Intergenerational patterns of contraception use during extended postpartum period among women in Haryana, India

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Introduction

Extended postpartum period has been defined as the 12-month interval after a child birth. Biologically, the postpartum period rests upon the return of menstruation after birth. It also depends on the intensity and length of breastfeeding (Kennedy and Trussell, 2004). The dynamics of contraceptive use among women in extended postpartum period (12 months after the childbirth) is of interest of the family planning programs and policies in order to ensure that all birth are properly timed, properly spaced and ended by choice. Moreover, focusing on contraception use during the postpartum period is particularly important for the health and survival of mother as well as child as closely spaced child births pose health risk to new born and mothers (Sebastian, *et al*., 2012). Researchers also evidenced that the chances of infant survival is about two times higher among those who born after the birth interval of three to five months (Winikoff, 1983; Rutstein, 2002). Also, women with less than 6 months pregnancy intervals are at higher risk of pregnancy complications, premature rupture, or even maternal death (Conde-Agudelo and Belizan, 2000). Therefore, efforts to address the agenda of individual wellbeing in reproductive health seek to understand the specific patterns and determinants of contraceptive use in the postpartum period.

Though, adoption of contraceptive methods for spacing between children in India has been increased, still it remains low among women. Also, the largest proportion of women in the country experiences unmet need for contraception in their first year after childbirth (Ross and Winfrey, 2001). Several studies in the Indian context have documented that contraceptive use during postpartum period among women have been influenced by complex interactions

between micro level factors such as age, education, media exposure as well as macro level factors such as improvements in health services, urbanization (Sahoo, 2007; Goel *et al*., 2010; Mahmood, *et al*., 2011; Singh *et al.,* 2013). Though, women's age has been highlighted as an important determinant of family planning use for spacing between children by the researchers, however, the causal approach towards the age effect while studying the use of contraceptives after a child birth has persisted in the majority of the studies.

In India, none of the available studies have focused to examine the intergenerational patterns of contraceptive use among women during the postpartum period. This study is important in the sense that Indian society is in transformation and experiencing the generation gap. Because of the socialization, the older generation demonstrates unsupportive attitude towards contraception use and prefer less use of family planning. On the contrast, the younger generation who tend to bring new rules of behaviour and alter the social structure in order to fulfil their social and economic needs. The changes in the socioeconomic environment along with life experiences of individuals can lead to inter-generational differences.

With this background, present study is an attempt to understand the patterns of contraceptive use among women during the extended postpartum period across the two successive generations. Precisely the study examined the generational differentials in adoption of family planning methods during extended postpartum period based on the hypothesis that individuals born at different time periods experience different socio-economic circumstances. The study was further extended by analysing timing and type of contraceptive methods used by generations.

Data and Methods

Considering the need of the study, primary survey conducted in Rohtak district of Haryana, India, in which two successive generations were interviewed, was used. Using multi-stage stratified random sampling, a total of 800 ever-married women having at least one child (400

from each generation) residing in same house, were interviewed regarding family planning, contraception use and reproductive history, as a part of Ph.D. program. As, data was collected from women residing under one roof, mothers-in-law were treated as older generation and daughters-in-law were treated as younger generation and analyses have been performed accordingly. We preferred to interview mothers-in-law (older generation) aged less than equal to 65 years in order to reduce the recall bias. Data collection was done during May-August, 2013 using both qualitative and quantitative techniques data collection.

For postpartum period, the study focused on the 12 months experience of women after the first childbirth across the generations. The outcome of interest was the use of any family planning methods after first childbirth of women across the generations. Use of any family planning methods were further classified as modern and traditional contraceptive methods (0-not used; 1-used traditional methods; 2-used modern methods). The outcome was measured in duration (in months) from the time of childbirth to the time when women started using any contraceptive methods.

Other important demographic and socio-economic predictors included in the analysis were women's age, age at marriage, educational status (0-Not educated, 1-primary & secondary education, 2-higher secondary or more), occupational status (0-not working, 1-working), family planning awareness (0-no, 1-yes), autonomy (0-low, 1-high) etc. For measuring women's autonomy index, a set of variables namely, women's mobility (freedom to visit outside home unescorted), decision making authority and access to economic resources were taken into account. At household level, ethnicity-castes (Scheduled castes, Other Backward Classes, Others), economic status (low, medium, high) of household were considered as potential variables. Economic status of household was calculated from the set of assets owned by household including ownership of consumer items and dwelling characteristics.

The study employed bivariate and multivariate statistical techniques to fulfil the proposed objectives. Principal component analysis was applied to compute autonomy index and household economic status. Discriminant analysis was used to determine the factor contributing most in defining the differences across the generations. Further, binary logistic regression analysis was utilized as per the requirement of the study. All the analysis was conducted using statistical software STATA 13.0 (Statacrop, 2007).

Profile of the respondents

Table 1 presents the profile of the respondents interviewed in the survey. The mean age of older generation women in the sample was 54.7 years and mean age at marriage was 17.1 years. Among younger generation women, mean age was 25.6 years and mean age at marriage was 22.3 years. A little less than half (47%) of older generation women were illiterate and around 29% of them had primary & secondary education. Only 24% women of older generation had attained higher secondary education or above. On the other hand, majority (65%) of younger generation women had attained higher education or above and rest 35% had primary or secondary education. Close to half (49%) of women from younger generation were not involved in any income generating activity while 68% among older generation were engaged in household work only. Awareness about family planning was higher (72%) among women of younger generation while those not aware about family planning methods had the majority (64%) in older generation. Around 60% younger generation women reported to had low autonomy compared with 49% of older generation women. This may be because of family structure as in vertically joint family younger women as daughter-in-law usually live under the control of elder women, especially mother-in-law.

Women from middle status households (based on the wealth status index) were majority (43%) in the sample and those from poor households accounted for 30%. Furthermore, there

were 36% women belonged to Scheduled castes (SC), 33% from Other Backward Classes (OBC) and remaining 31% from other castes.

Findings

Intergenerational differentials in use of family planning methods during extended postpartum period have been shown in table 2. Findings show that adoption of any family planning methods during the extended postpartum period was more among younger generation women compared to older ones. More than half (59%) of older generation women did not use any family planning during the postpartum period while, about 37% women from younger generation did not adopt any family planning methods. The extent of use of family planning methods during the extended postpartum period were also varied by demographic and socio-economic characteristics of women across the generations. By educational status, majority of respondents of both the generations with higher education used family planning in comparison to those with no or lesser education. Likewise, the adoption of family planning in extended postpartum period was more among respondents working outside the home, have a regular media exposure, belonged to high wealth quintile. Besides the similar pattern of family planning use, differences also occur in usage of family planning across the generations. For all socioeconomic characteristics, utilization of family planning has increased among the younger generation. For instance, the adoption of family planning methods in extended postpartum period among highly educated women increased from 54% for older generation to 67% for younger generation. Also, across the generations, the use of family planning during postpartum period was increased from 53% to 67% among working women. There were 48% older women who were aware about family planning used contraceptives in extended postpartum period while this proportion was 70% among younger generation. Among caste categories, the highest change in utilization of family planning methods during extended postpartum period was observed among women belonged to non-

scheduled castes or non-backward class social groups. Results from discriminant analysis also revealed education (Discriminant loading-0.836), occupation (Discriminant loading-0.525) and awareness about family planning (Discriminant loading-0.761), that distinguish the generations by their use of family planning in extended postpartum period. Additionally, economic status of the household also contributes for the significant differences in family planning use among women in extended postpartum period (Discriminant loading-0.794).

[Table 2 is about here]

Table 3 presents the effects of generations on adoption of family planning use in extended post-partum period among women. Model-I presents the baseline effect of generations on family planning use. In model-I, women in the younger generation were 1.63 times more likely to use contraceptive methods during extended post-partum period than women of older generation. After controlling for prenatal care and delivery services in model-II, results show that the odds of using family planning methods slightly increased for younger generation (OR-1.68; $p<0.01$). In model-II, the odds of using contraception in extended postpartum period increased with an increase in prenatal care visits. Further, the odds of family planning use after the child birth for women who received advice for family planning was higher (OR-1.82; $p<0.01$) compared to those who did not receive any advice during antenatal visits. Place of delivery also significantly influence the postpartum contraceptive use among women. Women who delivered their child in any private facility were two times more likely to adopt contraceptives after child birth (OR-2.26; $p<0.05$). Women who delivered in government facility also had higher odds as compared with those who had home delivery.

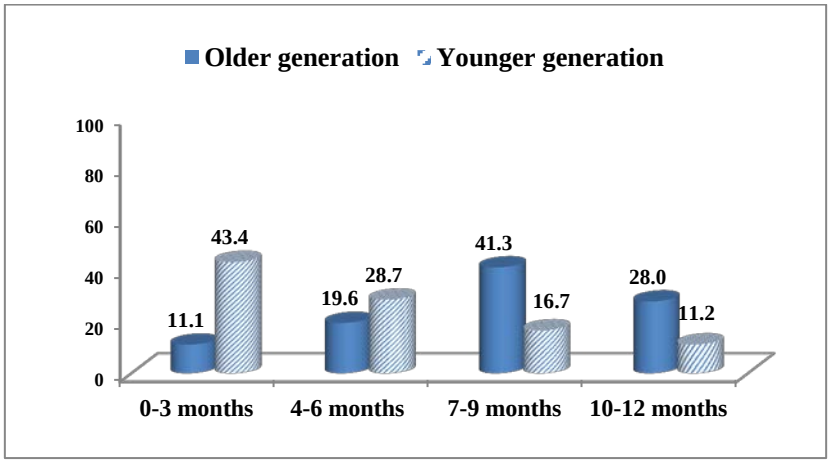
In model-III, the generational effect on family planning use was remained similar after including i.e. younger generation were more likely to adopt contraception during postpartum period in comparison with older generation women. Nevertheless, prenatal care services, family planning advice and place of delivery were still significant though their effects were

attenuated. When compared with women with no education, the odds of using contraceptives during extended postpartum period were higher among those who attained primary or secondary education (OR-1.90; $p<0.05$). Further, women who were highly educated were two times more likely to adopt contraception after child birth (OR-2.67; $p<0.01$). Women who were involved in any income generating activity were also more likely to use contraception within 12 months after child birth. By caste status, uptake of family planning methods was lower among women from scheduled castes (SC) and other backward classes (OBC). Belonging to households categorized as middle income was associated with 29 percent likelihood of using contraception during extended postpartum period whereas belonging to rich households had odds 1.98.

[Table 3 is about here]

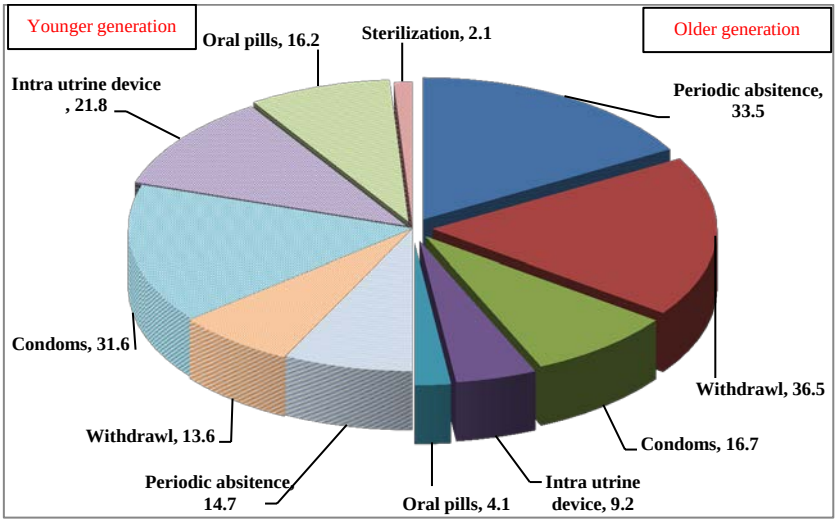
The differentials in uptake of family planning methods after the child birth across the generation have been depicted in Graph 1. Findings state that among those who used family planning during extended postpartum period, majority (43%) of younger generation women adopted contraceptive methods within 3 months after child birth, while only 11% women of older generation used any contraception during this period. Majority (41%) of older generation women started using contraceptive methods after 7-9 months of child birth. Also, there were 20% and 28% older women who used any contraceptive methods after 4-6 months and 10-12 months respectively.

Graph 1: Uptake of family planning across the generations by time (in months) after child birth



Significant differences in type of contraceptive methods opted during extended postpartum period across the generations were also observed. A small proportion (29%) of older generation women relied on modern contraceptive methods during postpartum period. Around 37% of them used withdrawal methods followed by abstinence (34%) after the child birth. Among younger generation almost all women adopted modern methods of contraception such as condoms (32%), IUD's (Copper-T; 22%) during their postpartum period. The utilization of oral pills was found low (16%) among younger women in postpartum period (Graph 2).

Graph 2: Type of contraceptive methods used during extended post-partum period across the generations



Interestingly, the study also point out a shift from traditional methods to modern methods among older generation women. Around 37% older generation women initially adopted traditional methods of contraception and later took up modern methods during their postpartum period. Majority (61%) younger generation women initially adopted modern methods during postpartum period and a lesser proportion (17%) of them shows the shift from traditional to modern methods during postpartum period.

[Table 4 is about here]

Discussion and Conclusions

The findings of the study revealed significant differences across the generations in contraception use during postpartum period. Across the generations, postpartum contraception use was lower among older generation women. Contraception use during postpartum period was about 63 percent among younger generation women, while less than half (41 percent) of the older generation women used any contraceptives within 12 months after child birth. Among women of both the generations, uptake of family planning methods in postpartum period was lower among illiterate & less educated and non-working women, those who had no knowledge about family planning and less autonomy, those belong to scheduled castes/tribes and poor households. Further, the study demonstrated that different patterns of contraceptive use among women across the generations, was also observed before and after adjusting for other potential covariates. The transformation of societies in terms of increased access to education, awareness about family planning methods via advertisements, internet, infrastructure and accessibility of resources explains the differences in the behaviour of women across the generations.

Though, compared with older generation, uptake of family planning methods has been increased among younger women, still, a substantial proportion did not use any contraceptives during extended postpartum period. Up to some extent, it could be linked with

the lack of adequate knowledge and awareness about family planning. Also, influence of husband or other family members may also be associated with the women's decision to use contraceptives soon after child birth as all the younger women in the study were residing in joint family or with mother-in-law at the time of interview. Previous studies also highlighted the dominant influence of husband's views & decisions over women's reproductive behaviour (Watkins *et al*., 1997; Omondi-Odhiambo, 1997; Stephenson *et al*., 2008). Moreover, in typical patriarchal joint kinship structure (most common family structure in Indian society), older women especially mother-in-law control their roles, responsibilities and even their reproductive decisions (Bender and McCann, 2000; Mumtaz and Salway, 2005).

In addition, timing of contraceptive use across the generations was also examined here. The early initiation of use of family planning and use of modern methods during the postpartum period was higher among younger generation women compared to older generation. It is also important to note that adoption of traditional contraceptive methods in extended postpartum period has been reduced significantly from older generation to younger generation. Modern contraceptive methods were more among younger generation women and condoms followed by copper-T were the most popular method used by younger women during extended postpartum period. The findings also demonstrate low use of oral contraceptive pills in the postpartum period among women of younger generation. It may be argued here that during postpartum period majority of women breastfeed their child and probably because of the side effects of oral pills on quantity of breast milk and baby, they did not preferred to use oral contraceptive pills.

Though, by time and generations there has been a significant change in the extent and patterns of contraceptive adoption among postpartum women, still in few segments, women in present generation also reported low use of family planning during postpartum period especially among those belonged to low socioeconomic profile, which calls for urgent policy

attention. Doctor (2011) also argued that younger generation women still face challenges in accessing reproductive health services as long as the level of stigma remains high in society. Thus, family planning programmes should be designed keeping in mind the socioeconomic characteristics of younger generation women in order to reach the most unobserved women. Also, service providers should tend to focus their counselling on spacing methods to young couples.

The study had few limitations also. The surveyed data was self-reported and in an attempt of identifying the patterns of family planning use across the generations, older women were asked about their reproductive history and family planning use, which introduces recall and social desirability biases.

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Table 1: Percentage distribution of older and younger generation women having at least two children

Characteristics of respondents	Older generation		Younger generation	
	(%)	*n*	*(%)*	*n*
Individual characteristics				
Mean age of respondents	54.7	400	25.6	400
Mean age at marriage	17.1	400	22.3	400
Educational Status				
No education	47.2	189	0.0	0
Primary & Secondary education	29.2	117	35.4	142
Higher secondary & above	23.6	94	64.6	258
Occupational Status				
Engaged in household work only	68.2	273	49.1	196
Involved in income generating activity	31.8	127	50.9	204
Aware about FP methods				
No	64.2	257	28.3	113
Yes	35.8	143	71.7	287
Autonomy level				
Low	48.8	195	59.7	219
High	51.2	205	40.3	181
Household level characteristics				
Castes				
Scheduled castes	36.3	145	36.3	145
Other Backward Classes	32.7	131	32.7	131
Others	31.0	124	31.0	124
Economic status of household				
Poor	30.2	121	30.2	121
Middle	43.1	172	43.1	172
Rich	26.7	107	26.7	107
Total	***400***		***400***	

Table 2: Intergenerational differentials in using family planning during extended post-partum period by socioeconomic characteristics

Characteristics	Older generation		Younger generation	
	(%)	n	(%)	n
Individual level				
Age at marriage	**DL=0.217**			
Less than 18 years	36.8	90	53.0	46
18-20 years	41.5	49	59.5	79
21 years or more	61.8	23	70.4	127
Educational Status	***DL=0.836***			
No education	33.4	63	0.0	0
Primary & Secondary education	41.1	48	55.1	78
Higher secondary & above	54.0	51	67.3	174
Occupational Status	***DL=0.525***			
Engaged in household work only	34.8	95	59.1	116
Involved in income generating activity	52.7	67	66.8	136
Aware about FP methods	***DL=0.761***			
No	36.6	94	44.2	50
Yes	47.5	68	70.4	202
Autonomy	**DL=0.178**			
Low	33.8	66	54.4	119
High	46.9	96	73.4	133
Household level characteristics				
Castes	**DL=0.069**			
Scheduled castes	32.4	47	54.4	79
Other Backward Classes	38.2	50	67.3	88
Others	52.4	65	68.5	85
Economic status of household	***DL=0.794***			
Low	25.7	31	53.0	64
Medium	39.4	68	62.1	107
High	59.0	63	75.8	81
Total	**40.5**	**162**	**63.0**	**252**

Note: DL-Discriminant loadings; 0.5 was considered as the cut-off between important and less important predictors and important predictors defining contraception use among women during postpartum period across the generations are shown in bold and italics.

Table 3: Adjusted odds for using family planning among older and younger generation women during extended post-partum period

Characteristics	Model-I	Model-II	Model-III
Generations			
Older generation (Ref.)	1.00	1.00	1.00
Younger generation	1.63*(1.22-1.94)	1.68*(1.37-1.80)	1.42**(1.29-2.04)
Prenatal care visits©		1.76**(1.52-1.96)	1.43**(1.21-1.66)
Received FP advice			
No (Ref.)		1.00	1.00
Yes		1.82*(1.49-2.04)	1.39**(1.36-1.76)
Delivery Location			
Home		1.00	1.00
Government facility		1.68*(1.51-1.88)	1.21(0.66-1.53)
Private health care facility		2.26**(1.94-2.62)	1.37**(1.08-1.74)
Educational Status			
No education (Ref.)			1.00
Primary & Secondary education			1.90**(1.72-2.31)
Higher secondary & above			2.67*(2.44-2.92)
Occupational Status			
Not working (Ref.)			1.00
Working			1.24**(1.19-1.52)
Aware about FP methods			
No (Ref.)			1.00
Yes			1.12(0.48-1.47)
Autonomy			
Low (Ref.)			1.00
High			1.42*(1.29-1.57)
Castes			
Others (Ref.)			1.00
Scheduled castes			0.68**(0.52-0.82)
Other Backward Classes			0.88*(0.82-0.96)
Economic status of household			
Low (Ref.)			1.00
Medium			1.29**(1.15-1.44)
High			1.98**(1.74-2.36)
Log Likelihood	**-4252.74**	**-4140.27**	**-3839.91**
Prob.>Chi square	**0.000**	**0.000**	**0.000**

Note: First category of each variable was considered as reference category; ©-Continuous variable; *-1% level of significance; **-5% level of significance; ***-10% level of significance;

Table 4: Percent distribution of older and younger generation women reported shift in use contraceptive methods what they adopted initially after child birth

Shift in contraceptive methods	Older generation	Younger generation
Used modern methods only	23.6	60.7
Used traditional methods only	24.5	19.0
Yes, from traditional to modern methods	37.4	16.7
Yes, modern to traditional methods	14.5	3.6