 2006).

A study on compression of reproductive spans of women of Andhra Pradesh has revealed that marriage cohort effects the reproductive spans. Older marital cohorts have higher reproductive spans than younger cohorts in Andhra Pradesh (Padmadas et al. 2004). Compression of reproductive spans was also observed in Kerala (Preeti and Nair 2008-9). In this paper an attempt has been made to see the compression of reproductive spans among Muslims over the decades.

Objectives

- To study the ages at marriage, and age at first birth of Muslim respondents of different states of India
- To study the differences in reproductive spans of Muslim women different states of India
- To study the practices of sterilization, both male and female in different states of India

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Research Questions

- Do Muslims have different reproductive spans in different states of India?
- Are the reproductive spans decreasing over the years among Muslims?
- Are Muslims influenced by local cultures?

METHODOLOGY

The sample considered for the study has been ever married Muslim women at all India level. National Family Health Survey data sets 1(IAIR23), 2 (IAIR42) and 3 (IAIR52) has been used for analysis. These data sets pertain to individual data. Ages at sterilization and reproductive spans of women (difference between effective age at marriage and age at sterilization) have formed the variables for the study. Several socio-economic and demographic variables have been considered as independent variables. Using life table median reproductive spans have been computed. Cox proportional hazard analysis has been used to see the determinants of reproductive spans.

RESULTS AND DISCUSSION

The following results and discussion starts with contingency tables of sterilization of women in relation to different social and demographic variables followed by present contraceptive practices, median ages at marriage, first marriage and median reproductive spans and Cox regression analysis.

Social and Demographic Factors in Relation to Sterilization

Variables considered were: education status of wife and husband, type of residence, work status of the respondent, current age of the respondent, marriage cohort, ever terminated pregnancy. In general female sterilizations have increased over the decades while male sterilizations have slowly decreased

Education Level of the Respondent and Spouse

Women's education has showed that illiterate Muslims have progressively accepted sterilization over the decades. Women with Primary level education have also accepted sterilization

in the similar way. At secondary and higher levels of education higher acceptance of sterilization has been noticed during NFHS 2.

Type of Residence

More proportion of Muslims in recent years (2005) has been living in urban areas than rural areas. Around two-fifth of respondents lived in urban areas during 1990 (37.5 per cent) and during 1999 (38.5 per cent) compared to more than half (55.3 per cent) during 2005. Though more Muslims were found in rural areas during 1990 and 1999, sterilization practices were more in urban areas than rural areas. During 2005 also more sterilization were found in urban areas than in rural areas.

Current Age of the Respondent

Current age of the respondent shows that one-third women above 30 years have accepted sterilization while it was around one-tenth at women below 30 years category. Further, middle marriage cohorts have high acceptance of sterilization. Women who terminated their pregnancy for some reason or the other too have high acceptance of sterilization.

Work Status of the Respondent

Present work status of women revealed that more proportion of working have high levels of acceptance of sterilization than non working women (Table 1).

Number of Wives

In general Muslims were presumed to practice polygamy. As per NFHS- 3, a few men (254) had more than one wife whereas, 34, 4 and 17 men had two, three and four more wives. 39 men in West Bengal, 38 men in Assam, 29 men in Andhra Pradesh, 20 men each in Uttar Pradesh and Kerala had more than one wife.

Total Fertility Rates

Muslim TFR has been 4.4, 3.6 and 3.4 for the three surveys. Fertility of Hindu women has declined from 3.3 to 2.6 whereas Muslim fertility came down from 4.4 to 3.4 (NFHS1, 2 and 3). Muslims of southern states have lesser fertility than Hindus of northern states (NFHS 1, 2

Table 1: Socio-economic and demographic characteristics of total and sterilized respondents

Variable	NFHS 1		NFHS 2		NFHS 3	
	Total	Sterilized (Total/Male)	Total	Sterilized (Total/Male)	Total	Sterilized (Total/Male)
<i>Respondent's Education</i>						
No education	63.1 (5956)	13.94 (830/93)	57.3 (6170)	17.88 (1103/75)	41.0 (6870)	18.78 (1290/50)
Primary	19.7 (1857)	22.13 (411/33)	18.5 (1994)	24.87 (496/16)	14.7 (2467)	23.67 (584/15)
Secondary	15.8 (1496)	15.78 (236/15)	19.7 (2123)	23.27 (494/16)	39.2 (6560)	14.28 (937/16)
Higher	1.3 (126)	10.32 (13)	4.5 (483)	14.91 (72/3)	5.0 (845)	7.57 (64/2)
Total	9435	15.79 (1490/141)	10770	20.1 (2165/110)	16742	17.17 (2875/83)
<i>Partner's Education</i>						
No education	39.8 (3740)	12.38 (463/51)	34.9 (3746)	16.42 (615/37)	32.8 (3961)	20.78 (823/32)
Primary	30.5 (2870)	20.52 (589/59)	20.2 (2167)	24.13 (523/26)	17.6 (2132)	27.53 (587/15)
Secondary	24.9 (2340)	15.6 (365/25)	33.8 (3626)	21.84 (792/31)	42.1 (5092)	24.69 (1257/32)
Higher	4.8 (451)	15.3 (69/6)	11.1 (1196)	18.9 (226/16)	7.5 (904)	20.02 (181/3)
Total	9401	15.81 (1486/141)	10735	20.08 (2156/110)	12089	23.56 (2848/82)
<i>Type of Place of Residence</i>						
Urban	37.5 (3555)	19.21 (683/40)	38.5 (4143)	25.63 (1062/47)	55.3 (9262)	19.94 (1847/44)
Rural	62.5 (5930)	13.68 (811/102)	61.5 (6632)	16.63 (1103/63)	44.7 (7480)	13.74 (1028/39)
Total	9485	15.75 (1494/142)	10775	26.68 (2165/110)	16742	17.17 (2875/83)
<i>Current Age of the Respondent</i>						
Below 30 years	52.6 (4989)	8.44 (421/12)	49.1 (5291)	9.68 (512/9)	59.6 (9971)	5.93 (591/4)
Above 30 years	47.4 (4496)	23.87 (1073/130)	50.9 (5484)	30.14 (1653/101)	40.4 (6771)	33.73 (2284/79)
Total	9485	15.75 (1494/142)	10775	26.68 (2165/110)	16742	17.17 (2875/83)
<i>Marriage Cohort</i>						
1950-59	2.4 (232)	14.22 (33/8)				
1960-69	17.1 (1624)	24.82 (403/71)	5.6 (602)	25.75 (155/15)		
1970-79	28.8 (2732)	25.04 (684/55)	23.0 (2478)	32.36 (802/67)	11.3 (1380)	38.7 (534/38)
1980-89 (94)	51.6 (4897)	7.64 (374/8)	33.1 (3570)	26.55 (948/22)	28.2 (3456)	36.78 (1271/35)
1990-99 (00)			38.3 (4125)	6.3 (260/6)	35.8 (4379)	22.47 (984/9)
2000-05					24.7 (3019)	2.85 (86/1)
Total	9485	15.75 (1494/142)	10772	20.1 (2165/110)	12234	23.5 (2875/83)
<i>Ever Terminated Pregnancy</i>						
No	79.4 (7532)	15.14 (1140/113)	78.0 (8397)	19.69 (1653/82)	85.9 (14376)	16.73 (2405/68)
Yes	20.6 (1952)	18.14 (354/29)	22.0 (2375)	21.56 (512/28)	14.1 (2364)	19.88 (470/15)
Total	9484	15.75 (1494/142)	10772	20.1 (2165/110)	16740	17.17 (2875/83)
<i>Work Status of the Respondent</i>						
No	81.4 (7718)	14.54 (1122/100)	77.4 (8338)	18.61 (1552/78)	74.7 (12480)	16.51 (2061/49)
Yes	18.6 (1761)	21.07 (371/42)	22.6 (2431)	25.22 (613/32)	25.3 (4219)	19.15 (808/34)
Total	9479	15.75 (1493/142)	10769	20.1 (2165/110)	16669	17.21 (2869/83)

and 3). Kerala interestingly had more than two children during the three surveys. A personal account of a Kerala resident has revealed that the Kerala couples prefer odd number of children: three children of instead of two children.

Median Ages at First Marriage, First Birth and Sterilization (Based on Life Table Analysis)

In general, differences were minimal during the three periods in median ages at marriage, first birth and sterilization.

Interestingly all the southern states and Goa, which are at the threshold of transition, had ages at marriage and ages at first birth below 20 years except Tamil Nadu whose age at first birth at NFHS 3 (2005) period has been 20.52 years.

Most of the Muslim women in India have married at less than 20 years except Mizoram.

Muslims of Andhra Pradesh have accepted sterilization around 25 years which supports the finding that compression of reproductive spans happening in Andhra Pradesh (Padmadas et al. 2004). Remaining states have higher than 25 years as age at sterilization.

Punjab, Meghalaya, and Mizoram have no cases of male sterilization in the three surveys while Goa and Orissa had no cases of male sterilization during NFHS1 and 2 periods only (Table 2).

Median Ages at Sterilization According Current Age of Muslim Women

Less than one-fifth of couples have accepted sterilization as a method of family planning

Table 2: Median age at first birth, age at first marriage and age at sterilization among Indian Muslim women, by region and state, National Family Health surveys (NFHS 1, 2 and 3) (Based on Life table analysis)

Region and state	Median age at first birth			Median age at first marriage (20-49)			Median age at sterilization (20-49)					
							NFHS 1		NFHS 2		NFHS 3	
	NFHS 1	NFHS 2	NFHS3	NFHS 1	NFHS 2	NFHS3	F	M	F	M	F	M
India	18.6	18.6	19.1	17.3	17.2	17.7	27.6	26.	27.4	26.1	26.8	26.2
<i>North</i>												
Delhi	19.1	18.5	17.9	17.9	17.2	18.02	29.8	25	28.3	22.5	28.0	-
Haryana	19.4	18.6	20.4	17.8	17.1	17.5	35	35	28.8	35	22.5	-
H P	18.8	18.2	20.4	17.8	17.5	19.02	25	30	25	25.8	25.6	22.5
Jammu	18.9	18.9	20.20	17.2	17.5	18.64	30.3	26.7	28.2	27.3	28.8	27.5
Punjab	20.2	19.6	20.43	19.1	18.4	18.34	28.75	-	27.5	-	24.6	-
Rajasthan	18.8	18.2	19.1	17.4	16.9	17.11	27.5	27.5	29.3	27.5	27.8	28.8
<i>Central</i>												
M P	18.5	17.8	19.00	17.5	16.7	17.45	28.1	27.5	28	27.5	27.5	25
Chattisgarh			19.22			17.85					27.3	-
UP	19.08	17.98	19.00	17.7	16.9	17.90	33	28.3	31.5	32.5	30	32.5
Uttaranchal			19.24			17.54					28.1	22.5
<i>East</i>												
Bihar	18.7	18.1	18.20	17.2	16.8	17.01	31	30	30	23.8	28.6	37.5
Orissa	18.2	17.9	19.07	16.5	17.9	18.25	30.6	22.5	28.8	-	32.5	-
WB	17.8	17.7	18.22	16.0	16.4	17.07	26.9	-	25.8	23.8	26.2	21.25
<i>North-east</i>												
Aruna			17.16			16.10					27.5	-
Assam	17.6	17.9	18.4	15.8	16.7	16.9	28.0	26.3	27.4	25	25.8	22.5
Manipur	19.14	15	18.88	18.5	15	17.56	32.5	17.5	32.5	32.5	33.8	32.5
Meghalaya	19.11	22.5	20.13	18.1	17.5	18.28	—	27.5	27.5	-	35	-
Mizoram	22.50	20	27.5	22.5	20	22.50	26.3	-	30	-	32.5	-
Nagaland	20.62		19.6	17.5	-	17.42	22.5	-	-	-	31.3	-
Tripura			18.17	-		16.40				-	25	-
<i>West</i>												
Goa	19.6	20	20.6	18.1	17.7	18.90	27.2	23.8	30	-	26.7	-
Gujarat	20.3	18.8	19.92	19	17.9	18.10	29	26.3	27.7	22.5	27.1	32.5
Maharashtra	18.2	18.4	19.44	17.1	17.12	18.15	27.1	26.3	27	27.5	26.2	25
<i>South</i>												
AP	18.1	17.8	19.01	16.9	16.5	17.60	25.6	29.2	25.2	25	25.4	25
Karnataka	18.3	17.6	19.12	17.2	16.4	17.8	26.3	23.8	25.7	26.3	24.9	-
Kerala	18.6	18.8	19.35	17.6	17.72	17.87	27.1	25.5	27.2	22.1	26.7	24.2
Tamil Nadu	19.5	19.5	20.52	18.2	18.1	18.41	26.1	27.5	26.6	-	25.1	37.5

around age 25 and below for the three surveys: 17.6 per cent (NFHS-1); 24.78 per cent (NFHS-2); and 16.26 per cent (NFHS-3). Around one-third were found in the age group 25-29: 27.21 per cent (NFHS-1); 38.32 per cent (NFHS-2) and 37.02 per cent (NFHS-3). It was again re-

duced to one-fifth during the age 30-34 group: 19.07 per cent (1990); 22.28 per cent (1999) and 22.41 per cent (2005). Overall, less than one-fifth of couples have adopted sterilization: 15.75 (1990); 20.09 per cent (1999) and 17.17 per cent (2005) (Table 3).

Table 3: Age at sterilization among Muslims according to NFHS 1, 2 and 3

Age at sterilization	NFHS-1 (1990)		NFHS-2 (1999)		NFHS-3 (2005)	
	Total	Sterilized	Total	Sterilized	Total	Sterilized
Below 25	3126	17.59 (550)	3120	24.78 (773)	7194	16.26 (1170)
25-29	1863	27.21 (507)	2171	38.32 (832)	2777	37.02 (1028)
30-34	1531	19.07 (292)	1854	22.28 (413)	2222	22.41 (498)
35-39	1261	9.67 (122)	1585	7.7 (122)	1978	8.14 (161)
40-44	985	2.13 (21)	1202	1.66 (20)	1520	1.05 (16)
45-49	719	0.28 (2)	843	0.59 (5)	1051	0.1 (1)
Total	9485	15.75 (1494)	10775	20.09 (2165)	16742	17.17 (2875)

State Wise Distribution of Sterilization (Per cent)

Most of the southern states and developed states of India have better practices of sterilization than northern states. It was around one-third among the former states and the remaining states have less than ten per cent practice. North-eastern states seem to have less Muslim population hence lower practice of sterilization. A few states have one-third participation of family planning: Andhra Pradesh (35.77; 36.33 and 34.17 per cent); Tamil Nadu (25.3; 34.55 and 39.59 per cent); Karnataka (26.43; 36.66 and 34.13 per cent); Kerala (25.02; 34.5; and 31.29 per cent); Goa (32.5; 32.73 and 23.27 per cent) for the three surveys. Himachal Pradesh was one of the states with two-third acceptance for the NFHS-1 and 2 while it has decreased to one-fifth (21.43 per cent) at NFHS-3. Tamil Nadu was the only state, among Indian states, with two-fifths (39.59 per cent) acceptance of sterilization by Muslims at NFHS-3.

Maharashtra and Madhya Pradesh have two-fifths acceptance of sterilization by Muslims in all the three surveys. West Bengal has slightly less than one-fifth acceptance in all the surveys. Bihar and Uttar Pradesh were the other states which fall under one-tenth acceptance of sterilization. Thus there seem to be a marked divide among northern and southern states.

According to a different data set (NFHS 3; IABR52) it shows that southern states have better acceptance of sterilization than other states followed closely by Chattisgarh, Maharashtra, Gujarat and Madhya Pradesh (Table 4).

Other Methods of Family Planning

Other methods family planning practice has increased over the years. Among other methods condoms, pills, periodic abstinence, withdrawal, and intra uterine devices were prominent. Injections have been another temporary method of family planning followed in the NFHS-3 survey. In general, more acceptance of temporary methods of family planning have been noticed at NFHS-3 survey, perhaps due to better awareness of temporary methods of family planning.

Periodic abstinence has been followed more than any other method during 1990, later on condoms, and pills preceded at 1999 and 2006

Table 4: Broad categorization of states according to percentage acceptance of sterilization by Muslims

Proportion of participation in sterilization	NFHS-1 (IAIR23)	NFHS-2 (IAIR42)	NFHS-3 (IAIR52)
India	15.75	20.09	17.17
One-third and above	Andhra Pradesh (35.77); Himachal Pradesh (33.3); Goa (32.5)	Karnataka (36.66); Andhra Pradesh (36.33); Himachal Pradesh (34.58); TN (34.55); Kerala (34.5); Gujarat (33.33); Goa (32.73)	TN (39.59); Andhra Pradesh (34.17); Karnataka (34.13); Kerala (31.29)
One-fifth and above	Karnataka (26.43); M.P and TN (25.3); Mah (24.32); Gujarat (21.93); Jammu (20.71)	Mah (29.62); Jammu (29.2); M.P (27.61)	Mah (26.2); M.P (24.49); Goa (23.27); Gujarat (24.18); Chhattisgarh (21.53); H. P (21.43)
One-tenth	W.B (15.06); Orissa (10.98)	W.B (19.93); Haryana (13.68); Delhi (12.56)	Jammu (17.51); W.B (16.49)
Below one-tenth	Delhi (8.36); Assam (6.93); Haryana (5.94); Bihar (4.84); UP (3.92)	Orissa (7.61); Bihar (5.75); Assam (4.82); UP (4.44)	Jharkhand (8.81); Delhi (6.85); Orissa (6.25); Bihar (5.75); UP (5.42); Haryana (3.85); Assam (3.74)

succeeded by withdrawal during all the three surveys (Table 5).

Median Survival

Median survival time of reproductive span has been computed using life table technique for all the states. The results showed that urban residents have lesser reproductive spans than rural residents. Cohort wise latest cohorts have lesser reproductive spans than earlier cohorts.

Table 5: Use of other methods of family planning

<i>Other methods</i>	<i>NFHS 1</i>	<i>NFHS 2</i>	<i>NFHS 3</i>	<i>NFHS 3</i>
Pill	6.17 (167)	9.89 (381)	11.73 (671)	11.15 (2301)
IUD	6.35 (172)	5.4 (208)	3.84 (220)	3.3 (681)
Injections	0.22 (6)	0	0.7 (40)	0.68 (140)
Diaphragm	0	0	0.02 (1)	2
Condoms	10.53 (285)	11.27 (434)	16.17 (925)	14.29 (2948)
Periodic abstinence	14.04 (380)	8.85 (341)	9.35 (535)	9.68 (1998)
Withdrawal	6.43 (174)	7.17 (276)	7.92 (453)	6.67 (1377)
Others	1.07 (29)	1.22 (47)	0	0
Foam or jelly	0	0	0.03 (2)	0.02 (5)
Folkloric method	0	0	0	0.75 (154)
Female sterilization	49.94 (1352)	53.35 (2055)	48.79 (2792)	52.02 (10731)
Male sterilization	5.25 (142)	2.86 (110)	1.45 (83)	1.42 (293)
Acceptors	2707	3852	5722	20630
Not using	71.46 (6778)	64.25 (6923)	65.76 (10990)	48.36(19319)
Total	9485	10775	16712	39949

The states that have values less than ten were at NFHS 3 were Goa, Karnataka, Kerala, Punjab, and Tamil Nadu. This list has enhanced during NFHS 2: Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Punjab and Tamil Nadu. Some states have been come into existence during NFHS 3: Goa (re-appeared), Haryana, Chattisgarh, and West Bengal. It shows that transition has been occurring in majority of the states (Table 6).

Table 6: Broad duration of reproductive span

<i>Median duration of reproductive span</i>	<i>NFHS-1 (IAIR23)</i>	<i>NFHS-2 (IAIR42)</i>	<i>NFHS-3 (IAIR52)</i>
India	11.1866	9.6357	9.2472
Below 10	Goa; Karnataka; Kerala, Punjab and Tamil Nadu	Andhra Pradesh, Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Punjab, Tamil Nadu	Andhra Pradesh, Goa, Gujarat, Punjab, Haryana, Himachal Pradesh, Karnataka, Kerala, Chattisgarh, Maharashtra, Tamil Nadu and West Bengal
Above 10			

Median Reproductive Duration in Relation to Type of Residence, Marriage Cohort and States

Mean reproductive durations have been computed using life table technique. Reduction in

reproductive span has been occurring in both the urban and rural areas: however rural areas have higher values than urban areas. Marriage cohort has shown decline within and among National Family Health surveys (Table 7).

Cox Regression

Cox proportional hazard analyses have been done in two ways: Enter and Forward conditional methods. For the three surveys the following variables have been considered for analysis. They are: education status of the respondent and the spouse and, type of residence, number of children ever born and the sons and daughters died and marriage cohort and current work status of the respondent. Children ever born and sons and daughters denote the fertility experience of the women whereas marriage cohort shows current age of the respondent and age at marriage. Hence, current age of the respondent and age at marriage have been excluded from the analysis to avoid co linearity. Current work status shows the participation of women in economic activity. NFHS 1 do not have standard of living and wealth indices hence current work status has been taken to show the economic empowerment of women (Table 8)

Type of Residence

Rural and urban differences in duration of reproductive span have been distinct. Urban areas had lesser durations of reproductive spans. The differences are significant between these areas. However, rural/urban differences are not significant during NFHS-1 period.

Table 7: Median reproductive spans in relation to type of residence and states of India

S. No.	Survival	NFHS-1 (IAIR23)	NFHS-2 (IAIR42)	NFHS-3 (IAIR52)
<i>Type of Residence</i>				
1	Urban	10.9031	9.2055	8.9425
2	Rural	11.4286	10.1422	9.9182
	Total	11.1866	9.6357	9.2472
<i>Marital Duration</i>				
	1950-59	19.4231		
	1960-69	15.4318	16.0648	
	1970-79	11.3883	12.1452	13.1771
	1980-89	7.4802	8.7035	10.1877
	1990-99 (00)		5.9335	7.6322
	2000-07			3.3333
<i>States</i>				
1	Andhra Pradesh	10.5114	8.2386	8.6853
2	Assam	11.8750	10.5000	10.000
3	Bihar	14.6154	13.5714	12.500
4	Jharkhand			11.7308
5	Goa	9.2308	10.0000	8.1930
6	Gujarat	10.7609	8.9545	9.6250
7	Haryana	17.5000	11.4286	6.6667
8	Himachal Pradesh	10.0000	7.5000	8.7500
9	Jammu	13.2143	10.7857	10.4091
10	Karnataka	9.7984	9.2105	7.6179
11	Kerala	9.8913	8.8686	8.7591
12	Madhya Pradesh	12.2059	10.7738	10.2326
13	Chhatisgarh			9.4118
14	Maharashtra	11.5244	8.8551	8.3429
15	Manipur	13.3333	15.0000	16.000
16	Meghalaya	12.5000	7.5000	25.000
17	Mizoram	6.25000	10.000	7.5000
18	Nagaland	7.50000		11.6667
19	Orissa	12.5000	10.8333	15.000
20	Punjab	9.1667	9.5000	9.5833
21	Rajasthan	12.1667	12.5000	11.8750
22	Tamil Nadu	9.4792	7.4490	7.7439
23	West Bengal	12.0089	9.0774	9.5697
24	Uttar Pradesh	14.7222	13.9286	12.2024
25	Uttaranchal			11.7500
26	New Delhi	12.5000	10.8333	10.8929
27	Arunachal Pradesh			14.1667
28	Tripura			9.0000
29	Sikkim			11.6667

Women's education seems to influence reproductive duration significantly except at NFHS 1. Hence education is a major determinant particularly women's education. Men's education has some influence.

Rural/urban residence was not significant during NFHS 1. Later on rural/urban differences has been prominent. Urban residents have been more benefited than rural residents. Rural residents had higher reproductive spans than rural women at NFHS 2 and 3. Both the Cox hazard regression has shown that rural/urban differences were prominent at NFHS 1 and 2. Rural areas have higher reproductive spans than urban areas.

Partner's education was not significant at NFHS 1, however primary and higher levels of education; secondary and higher levels were significant at NFHS 2 and 3. Higher educational levels have lesser reproductive spans than illiterate women. Step wise regression showed that partner's education was not a variable influencing reproductive span.

Those who have resorted to termination of pregnancy had higher reproductive spans in all the three surveys. Stepwise regression was significant at NFHS 1 only. The variable was not prominent at stepwise regression during NFHS 2 and 3.

Marriage cohort has shown inter and intra survey effects. Younger age cohorts have lesser duration of reproductive spans in all the surveys. It shows that younger women were more seized of the family size than older cohorts of women. Current work status was not a significant variable.

CONCLUSION

Different opinions and different prepositions have been advanced for and against Muslim fertility and acceptance of family planning. However, Muslims have been accepting family planning and limiting family size for one reason or the other. It has been observed by several scholars that many Indians have converted to Islam several centuries/decades ago. However, they have retained indigent cultures and are influenced by language and social milieu. Food habits and certain functions of Muslims reflect local influence. Differences were noticed where they were in majority in certain cities and states where they retained the Muslim cultures such as states like Uttar Pradesh, Bihar, West Bengal. Deep South Kerala Muslims have high fertility among southern states which includes Scheduled tribes: 99.4 per cent scheduled tribes were Muslims (TPMS 2008). We hear voices that Muslims in general report discrimination from other Muslims in different regions: same in other religions.

RECOMMENDATIONS

In the analysis, education of husband has not been found to be a significant indicator in the compression of reproductive spans. Men's participation may improve acceptance of family



Fig. 1. Pictorial depiction of median reproductive spans in different states of India according to the three surveys
 Series 1: NFHS-1; Series-2: NFHS-2; Series-3: NFHS-3

planning and the compression of reproductive spans. Rural Muslims also need attention in several areas. Further research is needed to understand the concerns of Muslim community. The other measures suggested were:

- Enhancing age at marriage

- Measures at curtailing child mortality
- Promotion of better reproductive health services among Muslims by involving satisfied Muslim respondents
- Better utilization of temporary methods of family planning methods

Table 8: Cox proportional hazard model (Model: Enter and forward step wise conditional LR)

	NFHS-1		NFHS-2		NFHS-3	
	Enter	Forward step wise conditional LR (4 th step)	Enter	Forward step wise conditional LR (5 th step)	Enter	Forward step wise conditional LR (5 th step)
<i>Type of Residence (Reference: Urban)</i>						
Rural	1.049		.879*	.874*	.843*	.855*
<i>Educational Level of the Respondent (Reference: No education)</i>						
Primary	.750	.714	1.149*	.937	1.356*	.728*
Secondary	.967	.974	1.283*	1.10	1.308*	.984
Higher	1.014	1.010	.957	1.248*	1.501*	.927
<i>Partner's Education (Reference: No education)</i>						
Primary	.872		.825*		1.133	
Secondary	1.045		.912		1.178*	
Higher	1.054		.870*		1.131	
<i>Ever Terminated Pregnancy (Reference: No)</i>						
Yes	.796*	.797*	.855*	.855*	.781*	.785*
<i>Sons and Daughters Who Died (Reference: No death)</i>						
One + daughters died	1.466*	1.498*	1.660*	1.671*	1.685*	1.688*
One + sons died	1.062	1.073	1.231	1.247*	1.140	1.150
One + sons and daughters died	1.257*	1.295*	1.366*	1.378*	1.266*	1.277*
<i>Marriage Cohort (Reference)</i>						
1950-59						
1960-69	1.583*	1.568*				
1970-79	3.936*	3.867*	1.749*	1.748*		
1980-89	13.535*	13.358*	3.763*	3.743*	1.605*	1.613*
1990-99			14.270*	14.110*	3.418*	3.434*
2000-07					19.319*	19.030*
<i>Respondent Currently Working (Reference: Not Working).</i>						
Working	1.050		1.016		1.131	
-2 Log	18818.20		29078.010		39934.940	

ACKNOWLEDGEMENTS

The author acknowledges the financial support given by University Grants Commission, New Delhi through a Major Research Project. The author also acknowledges the website www.measuredhs.com for providing the data on India.

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