# Intention to use Contraception among Women in Unmet Need and Not in Unmet Need in India

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Abstract: Intention to use contraceptive and unmet need are indicators to estimate the potential demand for contraceptives. However, the interrelationship and the inconsistencies between the two is often understated. This study is an attempt to understand the pattern and correlates of the intention to use contraceptives among the women with unmet need and not in unmet need using the fourth round of National Family Health Surveys (NFHS-4) in India. The findings shed light on various key issues of family planning outcomes. Though several currently married women had unmet need for contraception, they did not intend to use contraceptives. Critically, a larger cohort of married women who were not found to have unmet need, intended to use contraceptives. The women who were in unmet need and did not intend to use contraceptives were found to be from older age groups and higher parity whereas women who were not in unmet need but intended to use contraceptives were from young age, lower parity. The multivariate analysis also estimates that the likelihood of intention to use contraceptive are higher for the women from higher age, higher parity, richer and educated women and currently pregnant. The study estimates the no or infrequent sex is the main reason for not using contraceptives among the women in India.

Keywords: Unmet need, Intention to use, Contraceptive, India.

### Introduction

The use of 'unmet need' as an indicator to measure the potential demand for contraceptives came into prominence post the International Conference on Population and Development (ICPD 1994) held in Cairo (Cleland et al., 2014; Robey et al., 1996). Currently, it is recognized as a crucial indicator for formulating and evaluating contraceptive program and policies and has been linked with maternal mortality and morbidity, sexually transmitted disease, unintended pregnancy, poverty, gender inequality, etc.(Bishwajit et al., 2017; Casterline and Sinding, 2000; Jain et al., 2014). Globally 222 million women are still in unmet need of contraception and most of them are from the developing countries of South Asia and Sub-Saharan Africa (Alkema et al., 2013; Darroch and Singh, 2013). The third goal of sustainable development goal (SDG) considers universal access to family planning as a key objective that is to be achieved by 2030 (UN, 2015). Moreover, the FP2020, an initiative for expanding family planning services, emphasizes the need for adding 120 million new contraceptive users by 2020 (Brown *et al.*, 2014). To this effect, the Government of India (GOI) has also committed to adding 48 million new users to the total users of 2014 (MoHFW, 2014).

Understanding the consistency of unmet need and intention to use has long been explained by researchers using various longitudinal data (Callahan and Becker, 2014; Jain et al., 2014; Lutalo et al., 2018; Roy et al., 2008). Irrespective of widespread use of unmet in evaluating the progress of family planning efforts, it has been noted in many studies that among

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all those who are categorized as having unmet need, a large number do not intend use contraception in the future (Ross and Heaton, 1997). This anomaly could very well be linked to the definition of the unmet need. Firstly, the estimation of unmet need is based on the child-bearing intention and corresponding contraceptive use - the consistency and predictive ability of which have often been questioned (Beguy and Mberu, 2015; Roy et al., 2008). Secondly, the change in unmet need at the aggregate level may not be an appropriate indicator for evaluating the family planning program. Change in unmet is a function of a change in contraceptive practice as well as the change in desire to regulate fertility with the caveat of keeping in mind the ideal family size (Bongaarts, 1991; Westoff and Bankole, 1996). The unmet need may increase in case there is heavy investment in generating demand for contraception such as an Information Education Communication (IEC) campaign which is not always be matched by the supply component of the program (Bongaarts, 1991). However, despite its many limitations, the unmet need has gained popularity for being a measure of potential demand for contraceptives due to its simple interpretation and comparability across the populations.

Apart from an unmet need, the intention to use contraceptives has also been used to gauge potential demand. The findings from Roy et al., 2003 indicate that women's intention to use contraceptives is a more definite measure compared to the child-bearing intention (Roy *et al.*, 2003). Many studies provide evidence that a substantial number of women intending to use contraceptives are categorized as not in unmet need (Ross and Heaton, 1997). As family planning programs use unmet need as an indicator for demand, they invariably focus on the women who are in unmet need. For which, those women who are not in unmet need but have the intention to use remain unserved, with high chances of unintended pregnancy (Jain, 1999). This asks for deeper scrutiny into an unmet need as a robust indicator to measure the potential demand for contraceptives.

Despite the distinction of being the first country with a publicly sponsored family planning program since 1951 (Rao, 2000) less than half of the Indian women (48%) use modern contraceptive methods and around 13% of women are in unmet need for contraception(IIPS and ICF, 2017). As mentioned earlier, accelerated progress is required to reach the goal of FP2020 by adding 48 million contraceptive users, that constitutes nearly 40% of the global requirement (MoHFW, 2014)

This study is conceptualized under the following rationale. Firstly, family planning programs usually target reductions in unmet needs by providing more contraceptives among married fecund women without considering their intention to use contraception (Ross and Heaton, 1997). Therefore, from the perspective of promoting a voluntary approach to family planning, understanding not only women's needs but also the intention to use contraceptives becomes equally important from a program perspective. Secondly, previous studies have observed that women who are not in unmet need also intend to use contraceptives in the future (Jain, 1999; Ross and Heaton, 1997). Providing contraceptives to such women is important to allow for accelerated progress towards the various targets or commitments. In this background, the study aims to answer the three major research questions. Firstly, what is the nature of the relationship between women's unmet need status and intention to use family planning methods in India? Secondly, what are the contextual factors which determine the factors affecting the intention to use contraceptive among women in India? Moreover, the study also found the possible reasons for non-use contraception among women in unmet need and not in unmet need in India.

### **Material and Methods**

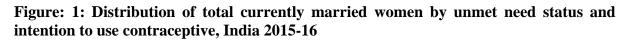
The study used the latest round of the National Family Health Survey (NFHS-4) to understand the interlinkage of unmet needs and the intention to use contraceptives among women in India. The National Family Health Survey-4 (NFHS-4) is the largest household health survey in India. It collects information about fertility and reproductive issues, family planning, child mortality, maternal and child health, nutrition, domestic violence, and HIV/AIDS. Standardized sampling techniques were used in all previous rounds of the survey. In NFHS-4 questions were asked about pregnancy status, current contraceptive use, birth experiences, child-bearing intention, and future intention to use a contraceptive to the currently married women (CMW). The unmet need status of the women was based on the questions about their fertility intention and the current contraceptive use. We follow the Bradley (2012) method to categorize the women who are in unmet need and those who are not. Further unmet need of women is also categorized into the unmet need for spacing and unmet need for limiting. In the survey, the women who are not using contraceptives currently were also asked about their intention to use the methods in the future. Those who want to use the method within 1 year of the survey data are categorized as "use soon" and women who want to use contraceptives after 1 year were categorized as "use later". Those who had no intention or responded 'do not know' were categorized as "no intention to use in future".

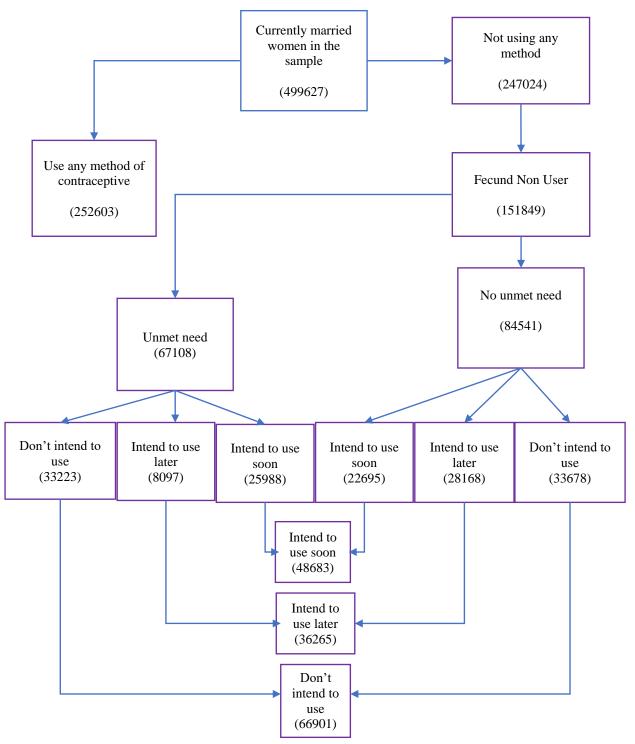
In the present analysis, we used the women file of the NFHS-4 that has information on 499627 currently married women (CMW). We excluded the women who are not using contraceptives, have had a hysterectomy, or are infecund women. The total sample size of currently married fecund women in NFHS-4 was then reduced to 151849. These women were further categorized into two groups, one who was in unmet need (67108) and another one who was not in unmet need (84541). Each of these groups is then and the status of intention to use contraceptives as-(i) unmet need and intention to use contraceptives, (ii) unmet need and no intention to use contraceptives, (iii) not in unmet need and intend to use contraceptives and (iv) not in unmet need and do not intend to use contraceptives. The characteristics of this group of women are analysed using descriptive statistics (See figure 1).

### Results

### Interlinkage of unmet need for contraception and intention to use contraceptives

Table 1 presents the percentage distribution of currently married women by their unmet need status and intention to use contraceptive methods in 2015-16 in India and its states. A total of 12.8 percent of women were in unmet need divided in terms of 5.6 percent having unmet need of spacing while 7.2 percent were in the category of unmet need of limiting. The highest percentage of women found to be in unmet need in states of Manipur followed by Nagaland and lowest for Andhra Pradesh followed by Punjab. Similarly, 18.4 percent of currently married women intended to use contraceptives in the future, from which 10.12 percent wanted to use it within one year. On the other hand, a quarter of women (25.9 percent) did not want to use contraceptives in the future.





	Unmet Need			Intention to use contraceptive				
	Unmet			use				
	need	unmet		within			not	
	of	need of	unmet	12	use after 12	Use in	intended	
States	spacing	limiting	need	month	month	future	use	
Andaman & Nicobar Islands	8.1	7.4	15.5	7.2	9.7	16.9	31.1	
Andhra Pradesh	3.1	1.5	4.7	3.3	7.5	10.8	18.5	
Arunachal Pradesh	12.7	8.9	21.5	8.7	7.1	15.7	50.6	
Assam	5.8	8.4	14.2	8.1	4.5	12.6	34.1	
Bihar	9.4	11.7	21.2	14.6	11.3	25.9	44.9	
Chandigarh	1.8	4.5	6.3	10.4	5.0	15.3	8.7	
Chhattisgarh	5.3	5.8	11.1	15.4	12.4	27.8	13.4	
Dadra & Nagar Haveli	10.6	8.8	19.3	6.6	6.9	13.6	45.2	
Daman & Diu	11.0	8.7	19.7	4.1	8.8	12.9	51.7	
Goa	8.3	9.2	17.5	9.5	6.1	15.5	55.1	
Gujarat	6.7	10.3	17.0	10.2	10.0	20.2	30.1	
Haryana	3.8	5.5	9.3	11.2	6.7	17.9	17.2	
Himachal Pradesh	4.8	10.9	15.7	9.6	5.5	15.1	26.3	
Jammu & Kashmir	5.8	6.6	12.3	10.8	6.9	17.8	22.4	
Jharkhand	9.0	9.4	18.4	15.4	13.5	28.9	28.8	
Karnataka	6.0	4.4	10.4	4.4	6.1	10.4	36.1	
Kerala	8.3	5.4	13.7	2.5	5.5	7.9	37.8	
Lakshadweep	12.7	4.3	16.9	1.6	5.0	6.6	62.5	
Madhya Pradesh	5.7	6.4	12.1	10.7	8.5	19.2	27.4	
Maharashtra	4.3	5.4	9.7	8.3	8.7	16.9	17.1	
Manipur	12.7	17.4	30.1	10.7	7.4	18.1	56.4	
Meghalaya	15.3	6.0	21.2	9.7	8.3	18.0	56.1	
Mizoram	12.4	7.6	20.0	7.5	6.2	13.7	49.8	
Nagaland	11.3	10.9	22.3	7.7	5.0	12.7	59.3	
NCT Of Delhi	4.5	10.5	15.0	10.6	6.1	16.6	27.2	
Odisha	4.7	8.9	13.6	9.5	5.5	15.0	26.3	
Puducherry	4.8	3.5	8.3	6.1	8.9	15.0	22.8	
Punjab	2.4	3.9	6.2	8.9	5.9	14.9	7.1	
Rajasthan	5.7	6.6	12.3	13.2	11.4	24.6	14.1	
Sikkim	8.9	12.8	21.7	11.5	4.6	16.1	35.2	
Tamil Nadu	4.8	5.3	10.1	4.5	7.6	12.1	32.3	
Tripura	4.1	6.6	10.7	6.1	3.0	9.1	25.5	
Uttar Pradesh	6.8	11.2	18.1	16.7	11.0	27.7	24.6	
Uttarakhand	5.2	10.3	15.5	14.1	7.2	21.3	23.2	
West Bengal	3.0	4.4	7.5	9.2	3.7	12.9	14.8	
Telangana	3.8	3.6	7.4	3.2	5.8	9.0	30.2	
India	5.7	7.2	12.9	10.1	8.3	18.4	25.9	

Table 1: Percentage of CMW by unmet and intention to use contraceptive by states of India

Table 2: Percentage of women among currently married women by their unmet need status and intention to use contraceptive in India, 2015-16

Intention of use Method Vs Unmet need	Intended to use within 12 months	Intended to use later	Not intended to use	Total
1. In Unmet Need (67108)	5.0	1.6	6.2	12.8
In unmet for Spacing	2.2	1.0	2.4	5.6
In unmet for limiting	2.8	0.6	3.8	7.2
2. Not in unmet need (84541)	4.3	5.5	6.6	16.3
Total	9.3	7.1	12.8	29.2

 $\chi^2$  Value = 763.53 (P<0.001)

Table 2 exhibits the percentage of currently married women by their unmet need status and intention to use contraceptives. Out of the total currently married women considered in the paper, 6.2 percent were in unmet need and intended to use contraceptives while 9.7 percent of currently married women were not in unmet need but intended to use contraceptives. Amongst the 9.7 percent women the intender who are not in unmet need 4.3 percent women intended to use soon whereas 5.5 intended to use later. Further, 5 percent of women who had the unmet need and intended to use contraceptives, intended to use it soon (within 12 months), and 1.6 percent of women intended to use contraceptives, intended to use it soon (within 12 months), and 1.6 percent of women intended to use contraception later. The state-specific distribution of unmet need by both spacing and limiting methods based on the intention of using contraceptives is provided in Figure 2. The correlation coefficient was 0.77 for the unmet need with no intention to use contraceptives while it is found 0.23 for those with the intention to use. This correlation coefficient happens to be stronger for the unmet need for spacing as compared to the unmet need for limiting.

Table 3: Percentage of women belong to unmet need and intend to use contraceptive, to unmet need and intend to use contraceptive by types of need, not in unmet need and intend to use contraceptive by various socio demographic characteristics in India 2015-16

Characteristics of women	Unmet need and intention			Unmet need and no intention			Not in unmet need
	unmet need for spacing	unmet need for limiting	Total	unmet need for spacing	Unmet need for limiting	Total	and
Percentage of women belongs 15-29 age group	89.4	52.2	70.5	81.8	36.9	55.1	86.4
Percentage women parity less than two	69.9	11.0	39.9	66.6	15.0	36.0	69.9
Percentage Pregnant	10.5	6.8	8.6	3.8	2.2	2.9	37.3
Percentage ever used contraceptive	29.8	48.9	39.5	19.7	46.8	35.8	33.6
Percentage of women who told ideal family size less than two	75.8	67.9	71.8	72.8	67.4	69.6	75.9
Percentage of women belong to no or primary educated	30.1	47.7	39.1	32.6	49.3	42.5	35.5
Percentage below 40 percent wealth quintile	42.3	46.3	44.4	41.6	45.8	44.1	43.3
Sample Size	17189	16896	34085	14162	19061	33233	50863

Two sample proportion test have been used and show that groups are significantly different from each other.

The comparative assessment of the women categorized by their unmet need status and intention to use presented in Table 3. We observe the differential characteristics between the women who were in unmet need and intend to use contraceptives vis-a-vis the women who were in unmet need and did not intend to use. We did not find any considerable variation between the characteristics of women categorized as having unmet need with the intention to use contraceptive and no intention to use excepting for the age. Around 70 percent of women from the unmet need category intend to use the contraceptive group as against 55 percent of them with no intention to use were below 30-year age. So we categorized the unmet need as the unmet need for spacing and unmet for limiting for the in-depth understanding. We found considerable variation among the women who were practicing spacing and limiting by their age, parity, and experience of using contraceptives in these two group of women. The women who were using spacing were relatively younger, of lower parity, and lower experience in using contraceptive methods. Among the women in unmet need and without the intent to use a contraceptive, 43 percent belonged to unmet need for spacing their characterization indicate that there was a lot potential to target them for bringing into the fold of contraceptive users. On the contrary, a larger share of such women without intent did not reflect the potential to be brought into the net of contraceptive users given that they are relatively older and of higher

parity and more importantly ever users of contraceptive. This assessment undoubtedly hints at targeting women in the unmet need for the spacing category and no intent to use.

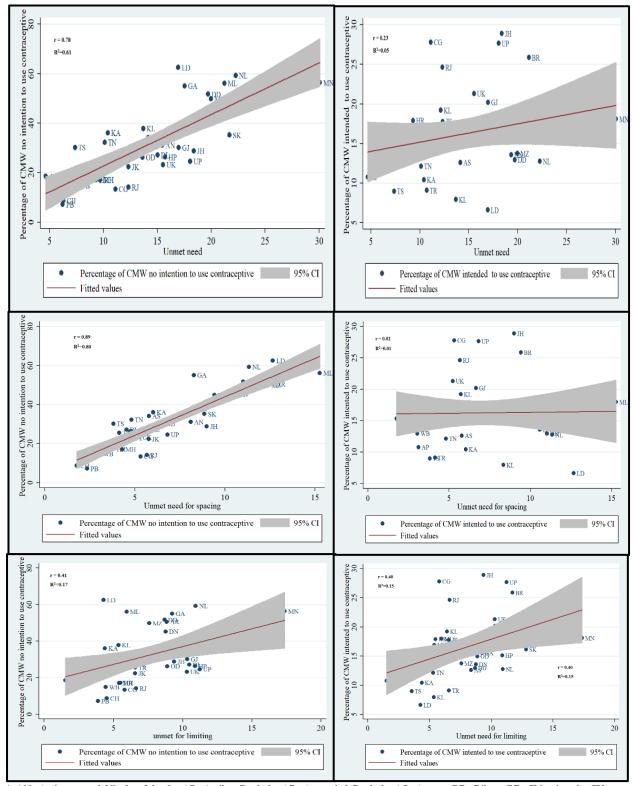


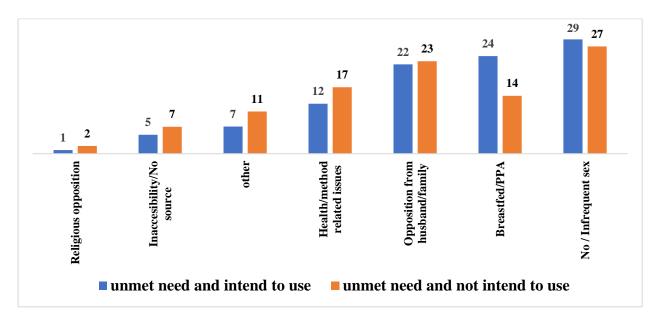
Figure 2: Scatter plot of unmet need by intention to use contraceptive in India

\* AN, Andaman and Nicobar Islands; AP, Andhra Pradesh; AR, Arunachal Pradesh; AS, Assam; BR, Bihar; CG, Chhattisgarh; CH, Chandigarh; DD, Daman and Diu; DL, Delhi; DN, Dadra and Nagar Haveli; GA, Goa; GJ, Gujarat; HR, Haryana; HP, Himachal Pradesh; JH, Jharkhand; JK, Jammu and Kashmir; KA, Karnataka; KL, Kerala; LD, Lakshadweep; MP, Madhya Pradesh; MH, Maharashtra; MN, Manipur; ML, Meghalaya; MZ, Mizoram; NL, Nagaland; OD, Odisha (Orissa); PB, Punjab; PY, Puducherry; RJ, Rajasthan; SK, Sikkim; TN, Tamil Nadu; TS, Telangana State; TR, Tripura; UP, Uttar Pradesh; UK, Uttarakhand (Uttaranchal); WB, West Bengal.

### Reason for not using contraceptive

The women who were in unmet need and intended or did not intend to use contraceptives by the reason of contraceptives non-use are shown in Figure 3. We found in both the category the highest percentage of women mention that they either have no sex or infrequent sex. The 29 percent intenders among the unmet need women mentioned that they had infrequent sex while 24 percent mentioned breastfeeding or in postpartum amenorrhea and 22 percent faced opposition by partner or family. Similarly, among the women who are non-intender, 27 percent have infrequent sex,14 percent are breastfeeding or postpartum amenorrhea, 23 percent faced opposition from partner or family.

Figure 3: Percentage of women are in unmet need by their intention and reason of not using contraceptive in India 2015-16



# Factors affecting the intension to use contraceptive among the women with unmet need and not in unmet need in India

Table 4 presents the adjusted odds ratio and 95% confidence interval of the socioeconomic background factors affecting the intention to use contraceptive among two groups of women i.e. unmet need and not in unmet need in India. The intention to use contraceptives among the both groups of women showed a similar pattern. The odds ratio of the intention to use contraceptives has declined with the rise in the age of women. Similarly, the odds of intention to use contraceptives are higher for women with a higher level of education and richer wealth quintile. The intention was more than two times higher likelihood for the currently pregnant women than the women who are not pregnant. Moreover, the odds ratio was found higher in women with higher parity.

Background Characteristics	Unm	et need	Not in unmet need		
-	AOR	95% CI	AOR	95% CI	
Age of women					
15-24®					
25-34	0.68***	0.66-0.71	0.81***	0.78-0.84	
>35+	0.29***	0.27-0.3	0.53***	0.5-0.57	
Place of Residence					
Urban®					
Rural	1.13***	1.08-1.17	1.03**	1-1.07	
Wealth Quintile					
Poorest®					
Poorer	1.02	0.97-1.07	1.04**	1-1.09	
Middle	1.04	0.99-1.09	1.04**	1-1.09	
Richer	1.04	0.99-1.1	1.12***	1.07-1.18	
Richest	1.27***	1.19-1.35	1.49***	1.4-1.58	
Education					
No education®					
Primary	1.02	0.96-1.07	1.08***	1.03-1.13	
Secondary	1.04**	1-1.09	1.05***	1.01-1.1	
Higher	1.28***	1.19-1.36	1.16***	1.09-1.23	
Currently Pregnant					
No®					
Yes	2.97***	2.75-3.2	1.52***	1.47-1.57	
Parity					
Parity 0®					
parity 1	1.31***	1.23-1.39	1.11***	1.07-1.15	
parity 2	1.42***	1.33-1.52	1.26***	1.21-1.32	
3 or more	1.49***	1.39-1.6	1.19***	1.13-1.26	
Constant	0.91**	0.84-0.98	1.13***	1.07-1.2	
Total (N)	67,308		84,541		

Table 4: Factors affecting intention to use contraceptive among women in unmet need and not in unmet need in India

® Reference category \*\*\* p<0.01, \*\* p<0.05, \*<0.10

### Discussion

Both intentions to use family planning methods and unmet need is considered as the indicator for assessment of potential demand for family planning. However, the relative advantage of intention to use family planning over the unmet need is that it weighs individual actual choice whereas the unmet need is a mathematical construct based on the child-bearing intention and current contraceptive use. Though the unmet need is a widespread measure of contraceptive demand some studies demonstrate the intention to use contraceptive is a more definite measure to gauge the potential demand (Roy et al., 2003). Such inquiries are very few in India, partly due to the scarcity of longitudinal data which are most appropriate for exploring this type of relationship. In this paper, we were interested in looking patterns and correlates of intention to use family planning methods in India. The potential result and its implication are provided below.

We found the unmet need as well as intention to use family planning varies enormously across the states in India. Around one-eighth currently married women in India were in unmet

need while one quarter are unintended to use the family planning methods. The intention of using family planning methods varies by the unmet need status and the duration of intention. Half of the CMW who are in unmet need do not intend to use contraceptives while three-fifths of women not in the unmet category is intended to use the contraceptive. Such an observation resonates with the results obtained by Ross and Healton (Ross and Heaton, 1997). This implies that there is a need to focus also on the women who are not in unmet need but have the intention to use family planning methods rather than focussing only on the women who are in unmet need.

We also observed a variation among the women in unmet need with intent to use and not intend to use a contraceptive. As both the group of women were in unmet need but differed by the intention, comparison between the two groups may perhaps inform the shapes intention and its compliance with contraception. The study found that among the women with unmet need and intention to use contraceptive resemble characteristics of the women who are using contraceptives while the women who have no intention to use contraceptive resembles with the women who are not using the contraceptive. It essentially describes the characteristics that differentiate women's felt need from that of the circumstance based need otherwise defined by us.

Comparing the women who have the intention to use a contraceptive but differ by their unmet need status, we found that, those women who are not in unmet need and intend to use contraceptive were similar to the women who are in unmet need for spacing but intend to use contraceptives. More than 85 percent of women from these two groups were from the age group less than 30-year age. Around 70 percent of women from both the groups belong to parity lower than two and the ideal family size should be two children. Only the variation in these two groups was in their pregnancy status. These may attest to the fine lines which exist among unmet need and met need especially among women who were users of spacing methods.

Lastly, the study found the correlates of the intention to use family planning among unmet need and not in unmet need women in India. We found the intention to use family planning methods is higher among the women from the higher age group and higher parity. Apart from the intention to use family planning was higher among the women who are currently pregnant. The study also established the reasons for not using contraceptives among the women unmet need women who have the intention to use family planning methods. The main reason for not using is reported as no or infrequent sex, followed by post-partum amenorrhea and opposition from the partner.

### Conclusion

This exercise highlights the pattern and correlates of the intention to use family planning methods as a measure to estimate the demand for contraceptives. An exposition of the inconsistency between the unmet need and intention to use contraceptive brings to the fore an aspect that is largely overlooked by policymakers thus far in India – to also focus on women may currently be in unmet need but intend to use contraceptives in the future. Thus, from a policy and program perspective, this paper identifies a cohort of women who were not considered as a priority in family planning program but have a good potential to be converted as users of family planning. In sum, focussing merely on unmet needs may not necessarily help to realize the program goals in terms of use by all those in need to avoid all possible unintended pregnancies. Therefore, it is advisable to combine unmet need with that of self-assessed need towards assessing the potential demand for family planning services.

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