

Determinants of Unmet Needs of Contraception among Married Women Aged 15-24 in India: Evidence from NFHS-5

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Abstract

Keeping in view the substantial risk of obstetric complications due to a high prevalence of pregnancies among adolescent and young adult women across the globe, this study aims to ascertain an association between independent risk factors and unmet needs of contraception among currently married women, aged 15–24 years, living in India. The present study utilized the recently published data from National Family Health Survey (NFHS, Wave-5, 2019-20). The sample size of this study was 72,714. Univariate and bivariate analysis was used to understand the prevalence and preliminary association of covariates and the dependent variable. Over 18% of women in the selected sample had total unmet needs for contraception which were divided into 14% for spacing and 4% for limiting. Binary logistic regression and multinomial regression were used to determine the independent effect of covariates on total unmet needs, unmet needs for spacing, and unmet needs for limiting while controlling the selected background characteristics. The likelihood of total unmet needs was lesser among women of relatively higher age, higher educational attainment, better wealth status, urban areas, and those hailing from households with males as the head and those with the same desire for children as their husbands. The multinomial analysis found higher education, urban settlement, male head of household and equal desire of couples for children to be associated with lower unmet needs for both spacing and limiting. Additionally, unmet need for spacing was less likely in higher ages, among Hindu women and those belonging to the 'none' category of caste. The likelihood of unmet need for limiting was higher among women aged 21–24 and lower among scheduled tribes. To improve the scenario and bring down the prevalence of unmet needs in India, it is important to have targeted interventions among women of various age groups and different socio-demographic sects.

Background

As of 2019, every year, 21 million adolescents were estimated in the age group 15–19 years in low-and middle-income countries, of which about 50% were unintended, resulting in approximately 12 million births (Sully et al, 2020). Pregnancy in adolescents carries a higher risk of complications and death than in older women. Studies have indicated that current contraceptive use is frequently lower among sexually active, married adolescents, even though they generally do not wish to get pregnant (Blanc et al., 2009). According to research, using contraceptives currently prevents about 2,72,000 maternal deaths annually. If family planning requirements were satisfied, however, an additional 1,04,000 lives, especially of adolescents, could be saved (Ahmed et al., 2012). According to estimates, 12% of married or in-union women worldwide had unmet needs for family planning (Bongaarts et al., 2012). Estimates of maternal mortality have received a lot of attention in India, but not as much emphasis has been paid to the problem of adolescent pregnancy, which demands urgent attention (Santhya et al., 2009). The idea of unmet needs highlights the gap between women's reproductive goals and their use of contraception needs (Conception, 1980). Although the fundamental concept of unmet need is simple – the non-use of contraception among women who declare a wish to avoid pregnancy – its exact measurement is complex. The definition has undergone numerous changes since its inception in 1978 (Cleland et al., 2014). Unmet need for family planning (UFP) refers to fecund women who are currently married or in union and want to either terminate or postpone childbearing entirely as well as women with mistimed or unwanted birth, but not using any contraceptive method (World Health Organization). There is an unmet need for contraception because it is expensive or there is a lack of knowledge about it. The word "cost" is used here in the broadest sense to include not only expenditures for commodities, travel, and services, but also health, psychological, and social factors that women consider when deciding whether or not to adopt or continue a method (Easterlin, 1975). For current users, the advantages of contraception (avoiding pregnancy) outweigh the costs. Assistance on suitable FP practices promotes child spacing and may help reduce the number of unintended pregnancies. For decades, information about unmet contraception needs has allowed health advocates, professionals, policymakers, and funding agencies to identify the investments required in developing-country family planning initiatives (Sedgh et al., 2007). Married adolescent girls are less likely than older women to be conscious of essential sexual and reproductive health issues because they are shielded from new ideas and isolated from support networks. While knowledge of contraceptives is nearly universal among married adolescent and adult females, knowledge of specific contraceptive methods, particularly reversible methods more suitable for adolescents, is relatively limited among married adolescent girls (Santhya et al., 2008).

Universal access to sexual and reproductive health care, including family planning, is a crucial goal for sustainable development, and "leaving no one behind" is one of the main characteristics of the United Nations' Sustainable Development Goals (SDGs), which were introduced in 2015 (Ewerling et al., 2018). It is essential to provide safe, efficient, and affordable modern contraceptive methods to meet the high demand for family planning satisfaction (DFPS) and address women's sexual and reproductive health requirements (Prata et al., 2017; Machiyama et al., 2017). In LMICs, optimal use of modern contraception methods can help avoid unintended pregnancies and induced abortions (Bellizzi et al., 2015) and will consequently help to improve maternal and child health outcomes (Ahmed et al., 2012; Schivone & Blumenthal, 2016). To meet the unmet requirement for maternal healthcare service utilization, current government policies and programmes should specifically target households with married teenage women who are impoverished and members of particular subgroups (religion, social group, and ethnic group) in rural areas.

To the best of our knowledge, no study has yet explored the prevalence and determinants of unmet needs among currently married women in the age group of 15–24 years in India. Given this background, an assessment of the several factors influencing unmet needs for contraception is the need of the hour. Hence, this study fills in the required gaps and establishes an association of the individual and household factors with total unmet needs as well as unmet needs for spacing and limiting.

Methods

Data and Setting

Secondary data analysis was carried out using the National Family Health Survey 2019-20 (NFHS-5) which provides information for 707 districts, 28 states, and 8 union territories on emerging issues like fertility, use of emergency contraception, high-risk sexual behaviour, infant and child mortality, maternal and child health (IIPS and ICF, 2021). Conducted under the aegis of the Ministry of Health and Family Welfare (MOHFW), Government of India, with the International Institute for Population Sciences (IIPS), Mumbai, as the nodal agency, the NFHS has been instrumental in reporting district-level estimates for

several important indicators. The 5th round of NFHS has seen some significant improvements with the inclusion of several new topics like access to a toilet facility, preschool education, bathing practices during menstruation, disability, death registration and methods and reasons. NFHS-5 has used a stratified two-stage sample, having considered the 2011 census as the sampling frame for the selection of Primary Sampling Units (PSUs). Questions were asked from four questionnaires (Household, Woman, Man and Biomarker) that were prepared in eighteen local languages using Computer Assisted Personal Interviewing (CAPI). A total of 664,972 households were selected out of which 636,699 households were interviewed, resulting in a response rate of 97.5%. Among the households interviewed, 747,176 eligible women were identified in the age group 15–49 years for the individual women's interview. Of these, 724,115 women were interviewed, with a response rate of 96.9%. Details of the methodology of this survey have been published in the NFHS-5 report (IIPS and ICF, 2021).

Study Variables

The outcome variable of the study was created using the variable v626a of the NFHS Women's file which comprised categories for unmet needs for contraception (definition 3) (DHS Guide). The study considered mainly three outcomes: unmet need for spacing, unmet need for limiting, and total unmet need for contraceptives. The variable representing total unmet need was composed of unmet need for spacing plus unmet need for limiting. Women were considered to have an unmet need for spacing if they were non-users of contraception and were pregnant and wanted the pregnancy later, or were postpartum amenorrhoeic and wanted their last birth later, or were fecund and wanted the next child after 2 years, wanted another child but were undecided on the timing or were undecided about having another child. Likewise, women were considered to have an unmet need for limiting if they were non-users of contraception and were pregnant and never wanted their current pregnancy or were postpartum amenorrhoeic and never wanted their last birth or were fecund and did not want any more children (DHS Guide).

Independent variables in this study included the current age of the respondent (15–17 years, 18–20 years and 21–24 years), an education level (no education, primary and secondary & above), wealth index (poorest, poor, middle, richer and richest), religion (Hindu, Muslim, Christian, Sikh and others), caste (none, scheduled caste, scheduled tribe, other backward classes and 'don't know'), place of residence (urban and rural), sex of the head of household (male and female) and desire for children (both couples want the same, husbands want more, husband wants fewer and 'don't know').

Statistical Analysis

Analysis in this paper has been divided into three segments – univariate analysis, bivariate analysis and multivariate analysis. The univariate analysis comprising frequencies and percentages was used to provide a sample description with regard to demographic and socioeconomic variables. The bivariate analysis was instrumental in establishing an unadjusted relationship between the predictor variables and the outcome variables – total unmet need, unmet need for spacing and unmet need for limiting. This analysis was helpful in a preliminary understanding of the specific combination of background characteristics leading to a higher prevalence of unmet needs. Finally, the logistic regression model and the multinomial logistic regression were helpful in establishing an association of unmet needs with its determinants. The multivariate analysis was carried out on a sample of 39,287 women divided into spacing ($n = 29,779$; Unmet need = 10,267 and Met need = 19,512) and limiting ($n = 9,508$; Unmet need = 3,129 and Met need = 6,379). Women who planned to have a child in the next 2 years or were fecund or menopausal, constituted 43% of the study sample and were excluded from further regression analysis since they did not have any unmet need.

For the binary logistic regression and bivariate analysis, total unmet needs for contraceptive was defined as a dichotomous variable where women with unmet need (including unmet need for limiting and spacing) was coded as 1 and those without unmet need was coded as 0.

For the multinomial logistic regression, the unmet need for spacing was coded as 1 and those with unmet need for limiting was coded as 2. Those in the other category was coded as 0 and represented women with met need. In both the binary and multinomial logistic analysis, met need (coded as 0) was considered as the reference category.

Results

Sample Selection

In this current study, sample selection started with the pool of women who were interviewed in NFHS-5 ($N = 7,24,115$). Further, only women in the age group 15–24 years ($N = 2,41,180$) were considered to enable us to understand the fertility intentions of women in younger years. Finally, owing to the societal structure of India and its fertility choices, the data analysis was conducted on currently married women in the respective age group ($N = 77,281$). The sample selection process has been demonstrated in Fig. 1.

Figure 2 shows a further breakup of the selected sample which is divided into total demand for contraception and no demand for contraception. Since the study focuses on analyzing the unmet needs of women, the sample having no demand for contraception ($n = 33,427$) was excluded from the regression analysis.

Univariate Analysis

The univariate analysis of background variables has been presented in Table 1. The study sample consisted of 77,281 women among whom 18.42% had an unmet need for contraceptives. This was further split into unmet needs for spacing (14.12%) and unmet needs for limiting (4.30%). The majority of women among the selected sample represented the age group 21–24 years while the least proportion was that of 15–17 years. The sample had a high proportion of secondary education level (77.07%), followed by those with no education (12.98%) and primary education (9.95%). About one-fourth of the sample were from the poorest wealth quintile whereas only one-tenth were from the richest counterpart. Hindus formed the majority (80.72%) of the religious sect followed by Muslims (10.88%), Christians (5.1%), Sikhs (1.43%) and others (1.88%). The majority of women were from rural areas (82.8%). Among caste representation, the majority belong to the Other Backward Classes (42.38%), followed by Scheduled Caste (22.75%), Scheduled Tribes (18.96%) and none (15.12%). Most

households were found to be headed by a male member (84.9%). Among most of the couples (85.92%) desire for another child was seen to be the same for both the husband and the wife.

Table 1
Univariate Analysis representing background characteristics of currently married women in the age group 15–24 years in India, NFHS-5

Variable	Categorization	Total (n = 77,281)	Percentage (%)
Current Age			
	15–17	2,044	2.81
	18–20	20,492	28.18
	21–24	50,178	69.01
Education Level			
	No Education	9,436	12.98
	Primary	7,237	9.95
	Secondary and Above	56,041	77.07
Wealth Index			
	Poorest	18,185	25.01
	Poorer	18,312	25.18
	Middle	15,553	21.39
	Richer	12,693	17.46
	Richest	7,971	10.96
Religion			
	Hindu	58,694	80.72
	Muslim	7,911	10.88
	Christian	3,708	5.1
	Sikh	1,037	1.43
	Others	1,364	1.88
Caste			
	None	10,996	15.12
	Scheduled Caste	16,544	22.75
	Scheduled Tribe	13,785	18.96
	Other Backward Classes	30,817	42.38
	Don't Know	572	0.79
Place of Residence			
	Urban	12,510	17.2
	Rural	60,204	82.8
Sex of Household Head			
	Male	61,732	84.9
	Female	10,982	15.1
Desire for Children			
	Both want same	62,475	85.92
	Husband wants more	5,780	7.95
	Husband wants fewer	1,672	2.3
	Don't know	2,787	3.83

Bivariate Analysis

A detailed bivariate analysis of currently married women in the age group 15–24 with unmet needs for contraception is presented in Table 2. The Pearson Chi-squared test found statistically significant variation among current age of women and total unmet need ($\chi^2 = 31.16, P = 0.00$), unmet need for spacing ($\chi^2 = 119.91, P = 0.00$) and unmet need for limiting ($\chi^2 = 315.83, P = 0.00$). A significant difference was similarly observed among the education level of women and total unmet need ($\chi^2 = 6.53, P = 0.038$), unmet need for spacing ($\chi^2 = 39.23, P = 0.00$) and unmet need for limiting ($\chi^2 = 36.61, P = 0.00$). Among wealth index, although significant difference existed for total unmet need ($\chi^2 = 20.11, P = 0.00$) and unmet need for limiting ($\chi^2 = 29.58, P = 0.00$), the same was not observed for unmet need for spacing ($\chi^2 = 6.52, P = 0.163$). Significant statistical variation in total unmet need, unmet need for spacing and unmet need for limiting was observed for religion, caste, sex of household head and desire for children. In the case of place of residence, although variation in total unmet need ($\chi^2 = 7.59, P = 0.006$) and unmet need for spacing ($\chi^2 = 5.14, P = 0.023$) was observed, no variation existed in the case of unmet need for limiting ($\chi^2 = 1.88, P = 0.17$).

Table 2

Bivariate Analysis representing the prevalence of total unmet needs, unmet need for spacing and unmet need for limiting among currently married women in the age group 15–24 years in India, 2019-20

Variable	Categorization	Total Unmet Need (n = 13,401) = 18.42%				Woman with Unmet Need for Spacing (n = 10,267) = 14.12%				Woman with Unmet Need for Limiting (n = 3,129) = 4.30%			
		Total (n)	Percentage (%)	Chi2	p-Value	Total (n)	Percentage (%)	Chi2	p-Value	Total (n)	Percentage (%)	Chi2	p-Val
Current Age				31.16	0.000			119.91	0.000			315.83	0.00
	15–17	460	22.5			423	20.69			37	1.81		
	18–20	3,620	17.67			3,136	15.3			484	2.36		
	21–24	9,316	18.57			6,708	13.37			2,608	5.2		
Education Level				6.53	0.038			39.23	0.000			36.61	0.00
	No Education	1,668	17.68			1,206	12.78			462	4.9		
	Primary	1,292	17.85			902	12.46			390	5.39		
	Secondary and Above	10,436	18.62			8,159	14.56			2,277	4.06		
Wealth Index				20.11	0.000			6.52	0.163			29.58	0.00
	Poorest	3,424	18.83			2,569	14.13			855	4.7		
	Poorer	3,449	18.83			2,601	14.2			848	4.63		
	Middle	2,863	18.41			2,241	14.41			622	4		
	Richer	2,330	18.36			1,802	14.2			528	4.16		
	Richest	1,330	16.69			1,054	13.22			276	3.46		
Religion				48.41	0.000			97.08	0.000			17.71	0.00
	Hindu	10,626	18.1			8,076	13.76			2,550	4.34		
	Muslim	1,476	18.66			1,134	14.33			342	4.32		
	Christian	834	22.49			718	19.36			116	3.13		
	Sikh	184	17.74			125	12.05			59	5.69		
	Others	276	20.23			214	15.69			62	4.55		
Caste				13.92	0.008			14.41	0.006			40.34	0.00
	None	2,013	18.31			1,491	13.56			522	4.75		
	Scheduled Caste	2,972	17.96			2,226	13.46			746	4.51		
	Scheduled Tribe	2,456	17.82			1,987	14.41			469	3.4		
	Other Backward Classes	5,834	18.93			4,478	14.53			1,356	4.4		
	Don't Know	121	21.15			85	14.86			36	6.29		
Place of Residence				7.59	0.006			5.14	0.023			1.88	0.17
	Urban	2,196	16.66			1,686	13.48			510	4.08		
	Rural	11,200	18.6			8,581	14.25			2,619	4.35		
Sex of Household Head				82.89	0.000			60.42	0.000			16.43	0.00
	Male	11,032	17.87			8,455	13.7			2,577	4.17		
	Female	2,364	21.53			1,812	16.5			552	5.03		
Desire for Children				104.12	0.000			115.64	0.000			77.61	0.00
	Both want same	11,167	17.87			8,583	13.74			2,584	4.14		

	Total Unmet Need (n = 13,401) = 18.42%		Woman with Unmet Need for Spacing (n = 10,267) = 14.12%		Woman with Unmet Need for Limiting (n = 3,129) = 4.30%	
Husband wants more	1,207	20.88	830	14.36	377	6.52
Husband wants fewer	347	20.75	277	16.57	70	4.19
Don't know	675	24.22	577	20.7	98	3.52

Multivariate Regression Results

Table 3 presents estimates from binary logistic regression (Model I) and multinomial logistic regression (Model II) for selected independent variables on the different categories of unmet need – total unmet need, unmet need for spacing and unmet need for limiting. Model I states that women of higher age are more likely to have lesser unmet needs for contraception as compared to women of the vulnerable age group 15–17 years. Education played a deterministic role to some extent as women with primary education are more likely to report lesser needs as compared to those with no education. Significantly lower unmet needs were more likely reported by women of the poorer (OR = 0.911; C.I. 0.858–0.968) and richest section (OR = 0.851 C.I. 0.779–0.930). Higher unmet needs were more likely reported by Muslim (OR = 1.1 C.I. 1.024–1.182) and Christian women (OR = 1.429 C.I. 1.288–1.586) compared to Hindus. Among the castes, women from scheduled castes and other backward classes have a greater chance of reporting higher unmet needs in comparison to those from the other category. Unmet needs for contraception were more likely to be higher for rural women (OR 1.173 C.I. 1.104–1.247) than their urban counterparts. Unmet needs were seen to be more likely higher if the sex of the household head was female (OR 1.382 C.I. 1.304–1.464) or if the desire for children was not the same among the husband and the wife.

Table 3

Determinants of total unmet needs, unmet need for spacing and unmet need for limiting among currently married women in the age group 15–24 years in India, 2019-20

Variable	Categorization	Model 1 [Binary Logistic]			Model 2 [Multinomial]					
		Women with unmet need-total (n = 13,401)			Women with unmet need for spacing (n = 10,267)			Women with unmet need for limiting (n = 3,129)		
		OR	P-Value	95% CI	RRR	P-Value	95% CI	RRR	P-Value	95% CI
Current Age										
	15–17									
	18–20	0.695	0.000	[0.608,0.795]	0.651	0.000	[0.568,0.748]	1.165	0.389	[0.823,1.648]
	21–24	0.559	0.000	[0.491,0.637]	0.433	0.000	[0.378,0.495]	1.994	0.000	[1.423,2.795]
Education Level										
	No Education									
	Primary	0.924	0.086	[0.844,1.011]	0.883	0.017	[0.797,0.978]	1.037	0.631	[0.896,1.199]
	Secondary and Above	1.024	0.492	[0.957,1.096]	0.042	0.032	[1.007,1.171]	0.865	0.012	[0.771,0.969]
Wealth Index										
	Poorest									
	Poorer	0.911	0.003	[0.858,0.968]	0.919	0.015	[0.860,0.984]	0.879	0.016	[0.793,0.977]
	Middle	0.972	0.400	[0.909,1.038]	1.032	0.400	[0.959,1.109]	0.8	0.000	[0.712,0.899]
	Richer	0.979	0.562	[0.910,1.052]	1.046	0.265	[0.966,1.133]	0.79	0.000	[0.695,0.898]
	Richest	0.851	0.000	[0.779,0.930]	0.951	0.306	[0.863,1.048]	0.595	0.000	[0.505,0.700]
Religion										
	Hindu									
	Muslim	1.1	0.009	[1.024,1.182]	1.133	0.002	[1.047,1.225]	1.004	0.951	[0.885,1.139]
	Christian	1.429	0.000	[1.288,1.586]	1.581	0.000	[1.415,1.765]	0.914	0.412	[0.738,1.132]
	Sikh	0.941	0.508	[0.787,1.126]	0.839	0.095	[0.683,1.031]	1.266	0.103	[0.953,1.680]
	Others	1.021	0.789	[0.877,1.189]	1.014	0.874	[0.858,1.198]	1.05	0.726	[0.798,1.383]
Caste										
	None									
	Scheduled Caste	1.077	0.045	[1.002,1.157]	1.115	0.008	[1.029,1.208]	0.965	0.572	[0.852,1.093]
	Scheduled Tribe	0.951	0.236	[0.876,1.033]	1.048	0.318	[0.956,1.148]	0.697	0.000	[0.601,0.809]
	Other Backward Classes	1.204	0.000	[1.129,1.282]	1.259	0.000	[1.174,1.351]	1.045	0.426	[0.937,1.166]
	Don't Know	1.233	0.083	[0.973,1.564]	1.185	0.215	[0.907,1.548]	1.334	0.129	[0.919,1.935]
Place of Residence										
	Urban									
	Rural	1.173	0.000	[1.104,1.247]	1.19	0.000	[1.113,1.273]	1.117	0.047	[1.001,1.246]
Sex of Household Head										
	Male									
	Female	1.382	0.000	[1.304,1.464]	1.376	0.000	[1.292,1.466]	1.396	0.000	[1.264,1.542]
Desire for Children										
	Both want same									
	Husband wants more	1.319	0.000	[1.222,1.425]	1.181	0.000	[1.083,1.288]	1.768	0.000	[1.569,1.992]

	Model 1 [Binary Logistic]			Model 2 [Multinomial]					
	Women with unmet need-total (n = 13,401)			Women with unmet need for spacing (n = 10,267)			Women with unmet need for limiting (n = 3,129)		
Husband wants fewer	1.338	0.000	[1.165,1.536]	1.397	0.000	[1.204,1.621]	1.157	0.260	[0.898,1.491]
Don't know	2.114	0.000	[1.886,2.369]	2.275	0.000	[2.018,2.564]	1.512	0.000	[1.213,1.885]

In Model II, although unmet needs for spacing remained low for higher ages, the unmet need for limiting was more likely reported to be higher among women aged 21–24 years (RRR = 1.994 C.I. 1.423–2.795]. Both unmet need for spacing as well as limiting was lower for women with secondary and above education. Although the unmet need for spacing was consistently lesser among all the wealth quintiles as compared to the poorest category, in the case of unmet need for spacing, it was only observed to be significantly more likely to be lower in the poorer category (RRR = 0.919 C.I. 0.860–0.984). Unmet needs for spacing were relatively more likely to be higher for Muslims and Christians as compared to the Hindus. Women belonging to the scheduled caste and other backward classes were more likely to report higher unmet needs for spacing as compared to those of the 'none' category. Women from the scheduled tribe were relatively more likely to have a lower unmet need for limiting (RRR = 0.697 C.I. 0.601–0.809). Rural women were more likely to have higher unmet needs for both spacing (RRR = 1.19 C.I. 1.113–1.273) and limiting (RRR = 1.117 C.I. 1.001–1.246) as compared to their urban counterparts. Women from households with females as heads were more likely to report unmet needs for both spacing (RRR = 1.376 C.I. 1.292–1.466) and limiting (RRR = 1.396 C.I. 1.264–1.542). Couples with unequal desire for children were more likely to have more unmet needs for spacing and limiting as compared to those with the same desire.

Discussion

Since the unmet need for contraception poses a significant health issue for currently married women in India, it is important to lay emphasis on the pattern and determinants associated with the use of contraception among women aged 15–24 years. Adequate policy measures leading to satisfactory use of effective contraception may shield this vulnerable age range (15–24) from unintended pregnancy, early motherhood, and high reproductive morbidity.

Our study has highlighted that the unmet need for contraception among currently married women aged 15–24 years was higher for spacing (14.12%) than for limiting (4.30%), with a total of 18.42%. The analysis from our study revealed important differences with respect to socioeconomic and demographic characteristics which played a significant role in the resulting unmet needs. It was found that unmet need was more likely to be higher among women of lower age groups, among those with no education, women from the poorest section, those hailing from rural areas and those with females as the head of their households. Additionally, unmet needs were reportedly higher among Muslim and Christian women, women from the Scheduled Caste (SC) and Other Backward Classes (OBC) and those who did not have the same fertility desires as their husbands. Determinants of unmet needs for spacing followed almost the same trend as the total unmet needs. However, for women with unmet needs for limiting, the needs were likely to increase with an increase in age. Rationally, the needs were lower among women with higher education and richer households.

As per the analysis, it was found that total unmet needs and needs for spacing decrease with the increase in the age group of women. Our results corroborate the previous studies conducted in India that show higher unmet needs in lower age groups (Yadav et al, 2020; Tapare et al, 2017; Pawar et al, 2020). Owing to low maturity, lesser knowledge about contraception and insignificant role in decision-making, younger women, especially in the vulnerable age group below 19 years are more susceptible to unmet needs (Kennedy et al, 2011). Our results found that younger adults (21–24 years) were less likely to have unmet needs for spacing but higher needs for limiting than adolescent women (15-17years). The intuition behind this might be that since such mothers were yet to achieve optimum fertility, as they age, they start to prefer spacing childbirth but fail to limit them (Wulifan et al, 2016). Ironically, despite the fact that spacing is the primary driver of young women's demand for family planning (Jansen, 2005), adolescent girls and women use contraception less frequently, have less awareness of family planning, and have less access to resources than adult women do (Kennedy et al., 2011). Past studies back up the idea that because younger women are sexually active and more eager to avoid pregnancy but are not using modern methods of contraception, they are more likely to have unmet needs for family planning (Ojaka et al, 2008; Oginni et al., 2015). Thus, it is important to devise age-specific policies to bring down the prevalence of unmet needs, especially among young women.

The results show a higher likelihood of a decrease in total unmet needs, unmet needs for spacing and unmet needs for limiting attaining at least primary education. Similar findings have been previously reported by studies on the Indian population (Sherin et al, 2013; Hamsa et al, 2013; Yadav et al, 2020). Apart from India, similar results have been noted in other low-income countries as well. Unmet needs have been found to be lower among women with secondary or higher education in Uganda (Khan et al, 2008), while in Kenya, women with secondary education were twice less likely to experience unmet needs than those with education less than the secondary level (Wafula and Ikimari, 2007). Since health facilities are more accessible to educated women, they tend to be better informed about contraception, ultimately leading to a lower prevalence of unmet needs for contraception.

Our study detected a decline in the unmet need with the rise in the household's socioeconomic status. High unmet needs for limiting were seen among the poor household. Prior studies have also obtained similar results and cited the reason as, younger women from wealthy families may have easier access to modern contraception than those from poorer families, which is the most likely explanation (Ahinkorah et al., 2020; Mahapatro et al., 2021).

Women's religion showed an increase in total unmet needs and unmet needs for spacing in the case of Muslims and Christians in comparison to Hindus. The results match previous studies where religion has a significant impact on the unmet needs of women (Vohra et al, 2014). Muslim women typically have less autonomy and are much more prone to not using contraception because of their poor socioeconomic conditions (Kumar & Singh, 2013; Srivastava et al., 2011).

The scheduled caste and OBC women were found to have a high unmet need for spacing, and the scheduled tribe women were found to have a high unmet need for limiting. Previous studies have also found that women belonging to the Scheduled Caste are at higher risk of meeting the contraceptive demand. Higher acceptability barriers relating to personal choices, attitudes and socioeconomic circumstances, which are apparent from descriptive studies, may be one of the causes of their greater unmet demand (Mahapatro et al., 2021; George, 2015).

Place of residence was found to be a highly significant factor while detecting unmet needs. It was seen that women residing in rural households had a high unmet need for spacing and limiting. Prior studies have also obtained similar results with respect to place of residence, where rural women experience high unmet needs compared to urban settings (Devi et al., 1995).

Households with female heads were found to have higher unmet needs in limiting and spacing in comparison to male household heads. A comparable finding was made in a study of Ethiopian women, where the findings showed that women living in families headed by women were less likely to use long-term contraceptives than women living in households headed by men (Fekadu et al., 2019).

A couple's desire for children has emerged as a key influence of unmet needs in terms of limiting, spacing, and overall unmet needs. Unmet needs across all three stages were found to be less likely in the case of both the couples wanting the same number of children than the husband wanting more or fewer children or women ignoring their husband's fertility intentions. Although previous studies have found unmet needs to be less likely for couples desiring the same number of children (Nzokirishaka & Itua, 2018; Mulenga et al, 2020), the aspect of high unmet need in case of the husband wanting fewer children remains to be explored.

Limitations

This study has not been without limitations. First, since this study has considered only phase 5 of the NFHS survey, owing to the cross-sectional nature of the data it was only possible to provide evidence of statistical associations between the dependent and independent variables. Hence, a causal relationship could not be established. Second, the study has majorly provided insights into unmet needs from a woman's point of view. Since in a male dominant society like India, most family planning decisions are influenced by men, it is important to explore the man's views of fertility and contraception.

Conclusion

This study has shown a pressing need to pay attention to the country's adolescent and young adult population in terms of access to and adoption of contraceptive services. Since women belonging to certain sections of society (uneducated, poor, and rural) are more prone to having higher unmet needs, targeted policies must be devised to reach out to the underserved population. Previous research clearly states that systematic and well-structured family planning programmes tend to lessen the burden of unmet needs of contraception (Cleland et al, 2014; Bongaarts, 2014). It is crucial to map the programs chronologically for the desired impact. For policymakers and FP service providers, measuring unmet needs is insufficient. Knowing whether women with ambivalent emotions about their future fertility plans have unmet needs for FP may help them make better choices when formulating policy (Srivastava et al., 2019). Non-governmental organizations (NGOs) have developed a variety of adolescent-focused initiatives in India. While several interventions seek to address the causes of the social and economic disadvantages of adolescent girls, most of these have usually targeted unmarried. Despite attempts made by some programs to include all teenage girls regardless of their marital status, it has been observed that, on the whole, very few married girls take part in such interventions. Only a few intervention programs for married adolescents, such as the First-time Parents Project, have been implemented in India to date. This study provides sufficient evidence for increased action and implementation in this area.

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Non-financial Interest: None

Conflicts of interest: The authors have no conflicts of interest to declare

Ethics approval and consent to participate: The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

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Availability of data and materials: The data supporting results of this paper can be accessed from the National Family Health Survey, India, 2019-20

Competing interests: The authors declare none

Author Contributions: VK has conceptualized the paper, worked extensively on literature reviews and summed up the discussions and conclusion. SG completed data cleaning and data analysis, proofread the paper and contributed in scientific writing.

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Figures

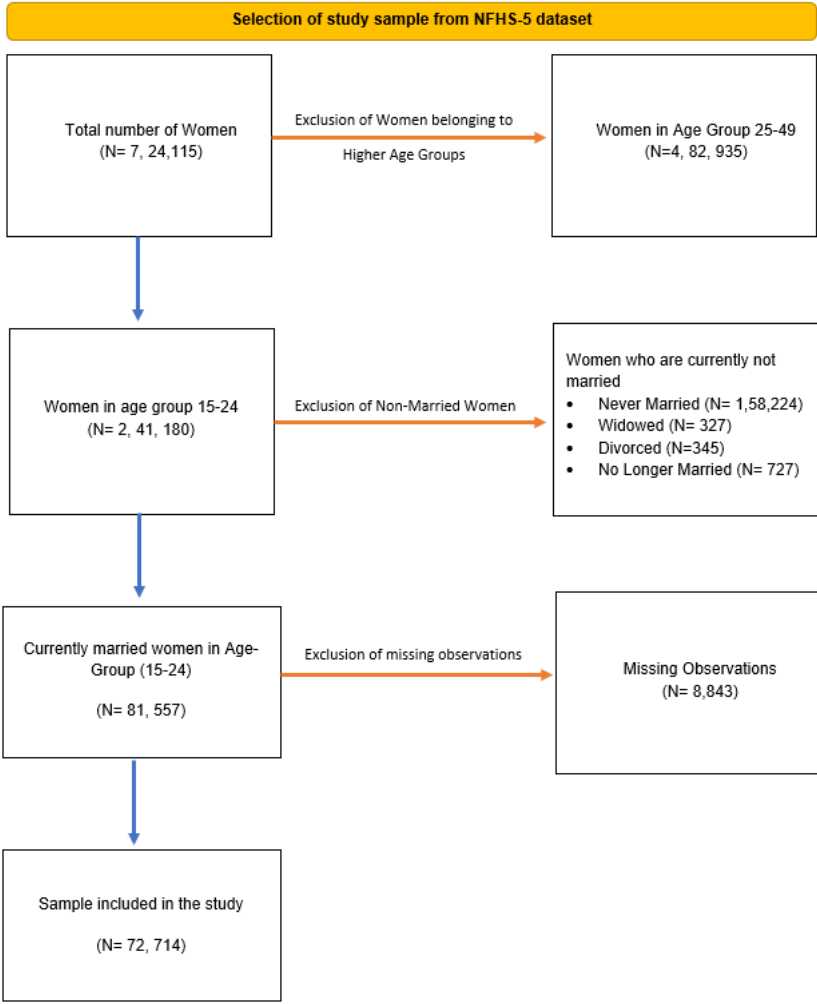


Figure 1

Selection Strategy of study sample, NFHS-5, 2019-20

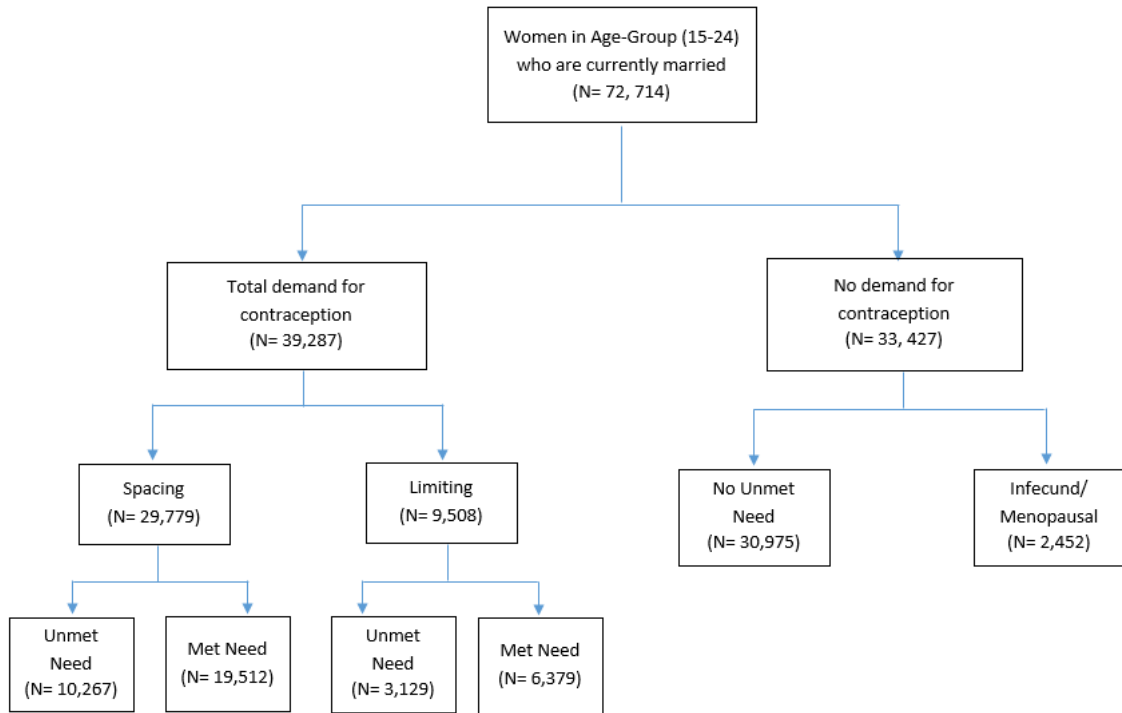


Figure 2

Met and Unmet Needs for Contraceptive Use