Determinants of Modern Contraceptive Use Among Young Married Women in Five High Fertility States of India

Ashwani Kumar
Yogender Pal Gupta
Jayachandran AA

Abstract

In India, early marriage, low prevalence of modern contraceptive methods, and births among young married women remain a significant health and socio-demographic concern for women, their families, and communities. This paper analyses use of modern contraceptive methods among young married women aged 15-24 years in five high fertility states of India. Bivariate and multinomial logistic regression models were used to assess the association between a set of background predictors and use of modern contraceptives among young married women. Level of education, women's parity and son preference and religious affiliation of the young married women has been found to be most significant determinants in utilizing the modern spacing and permanent methods. The analysis also reveals that the determinants of modern spacing methods use are different from the determinants of the use of limiting methods. The analysis suggests that increasing years of schooling, improving comprehensive knowledge about different family planning methods, counselling for family planning with a focus on adolescent girls and young women may help in increasing the use of modern spacing methods among young married women thereby achieving the goal of sexual and reproductive health.

Background

The recent decade has witnessed a growing concern over the sexual and reproductive health of young women among family planning policy makers, health professionals, academics, researcher, and stakeholders in India. Universal access to Sexual and Reproductive Health (SRH) including family planning services by 2030 is a recognised goal that corresponds to targets 3.7 and 5.6 of the United Nations Sustainable Development Goals (SDGs). The indicator 3.7.2 of the SDGs explicitly refers to adolescent birth rate (Sánchez-Páez & Ortega, 2018). Unplanned pregnancies and

births among young women have significant health and socio-demographic consequences for women, their families, and communities (Sedgh et al., 2014; Singh et al., 2010). Young married women in India have little scope to make fertility decisions and adopt a modern family planning methods because of a strong patriarchal society (Char et al., 2010; Ghule et al., 2015). Contraceptive use is identified as one of the proximate determinants of fertility (Bongaarts, 1978; 2015; Bongaarts and Potter, 1983; Casterline et al, 1984; Stover, 1998) and is an effective tool to prevent unintended pregnancy and regulate fertility (New et al, 2017; Stover and Ross, 2010).

Marriage at a young age exposes millions of adolescent girls and young women to pregnancy, abortion and various obstetric health complications resulting in increased risk of pregnancy related deaths in the developing countries (Mayor, 2004; Stover and Ross, 2010; Williamson et al, 2009) In India, more than 40 per cent women aged 15-24 years are currently married and the mean age at marriage of females is 18.6 years for women aged 25-49 years (Government of India, 2017). Cultural stigma and religious opposition, limited access and choices to family planning methods, fear of adverse side-effects, inadequate and poor quality of services, social myths and misconceptions and gender-based barriers are among the many reasons behind the very low use of modern contraceptive methods and high unmet need of family planning, especially among young married women (Joshi et al, 2015; Khurram et al, 2012; Mwaisaka et al, 2020; Uzma, 2017; Thulaseedharan, 2018). The official family welfare programme of the country is dominated by female sterilisation which accounts for more than two-third of all contraceptive use while the use of modern spacing methods remains low (Säävälä, 1999; Stephenson, 2006). Because of the dominance of permanent methods, the family planning needs of young married women in India remain grossly unmet. According to the National Family Health Survey (NFHS) 2015-16, less than 27 per cent of the demand for family planning among currently married women aged 15-19 years in India is satisfied by modern family planning methods while the modern family planning methods prevalence is only 10 per cent (IIPS and ICF 2017). This means that young married women in India face a high risk of unintended pregnancy.

It is in the above context that the present paper attempts to analyse the determinants of the use of modern family planning methods among young married women – currently married women aged 15-24 years - in five high fertility states of India - Bihar, Uttar Pradesh, Madhya Pradesh, Jharkhand, and Rajasthan. The total fertility rate, in these states, remains higher than the national average and ranges from 3.2 births per woman of reproductive age in Bihar to 2.5 births per woman of reproductive age in Jharkhand and Rajasthan according to the official Sample Registration System (Government of India, 2018). The paper has two objectives. The first objective of the paper is to analyse the prevalence of modern family planning methods among young married women in five states along with the proportionate use of different family planning methods or the method mix. The second objective, on the other hand, is to analyse the determinants of the use of modern family planning methods among young married women in the five high fertility states.

256

Materials and Methods

The study is based on the data collected under the National Family Health Survey (NFHS) 2015-16 (International Institute for Population Sciences and ICF, 2017). The NFHS 2015-16 covered 44,266 young married women (currently married women in the age group 15-24 years) in the five high fertility states covered in the present analysis - 8,853 in Bihar; 5,176 in Jharkhand; 10,091 in Madhya Pradesh; 7,182 in Rajasthan; and 12,964 in Uttar Pradesh. Using these data, we have estimated method-specific prevalence of different modern family planning methods and calculated the proportionate distribution of modern family planning methods currently being used by young married women to estimate modern methods prevalence rate (mCPR) and method mix among young married women. We have also carried out bivariate analysis to examine how mCPR, method-specific prevalence and method mix varies by individual and social and economic characteristics of the young married women. Finally, logistic regression analysis has been carried out to examine the influence of different social, economic, demographic, and other contextual factors on the use of modern spacing methods and permanent methods. The analysis has been carried out for each of the five states separately as both fertility and family planning use among young married women varies across the five states included in the analysis.

The dependent variables used in the logistic regression analysis are dichotomous variables. We have compared young married women not using any modern family planning method with young married women using modern spacing methods - intra-uterine device (IUCD), injectable, pill, emergency pill, condom, lactational amenorrhoea method (LAM), standard day method (SDM) and other modern method - and young married women using permanent methods – female and male sterilisation. On the other hand, independent variables in the logistic regression analysis include religion (Hindu and Non-Hindu); years of schooling of the young married women (no schooling, 1-5 years of schooling, 5-9 years of schooling, 10-11 years of schooling, and schooling of 12 and more years); standard of living based on the household wealth index (poor, middle, and rich); caste (marginalised - Scheduled Tribes and Scheduled Castes - and not-marginalised - Other Backward Classes and General castes; residence (urban and rural); intra-household status of young married woman (only married woman in the household and more than one married women in the household); number of living children to the young married woman; son preference (young married women having at least one son, young married women having no son, and women not having any child), Desired/ideal number of children reported by the young married woman; interaction with the front line health workers in the three months preceding the survey categorised into two groups (yes, no); exposure to mass media about family planning messages during the three months preceding the survey categorised into two groups (yes, no); and the knowledge of at least three modern family planning methods (yes, no). Multicollinearity among the independent variables was checked before carrying out the logistic regression analysis. Statistical Package for the Social Sciences (SPSS Version 22.0) was used for the analysis.

Results

Table 1 presents mCPR, prevalence of different modern contraceptive methods and unmet need for modern contraceptive methods among young married women in the five states. The mCPR and prevalence of different modern contraceptive method was higher in young married women aged 20-24 years compared to young married women aged 15-19 years. Across the five states, mCPR in young married was the lowest in Bihar but the highest in Rajasthan. Among different modern family planning methods, condom was the most popular one and its prevalence was also the lowest in Bihar but the highest in Rajasthan in both young married women aged 15-19 years and young married women aged 20-24 years. Use of permanent methods was not popular among the young married women in all states.

Table 2 presents prevalence of modern spacing methods and permanent methods in five states. The prevalence of modern spacing methods was also the highest in Rajasthan and the lowest in Bihar, but the prevalence of permanent methods was the highest in Madhya Pradesh but the lowest in Uttar Pradesh. Madhya Pradesh is the only state where the prevalence of permanent methods in young married women was higher than the prevalence of modern spacing methods. Table 2 also presents the prevalence of modern family planning methods (mCPR) in young married women by various social economic and family related variables. The mCPR was higher in non-Hindu young married women in Madhya Pradesh compared to Hindu young married women. In other states, however, mCPR was higher in Hindu compared to non-Hindu young married women. In all states, mCPR was the highest in rich young married women. Similarly, mCPR was higher in young married women living in urban areas and in young married women belonging to not-marginalised castes in all the five states. The mCPR appears to be directly related to the years of schooling of the young married women as it was the highest in young married women with at least 12 years of schooling in all states. Similarly, mCPR was relatively higher in young married women not living with other married women in the family compared to young married women living with other married women in the family. The table also shows that the parity and the son preference also play an important role in deciding the use of modern family planning methods by the young married women. The mCPR was low in young married women who did not have any child or were having only girl child/ren compared to women having at least one son in all the five states. Young married women who desired two or less than two children were having higher mCPR compared to women who desired at least three children. The prevalence of modern family planning methods has also been found to be higher in young married women exposed to mass media compared to young married women not exposed to mass media. The knowledge of at least three modern family planning methods by the young married women has also been found to be related to relatively higher prevalence of modern family planning methods in young married women. However, no substantial difference in mCPR is found between young married women who interacted with FLWs during the last three months preceding the survey compared to young married women who had no interaction.

Table 1. Prevalence of modern family planning methods (mCPR) and method-specific prevalence in young married women in five high fertility states of India, 2015-16.

Prevalence rate	States									
	Bihar (BI)		Jharkhand (JH)		Madhya Pradesh (MP)		Rajasthan (RA)		Uttar Pradesh (UP)	
	15-19	20-24	15-19	20-24	15-19	20-24	15-19	20-24	15-19	20-24
Modern methods prevalence (mCPR)	1.5	6.4	5.5	14.3	7.5	20.3	10.5	22.2	5.6	14.2
Method-specific prevalence										
Pill	0.5	0.5	1.9	2.5	0.5	1.8	1.2	2.6	0.5	1.0
IUD	0.1	0.5	0.5	1.3	0.3	0.8	0.8	1.2	0.3	0.9
Injection	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.3	0.1	0.2
Condom	0.7	1.0	2.3	2.5	5.5	6.2	7.8	10.8	4.6	10.3
Female sterilisation	0.1	4.1	0.4	7.4	1.0	11.1	0.4	7.1	0.0	1.5
Male sterilisation	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
Lactational Amenorrhoea method (LAM)	0.0	0.1	0.3	0.5	0.0	0.1	0.1	0.1	0.1	0.1
Standard days method (SDM)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Other Modern Methods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: International Institute for Population Sciences and ICF (2017).

Table 2: Modern methods prevalence of mCPR and prevalence of modern spacing methods and permanent methods in young married women in five high fertility states of India 2015-16.

Background Characteristics	Prevalence of modern spacing methods (Per cent)					Prevalence of permanent methods (Per cent)					Prevalence of modern methods (Per cent)				
	BI	JH	MP	RA	UP	BI	JH	MP	RA	UP	BI	JH	MP	RA	UP
Religion															
Non-Hindu	1.6	6.3	16.9	17.1	12.7	1.1	2.1	4.6	2.8	0.1	2.7	8.4	21.5	19.8	12.8
Hindu	2.1	6.4	8.1	13.8	11.5	3.4	7.0	9.9	6.4	1.5	5.5	13.4	17.9	20.2	13.0
Wealth Index															
Poor	1.5	5.1	4.5	9.3	7.0	2.9	5.2	11.7	6.4	1.6	4.4	10.3	16.1	15.7	8.6
Middle	3.0	9.0	10.8	13.4	12.2	3.8	8.8	7.9	7.2	1.2	6.8	17.8	18.7	20.6	13.4
Rich	5.5	10.5	16.8	19.9	19.4	2.7	4.7	5.6	4.7	0.9	8.3	15.2	22.5	24.6	20.3
Caste															
Marginalised	1.6	5.0	5.7	11.7	9.2	2.9	4.8	10.7	6.5	1.5	4.5	9.8	16.5	18.2	10.8
Non-marginalised	2.2	7.4	11.0	15.8	12.6	3.1	6.3	8.7	5.7	1.2	5.3	13.7	19.6	21.4	13.9
Residence															
Rural	1.8	5.7	6.7	12.6	9.7	2.9	5.5	10.7	6.3	1.4	4.7	11.2	17.4	18.9	11.2
Urban	4.2	9.4	15.4	21.4	19.9	4.2	6.7	5.3	4.3	0.8	8.4	16.1	20.8	25.7	20.6
Years of schooling															
0 years	1.0	3.7	4.0	9.6	7.7	3.7	6.6	14.9	8.7	2.0	4.7	10.3	18.9	18.3	9.7
<5 years	0.9	4.8	5.7	9.4	11.9	4.3	7.9	13.2	8.1	1.2	5.1	12.7	18.9	17.5	13.2
5-9 years	1.7	6.0	8.6	13.1	11.2	2.8	6.7	9.2	6.3	1.5	4.6	12.6	17.8	19.4	12.7
10-11 years	3.6	6.7	13.1	20.6	13.6	2.1	3.8	4.7	4.0	0.9	5.7	10.4	17.9	24.6	14.4
12th years and above	4.7	10.6	16.0	21.4	14.9	1.9	4.2	2.6	1.7	0.6	6.6	14.8	18.7	23.1	15.5

Background Characteristics	Prevalence of modern spacing methods (Per cent)					Prevalence of permanent methods (Per cent)					Prevalence of modern methods (Per cent)				
	BI	JH	MP	RA	UP	BI	JH	MP	RA	UP	BI	JH	MP	RA	UP
Respondents' intrahousehold status															
With other women	1.9	5.4	8.7	13.9	10.6	2.2	4.9	6.6	4.6	0.9	4.1	10.3	15.3	18.6	11.4
Only woman	2.2	7.4	8.6	14.5	13.3	4.1	6.5	13.1	7.9	1.9	6.3	13.9	21.7	22.4	15.2
Parity and son preference															
No Child	0.8	3.3	5.2	8.2	4.3	0.0	0.0	0.1	0.0	0.0	0.8	3.3	5.2	8.2	4.4
At least 1 son	2.9	7.6	10.1	18.5	18.3	7.3	12.7	20.8	14.3	3.3	10.1	20.4	30.9	32.7	21.6
Only girl child/ren	2.7	8.2	11.0	16.4	13.7	0.2	0.7	1.5	0.3	0.2	2.9	8.9	12.4	16.7	13.9
Respondent's ideal no. of children															
2 or less	2.5	7.2	9.1	15.0	13.0	3.3	6.7	9.7	5.8	1.4	5.8	13.9	18.8	20.9	14.4
3 and above	1.4	4.5	5.9	8.8	8.8	2.7	3.4	8.6	6.8	1.2	4.1	7.9	14.4	15.6	10.0
Media exposure for FP msg.															
No	0.9	3.7	3.7	10.0	7.0	2.8	5.7	11.4	6.5	1.6	3.6	9.5	15.1	16.6	8.5
Yes	3.1	8.2	10.7	15.7	13.7	3.3	5.7	8.7	5.8	1.2	6.4	13.9	19.5	21.5	14.8
Knowledge of Modern FP Method															
No or < 3 methods	0.2	0.7	0.5	3.2	1.0	1.9	2.5	6.9	5.8	0.0	2.1	3.2	7.4	8.9	1.0
At least 3 methods	2.5	7.0	9.3	14.5	12.1	3.3	6.1	9.7	6.0	1.4	5.8	13.1	19.0	20.4	13.5
FLW interaction															
No	2.0	6.7	8.4	14.7	10.8	2.6	6.2	9.1	6.4	1.2	4.6	12.9	17.5	21.2	12.0
Yes	2.2	5.8	9.0	13.2	13.0	3.8	4.9	9.9	5.2	1.4	6.0	10.7	18.9	18.4	14.4
Total	2.1	6.4	8.7	14.2	11.7	3.0	5.7	9.5	6.0	1.3	5.1	12.1	18.2	20.2	13.0

Source: Authors' calculations

The variation in the use of modern spacing methods by different characteristics of young married women has also been found to be different from the variation in the use of permanent methods. The prevalence of modern spacing methods was the lowest in Bihar but the highest in Rajasthan whereas the prevalence of permanent methods was the lowest in Uttar Pradesh but the highest Madhya Pradesh. The prevalence of modern spacing methods was higher in non-Hindu young married women of Madhya Pradesh and Rajasthan compared to that in Hindu young married women but, in the other three states, the prevalence of modern spacing methods was higher in Hindu young married women compared non-Hindu young married women. On the other hand, the prevalence of permanent methods was lower in non-Hindu young married women compared to Hindu young married women in all states.

The standard of living is found to be directly related to the use of contraceptive methods in young married women in all five states – the higher the standard of living the higher the mCPR. The prevalence of modern spacing methods increases with the increase in the stand of living in all states but this is not the case with the prevalence of permanent methods. In Madhya Pradesh and Uttar Pradesh, prevalence of permanent methods decreases with the increase in the standard of living whereas in other states, the prevalence of these methods is the highest in young married women with middle standard of living as measured through the household wealth index. Similarly, the prevalence of modern spacing method was higher in urban compared to rural areas in all the five states but the prevalence of permanent methods was higher in the rural compared to the urban areas in Madhya Pradesh, Rajasthan, and Uttar Pradesh.

The number of years of schooling of young married women is found to be directly related to the use of modern spacing methods – the higher the number of years of schooling the higher the prevalence of modern spacing methods in all the five states. This is, however, not the case in the use of permanent methods. In Madhya Pradesh, Rajasthan, and Uttar Pradesh, the higher the number of years of schooling the lower the prevalence of permanent methods whereas the prevalence of permanent methods was relatively the highest in young married women with less than five years of schooling compared to other young married women.

Type of the family also influenced the use of family planning among young married women. The mCPR was higher in young married women of those families where there was no other no other married women in the family compared to young married women of those families where there was at least one married woman in the family. The prevalence of both modern spacing methods and permanent methods was also higher in in young married women of those families where there was no other married woman in the family. Similarly, the mCPR and the prevalence of both modern spacing methods the permanent methods was relatively high in young married women having at least one son compared to young married women who were having either on child or were having only girl child/ren in all states. Table 2 also shows that the use of family planning methods in young married women was directly related to the family size preferences of the young married women in all the states.

Table 3: Results of the logistic regression analysis of Transition from non-users to users of "any modern spacing" and "permanent" methods, NFHS-4, 2015-16 (AOR)

Background variables	Dependent variable									
	Use of modern spacing methods					Use of permanent methods				
	Bihar	Uttar Pradesh	Madhya Pradesh	Rajasthan	Jharkhand	Bihar	Uttar Pradesh	Madhya Pradesh	Rajasthan	Jharkhand
Religion										
Non-Hindu	0.86	0.96	1.39**	1.2	1.06	0.3***	0.09***	0.56**	0.36***	0.28***
(Hindu)	1	1	1	1	1	1	1	1	1	1
Wealth Index										
Poor	0.65*	0.43***	0.41***	0.69***	0.78	0.92	0.79	1.01	0.77*	0.87
Middle	0.73	0.67***	0.79**	0.84*	1.11	1.22	0.83	0.9	0.96	1.58*
(Rich)	1	1	1	1	1	1	1	1	1	1
Caste										
Marginalised	1.01	0.93	0.85*	0.95	0.89	0.9	0.99	1.01	0.97	0.74**
(Non-marginalised)	1	1	1	1	1	1	1	1	1	1
Place of residence										
Rural	0.74	0.68***	0.84**	0.74***	0.94	0.71*	1.4	1.6***	1.26	1.06
(Urban)	1	1	1	1	1	1	1	1	1	1
Number of years of schooling										
0 years	0.5**	0.69***	0.52***	0.51***	0.56**	2.59***	3.29***	3.47***	3.94***	2.59***
Below 5 years	0.34**	0.96	0.64**	0.46***	0.63	2.98***	1.71	3.35***	3.55***	2.93***
5-9 years	0.6**	0.86**	0.8**	0.59***	0.69**	1.8**	2.38***	2.41***	2.77***	2.03**
10-11 years	1	0.93	0.92	1.08	0.67**	1.29	1.28	1.58*	2.61**	1.03
(12 years and above)	1	1	1	1	1	1	1	1	1	1

Background variables	Dependent variable									
	Use of modern spacing methods					Use of permanent methods				
	Bihar	Uttar Pradesh	Madhya Pradesh	Rajasthan	Jharkhand	Bihar	Uttar Pradesh	Madhya Pradesh	Rajasthan	Jharkhand
Respondents' living status in Household										
With other women	0.79	0.76***	0.9	0.92	0.63***	0.78*	0.67**	0.63***	0.76**	0.87
(Only woman)	1	1	1	1	1	1	1	1	1	1
Parity and son preference										
No Child	0.29***	0.26***	0.38***	0.38***	0.34***	0.09*	0.09**	0.04***	NA	NA
At least 1 son	1.16	1.5***	1.25**	1.52***	1.06	30.23***	21.42***	17.23***	56.27***	21.16***
(Only girl(s))	1	1	1	1	1	1	1	1	1	1
Ideal number of children										
2 or less	1.32	1.26**	1.19	1.55***	1.35**	1.32**	1.48**	1.77***	1.29*	2.21***
(3 and above)	1	1	1	1	1	1	1	1	1	1
Media exposure to family planning messages										
No	0.47***	0.71***	0.57***	0.8**	0.6***	0.8	0.93	0.87	0.74**	1.1
(Yes)	1	1	1	1	1	1	1	1	1	1
Knowledge of modern family planning methods										
Less than 3 methods	0.07**	0.14***	0.1***	0.37**	0.16***	0.65**	NA	0.48***	1.13	0.42**
(At least 3 methods)	1	1	1	1	1	1	1	1	1	1
Interaction with FLW										
No	1.16	1.19**	1.16*	1.51***	1.6***	1.06	1.7***	1.33***	2.11***	2.3***
(Yes)	1	1	1	1	1	1	1	1	1	1

*** P<0.001; ** P<0.05; * P<0.1; () - Reference category

Source: Authors' calculations

Exposure to family planning messages through mass median such as radio, television, newspaper, magazine, wall paintings has been found to have an impact on the use of modern family planning methods by young married women. The mCPR was higher in those young married women who were exposed to mass median compared to young married women who were not exposed to mass media. Similarly, the mCPR was higher in young married women who had the knowledge of at least three modern family planning methods compared to young married women who either had no knowledge of any modern family planning method or young married women who had knowledge of less than three modern family planning methods.

Results of the regression analysis are presented in table 3. The use of modern spacing methods by young married women is found to be related directly to the standard of living, years of schooling of the young married woman, exposure to mass media, knowledge about at least three family planning methods, and son preference in all state. On the other hand, the effect of other independent variables on the use of modern spacing methods by young married women has been found to be statistically significant in only selected states. For example, the effect of religion and caste on the use of modern spacing methods by young married women is found to be statistically significant in Madhya Pradesh only whereas the effect of the interaction with frontline health workers of the use of modern spacing methods by young married women has not been found to be statistically significant in Bihar and Jharkhand. Similarly, the ideal number of children desired has not been found to be associated with the use of modern spacing methods in Madhya Pradesh, but it has statistically significant effect in the remaining four states. Table 3 suggests that there are some common factors that influence the use of modern spacing methods by young married women in all the five states and, at the same time, there are factors that influence the use of modern spacing methods by young married women in selected states

On the other hand, religion, and number of years of schooling of young married woman is found to be statistically significantly associated with the use of permanent family planning methods in all the five states. Other explanatory variables like caste, standard of living, and place of residence have not been found to have any effect on the use of permanent family planning methods. Young married women of religions other than Hindu religion are less likely to use permanent family planning methods compared to Hindu young married women in all states. On the other hand, young married women having less than 10 years of schooling are more likely to use permanent family planning methods compared to young married women having at least 12 years of schooling in all states.

The table also suggests that exposure of young married women to family planning messages through mass media does not have any impact on the use of permanent family planning methods in all states except Rajasthan where young married women exposed to family planning messages through mass media are more likely to use permanent methods compared to young married women who are not exposed to mass median messages about family planning. On the other hand, young married

women of Bihar, Madhya Pradesh and Jharkhand who have knowledge of at least three family planning methods are more likely to use permanent family planning methods compared to young married women who have knowledge of less than three family planning methods or have no knowledge of any family planning method. Similarly, young married women having at least one son are very highly likely to use permanent family planning methods compared to young married women who have only daughters in all states. Another influencing factor in the use of permanent family planning methods is the perception of young married women about intended or ideal family size in all states.

Discussion

Family planning is one of the twenty great public health achievements of the 20th century (Centre for Diseases Control, 1999). Availability of family planning services allows individuals and couples to achieve desired birth spacing and family size, and contributes to improved health outcomes for women, children, and families (Sonfield et al, 2014). There are many social, health and economic adversities faced by women, especially, young married women of reproductive age which prevent them from for practising family planning. In this paper, we have identified some of the barriers like strong son preference, poor knowledge about at least any three modern family planning methods, women's educational status and their fertility intentions that inhibit young married women from using modern family planning methods to avoid unintended pregnancies by either spacing or preventing births. Studies elsewhere suggest that young married women face extreme social pressure to prove their fecundity soon after marriage and they have little decision-making power. Lack of mobility, isolation, and services providers worker bias further restricts their access to information, services and supplies that they need to regulate their fertility. (Sarkar et al, 2015; Woog et al, 2015).

The present study reveals that condom is the most preferred contraceptive method followed by female sterilization among the YMW. Simultaneously, the use of injectables and IUCD has shown negligible popularity among YMW. Further, the study reveals that determinants of the use of modern spacing methods in young married women is different from the use of permanent methods in five high fertility states of India. Religion of the young married women has not been found to have an impact on the use of modern spacing methods in all states except Madhya Pradesh. However, religion of the young married woman plays a significant role in the use of permanent family planning methods. The non-Hindu young married women are predominantly Muslim community in which use of sterilisation to prevent birth is very low as some schools of Islam allow for the use of only some spacing methods (Rai and Unisa, 2013).

The educational status of young married women, measured in terms of number of years of schooling, has been found to be a significant factor in the use of both modern spacing and permanent family planning methods. The level of education is found to be positively associated with the use of modern spacing method but negatively associated

with the use of permanent methods in all states. On the other hand, caste, place of residence and household standard of living as measured through the household wealth index have not been found to have a telling impact on the use of permanent family planning methods among young married women in all states. However, young married women with low or average standard of living and living in the rural areas are more likely to use modern spacing methods as compared to young married women with high standard of living and living in the urban areas in Uttar Pradesh, Madhya Pradesh, and Rajasthan but not in Bihar and Jharkhand.

The study has also found an association of the type of family with the use of modern family planning methods by young married women. Young married women living jointly with other married women such as mother-in-law and sister-in-law in the family have been found to be having lower probability of using permanent family planning methods in Bihar, Uttar Pradesh, Madhya Pradesh, and Rajasthan compared to young married women not living with other married women. Similarly, the type of family of the young married women has also been found to be associated with the use of modern spacing methods in Uttar Pradesh and Jharkhand but not in Bihar, Madhya Pradesh, and Rajasthan. Previous studies also support these findings (Char et al, 2010; Ghule et al, 2015; Khurram et al, 2012). It has been observed that young married women living with other married women in the family are pressurised and motivated not only to deliver child within the first or the second year of marriage but also to deliver a male child, especially in the rural areas (Arokiasamy, 2002; Ghule et al, 2015). The effect of the preference for a on the use of different modern family planning methods by young married women is also very much evident from the present study. These observations confirm the dominance of the prevailing social stigma about son preference and patriarchal system in India as far as the use of modern family planning methods by young married women is concerned (Mannan, 1988; Nair et al, 2019). Similarly, the perception about the ideal or the desired family size has also been found to be a dominating factor in the use of modern family planning methods by young married women in some states included in the present analysis but not in all states presumably due to state-specific factors.

The present study also suggests that improving the knowledge about different modern family planning methods – spacing as well as limiting – can contribute towards improving the use of modern family planning methods in young married women in all the five states. This observation is consistent with previous studies (Jabeen et al, 2020). However, exposure to mass media has not been found to have any impact on the use of permanent family planning methods by young married women in the five states. On the other hand, in contrast to previous studies (Gallo et al, 2013; Maravilla et al, 2016), the present study has not found any impact of the interaction with front-line family planning services providers on the use of modern family planning methods by young married women in the five states. It appears that the quality of family planning counselling by from-line family services providers in these high fertility states is too poor to have any telling impact on the use of family planning methods by young married women.

267

Conclusions

The use of modern family planning methods in young married women, married women in the age group 15-24 years, in the five high fertility states of India has been found to be very low according to the data available from the National Family Health Survey 2015-16. The main reasons are lack of knowledge about different types of modern family planning methods and contextual factors like educational status, religious beliefs, and social stigma of son preference. Marriages of women at a young age is quite common in these states which leads initiation of sexual activities without adequate exposure and knowledge to different sexual and reproductive health related issues and concerns and end up with pregnancies at a young age. It is, therefore, important that the family planning services delivery system addresses these gaps by reaching young married women and advocating and promoting use of suitable modern family planning methods at different stages of reproductive life. At the same time increasing the educational status of young married women may also contribute towards improving the sexual and reproductive health of the young married women. Meaningful engagement of young married women of these states in developmental activities is necessary to realise FP2020 (now FP2030) commitments and vision of access, choice, and quality of family planning services inclusive in nature and to make the motto "no one to leave behind" a success in India. Young married women are main stakeholders in driving change towards a better future for themselves, and the country.

Acknowledgments

References

Arokiasamy P (2002) Gender preference, contraceptive use and fertility in India: Regional and development influences. *International Journal of Population Geography* 8(1): 49–67.

Bongaarts J (1978) A framework for analyzing the proximate determinants of fertility. *Population and Development Review* 4(1): 105–132.

Bongaarts J (2015) Modeling the fertility impact of the proximate determinants: time for a tune-up. *Demographic Research* 33(1): 535–560.

Bongaarts J, Potter RG (1983) *Fertility, Biology, and Behavior: An Analysis of the Proximate Determinants*. New York, Academic Press.

Casterline JB, Singh S, Cleland J, Ashurst H (1984) The Proximate Determinant of Fertility. *WFS Comparative Studies*, 39. Voorburg, Netherlands, International Statistical Institute.

Char A, Saavala M, Kulmala T (2010) Influence of mothers-in-law on young couples' family planning decisions in rural India. *Reproductive Health Matters* 18(35): 154–162.

Frost J, Sonfield MRZ, Lawrence BF (2014) Return on investment: a fuller assessment of the benefits and cost savings of the US publicly funded family planning program. *The Milbank Quarterly* 92(4): 667–720.

Gallo MF, Walldorf J, Kolesar R, Agarwal A, Kourtis AP, Jamieson DJ, Finlay A (2013) Evaluation of a volunteer community-based health worker program for providing contraceptive services in Madagascar. *Contraception* 88(5): 657–665.

Ghule M, Raj A, Dasgupta A, Nair S, Saggurti N, Battala M, Balaiah D (2015) Barriers to use contraceptive methods among rural young married couples in Maharashtra, India: qualitative findings. *Asian Journal of Research in Social Sciences and Humanities* 5(6): 18–33.

Government of India (2017) *National Family Health Survey (NFHS-4), 2015-16: India*. Mumbai, International Institute for Population Sciences.

Jabeen S, Rathor A, Riaz M, Zakar R, Fischer F (2020) Demand- and supply-side factors associated with the use of contraceptive methods in Pakistan: a comparative study of demographic and health surveys, 1990–2018. *BMC Women's Health* 20(265): 1–11.

Joshi R, Khadilkar S, Patel M (2015) Global trends in use of long-acting reversible and permanent methods of contraception: seeking a balance. *International Journal of Gynecology and Obstetrics* 131: S60–S63.

Khurram A, Mustafa G, Hameed W, Ali M, Ahmed A, Bilgrami M, Mary Stopes Society (2012) Barriers and perceptions regarding different contraceptives and family planning practices amongst men and women of reproductive age in rural Pakistan: a qualitative study. *Pakistan Journal of Public Health* 2(1).

Mannan, MA (1988) Preference for son, desire for additional children and contraceptive use in Bangladesh. *The Bangladesh Development Studies* l (16): 31–57.

Maravilla JC, Betts KS, Abajobir AA, Couto e Cruz C, Alati R (2016) The role of community health workers in preventing adolescent repeat pregnancies and births. *Journal of Adolescent Health* 59(4): 378–390.

Mayor, S (2004) Pregnancy and childbirth are leading causes of death in teenage girls in developing countries. *BMJ (Clinical Research Ed.)* 328(7449): 1152.

Mwaisaka J, Gonsalves L, Thiongo M, Waithaka M, Sidha H, Agwanda A, Mukiira C, Gichangi P (2020) Exploring contraception myths and misconceptions among young men and women in Kwale County, Kenya. *BMC Public Health* 20(1): 1–10.

Nair S, Dixit A, Ghule M, Battala M, Gajanan V, Dasgupta A, Begum S, Averbach S, Donta B, Silverman J, Saggurti N, Raj A (2019) Health care providers' perspectives on delivering gender equity focused family planning program for young married couples in a cluster randomized controlled trial in rural Maharashtra, India. *Gates Open Research*.

New JR, Cahill N, Stover J, Gupta YP, Alkema L (2017) Levels and trends in contraceptive prevalence, unmet need, and demand for family planning for 29 states and union territories in India: a modelling study using the Family Planning Estimation Tool. *The Lancet Global Health* 5(3): e350–e358.

Rai RK, Unisa S (2013) Dynamics of contraceptive use in India: apprehension versus future intention among non-users and traditional method users. *Sexual and Reproductive Healthcare* 4(2): 65–72.

Säävälä M (1999) Understanding the prevalence of female sterilization in rural south India. *Studies in Family Planning* 30(4): 288–301.

Government of India (2018) *Sample Registration System Statistical Report 2018*. New Delhi, Registrar General & Census Comissioner of India.

Sánchez-Páez DA, Ortega JA (2018) Adolescent contraceptive use and its effects on fertility. *Demographic Research* 38(1): 1359–1388.

Sarkar A, Chandra-Mouli V, Jain K, Behera J, Mishra SK, Mehra S (2015) Community based reproductive health interventions for young married couples in resource-constrained settings: A systematic review. *BMC Public Health* 15(1).

Sedgh G, Singh S, Hussain R, Associate R, Org G (2014) Intended and unintended pregnancies worldwide in 2012 and recent trends. *Studies in Family Planning* 45(3): 301–314.

Singh S, Sedgh G, Hussain R (2010) Unintended pregnancy: worldwide levels, trends, and outcomes. *Studies in Family Planning* 41(4): 241–250.

Sonfield A, Hasstedt K, Gold R (2014) *Moving Forward: Family Planning in the Era of Health Reform.* New York: Guttmacher Institute. ISBN number: 978-1-934387-17-7. https://www.guttmacher.org/sites/default/files/report_pdf/family-planning-and-health-reform.pdf

Stephenson R (2006) District-level religious composition and adoption of sterilization in India. *Journal of Health, Population and Nutrition* 24(1): 100–106.

Stover J (1998) Revising the proximate determinants of fertility framework: what have we learned in the past 20 years? *Studies in Family Planning* 29(3): 255–267.

Stover J, Ross J (2010) How increased contraceptive use has reduced maternal mortality. *Maternal and Child Health Journal* 14(5): 687–695.

Uzma E (2017) Myths and beliefs about contraceptive methods: a review article. *Saudi Journal of Medical and Pharmaceutical Sciences* 3(2): 10–13.

Vinoda Thulaseedharan J (2018) Contraceptive use and preferences of young married women in Kerala, India. *Open Access Journal of Contraception* 9: 1–10.

Williamson LM, Parkes A, Wight D, Petticrew M, Hart GJ (2009) Limits to modern contraceptive use among young women in developing countries: a systematic review of qualitative research. *Reproductive Health* 6(1): 3.

Woog V, Singh S, Browne A, Philbin J (2015) Adolescent women's need for and use of sexual and reproductive health services in developing countries. *Journal of Adolescent Health* 52(August): 517–522.