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Research Article

Use of Contraceptives Among Married Women of Reproductive Age in Nepal

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Abstract

Background: The use of the family planning method enables people to achieve their desired number of children, helps to reduce unintended and high-risk pregnancies and unsafe abortions, which contributes to saving the lives of many women. The main objective of this study is to examine the post-intervention impact on the use of Family planning methods among married women of reproductive age in Nepal.

Methods: A cross-sectional survey with married women were conducted in the five districts of Nepal. A total of 750 married women, having at least one child, were surveyed. Univariate, Bivariate, and multivariate analyses were applied. Association with use of contraceptives and the explanatory variables was assessed in bivariate analysis using chi-square tests. The association was further examined using multivariate logistic analysis.

Results: The majority of the respondents (89%) belonged to the age group 20-34 years. More than a fifth (22%) of the respondents became married under 18 years. The contraceptive use rate among married women is 67 percent. Significantly higher ($p = <0.01$) proportion of women aged 35 or above (80.4%) were using family planning methods than women of other age groups. Likewise, a higher proportion of women involved in the decision to use FP (68%) were currently using FP methods more than their counterparts, and the association was statistically significant ($p = <0.05$). Similarly, a significantly higher proportion of the women who got married at an age 18-19 years (72%) were using FP methods than women aged 20 years or above (64%) and women aged less than 18 years (63%) ($p < 0.05$). Multivariate analysis found that women belonging to the age group 20-34 years were almost three times (aOR = 2.897, CI = 1.233-6.803) and >35 years seven times (aOR = 7.489, CI = 2.331-14.055) more likely to use FP methods than women aged less than 20 years. Regarding household income, women who had foreign employment as the major source of household income were significantly less likely to use FP methods (aOR = 0.175, CI = 0.95-0.322) than women having agriculture as a major household income source.

Conclusion: The study showed high usage of contraceptives in five study districts compared to national prevalence. The high prevalence may be attributed to the contribution of family planning programs through various organizations like CARE Nepal. However, the findings indicate a need for a family planning program, primarily focusing on the younger married women in the different districts of Nepal.

Keywords: *Contraceptives; Married Women; Reproductive Age; Family Planning; Nepal*

Background

The utilization of Family planning services enables people to reduce unintended and high-risk pregnancies [1,7,22] to achieve their desired number of children and the spacing and timing of their births. It is achieved through the use of contraceptive methods and the treatment of infertility. A woman's ability to space and limit her pregnancies directly impacts her health and well-being and the outcome of each pregnancy [30]. The WHO recommends a minimum of 2-3 years of birth spacing to protect maternal and child health. Interpregnancy intervals shorter than 18 months are linked with increases in maternal morbidity and mortality, adverse fetal and infant outcomes, and risk of preterm birth [23]. These benefits have led the United Nations to include universal access to family planning as one of the Sustainable Development Goals that aims to enable access to modern contraception for an additional 120 million women by 2020 [9]. Likewise, the use of contraceptive methods prevents health risks related to pregnancy. When births are separated by less than two years, the infant mortality rate is 45% higher than when births are 2-3 years apart and 60% higher than when births are four or more years apart [12]. Apart from this, it also offers a range of potential non-health benefits that encompass expanded educational opportunities and empowerment for women and sustainable population growth and economic development for countries.

Globally, the prevalence of contraceptive use has been increasing, but the unmet need for contraception remains one of the major problems [2]. The crucial aim of family planning is to prevent unwanted pregnancies. By reducing the number of pregnancies, abortions, and the proportions of births at risk, proper family planning can reduce maternal mortality to a large extent. In the context of Nepal, the modern contraceptive prevalence rate (mCPR) at the national level is 40 percent (DoHS, Annual Report 2075/76). However, the five Nepal Demographic and Health Surveys (NDHS) conducted in the county between 1996 and 2016 have shown the progress accomplished by the family planning program in Nepal. The modern contraceptive prevalence rate increased from 26% in 1996 to 40% in 2016. During the same period, the unmet need for family planning decreased from 32% to 24%. The median female age at marriage (women aged 25-49 years) increased from 16 to 18 years. All of these contributed to the decline in total fertility from 4.6 in 1996 to 2.3 in 2016 [19].

Although Family planning is a priority program of the Government of Nepal and has committed to several development plans and strategies since 1968 [13,14], non-use for family planning is still prevalent. There may be various reasons such as lack of information, inconvenient or unsatisfactory services, fears about contraceptive side effects, and opposition from family members or relatives. The main objective of this study is to examine the post-intervention impact on the use of Family planning methods among married women of reproductive age in Nepal.

Methodology

A cross-sectional survey with married women was conducted in the five districts of Nepal. This study was conducted in the five districts viz. Nuwakot, Rasuwa, Sindhupalchowk, Kavre and Sindhuli. CARE Nepal has been implementing the Strengthening Approaches for Maximizing Maternal, Neonatal, and Reproductive Health (SAMMAN) project to improve maternal and neonatal health outcomes by strengthening and increasing the effectiveness of frontline Health Workers (HWs) to positively impact on maternal, neonatal, and child health (MNCH) goals in these districts.

The SAMMAN project covered 292,451 women and adolescent girls from marginalized and poor, vulnerable, and socially excluded backgrounds in five districts in Nepal.

$$n = \frac{N}{1 + Ne^2}$$

Based on the formula with a margin of error of 4%, the required sample size is 624. We have added 20% of the sample (10% non-response rate and 10% refusal cases). So, the actual sample size was 750. Palika was selected randomly, and a list of target households was prepared. Systematic random sampling was used to select the target respondents.

A set of validated questionnaires was used to collect the information from married women. Verbal consent was taken before the interview with respondents. The independent variables were age group, ethnicity, marital status, education, income source, religion, family type, province, and involvement in decision-making, whereas the variables 'use of family planning' as a dependent variable. Univariate, bivariate, and multivariate analyses were applied. Initially, univariate or descriptive analysis was used to describe the respondents' socio-demographic characteristics. After controlling for the socio-demographic and economic variables, multivariate analysis in logistic regression was used to identify whether independent variables affected the utilization of family planning. Statistical software, SPSS version 26, was used for the data analysis. The study protocol was reviewed and approved by Nepal Health Research Council (NHRC).

Results

Background characteristics of respondents

More than four out of five household heads (82%) were male. The majority of the respondents (89%) belonged to the age group 20-34 years. More than a fifth (22%) of respondents got married at less than 18 years. Similarly, more than three-fifths (63%) of the respondents were Janjati, followed by Brahmin/Chettri (23%). Fifteen percent of respondents were illiterate, while less than a fifth (17%) had higher-level education. Nearly a third of the women stated that the major income source of the household was labor (32%), followed by agriculture (29%). More than three out of five (64%) followed Hinduism. Similarly, more than half of them (56%) belonged to a nuclear family. Likewise, an overwhelming majority of the women (98%) were involved in the decision to use FP. Similarly, most of the women (93%) agreed on the perception that unmarried girls should use FP methods. Similarly, most of them (97.3%) knew about the way of obtaining FP methods.

	n	%
Sex of household head		
Male	615	82.0
Female	135	18.0
Age group		
<20 years	32	4.3
20-34	667	88.9
>35 years	51	6.8
Age at marriage		
Less than 18 years	163	21.7
18-19 years	290	38.7
20 and above years	297	39.6
Caste/Ethnicity		
Brahmin/Chhetri	173	23.1
Dalit	108	14.4
Janajati	469	62.5
Level of Education		
Illiterate	109	14.5
Primary education	225	30.0
Some secondary	286	38.1
Higher secondary	130	17.3

Source of income of HH		
Agriculture	218	29.1
Business	101	13.5
Labor	237	31.6
Govt or Pvt. service	112	14.9
Foreign employment	82	10.9
Religion		
Hindu	477	63.6
Buddhist	235	31.3
Others	38	5.1
Type of family		
Nuclear	418	55.7
Joint	332	44.3
Decision on use of FP		
Involvement in the decision on FP use	735	98.0
No involvement	15	2.0
Perception on use of FP among unmarried girl		
Completely agreed/agreed	696	92.8
Disagreed	54	7.2
Knowledge on the place of obtaining FP methods		
Yes	730	97.3
No	20	2.7
Total	750	100.0

Table 1: *Background characteristics of respondents.*

Bivariate analysis

Background characteristics of respondents by current use of contraceptives

Bivariate analysis was done to find the statistical association of the current use of contraceptives with socio-demographic variables. Overall, more than two-thirds (67%) of currently married women use the family planning method. A higher proportion of women who lived in Kavre (87%) than other districts (Sindupalchowk 67%, Rasuwa 62%, Sindhuli 61%, and Nuwakot 59%) were using FP methods, and the association was statistically significant ($p < 0.001$). Likewise, a significantly higher proportion of women aged above 35 years (80.4%) were using family planning methods than women aged 20-24 years (67%) and women aged below 20 years (47%) ($p = <0.01$). Similarly, a significantly higher proportion of the women who got married at an age 18-19 years (72%) were using FP methods than women aged 20 years or above (64%) and women aged less than 18 years (63%) ($p < 0.05$). Similarly, a significantly higher percentage of the women whose source of income was Govt or Pvt. service (75%) were currently using any family planning methods than their counterparts ($p < 0.001$). Likewise, a higher proportion of women involved in the decision to use FP (68%) were currently using FP methods more than their counterparts, and the association was statistically significant ($p = <0.05$).

Regarding caste/ethnicity, a slightly higher proportion of Brahmin/Chhetri women (69%) used FP methods more than their counterparts. Not expected, a higher proportion of women who had completed primary education (72%) or were illiterate (68%) used family planning methods than women who completed some secondary or higher secondary education. A slightly higher proportion of women belonging to the joint family (68%) were currently using FP methods more than women belonging to the nuclear family (66%). However, these associations are not statistically significant.

	Use of contraception		Total		$\chi 2$ value and p-value
	Non-user	FP User	%	n	
District ***					χ^2 Value = 35.49, p = 0.000
Kavre	13.3	86.7	100.0	150	
Rasuwa	38.0	62.0	100.0	150	
Nuwakot	41.3	58.7	100.0	150	
Sindhuli	39.3	60.7	100.0	150	
Sindupalchowk	33.3	66.7	100.0	150	
Sex of household head					χ^2 Value = 2.38, p = 0.123
Male	34.3	65.7	100.0	615	
Female	27.4	72.6	100.0	135	
Age group **					χ^2 Value = 9.99, p = 0.007
<20 years	53.1	46.9	100.0	32	
20-34	33.1	66.9	100.0	667	
>35 years	19.6	80.4	100.0	51	
Age at marriage *					χ^2 value = 6.5, p = 0.03
Less than 18 years	37.4	62.6	100.0	163	
18-19 years	27.6	72.4	100.0	290	
20 and above years	36.0	64.0	100.0	297	
Caste/Ethnicity					χ^2 value = 5.2, p = 0.073
Brahmin/Chhetri	30.6	69.4	100.0	173	
Dalit	42.6	57.4	100.0	108	
Janajati	31.8	68.2	100.0	469	
Level of Education					χ^2 value = 6.23, p = 0.101
Illiterate	32.1	67.9	100.0	109	
Primary education	28.0	72.0	100.0	225	
Some secondary	33.9	66.1	100.0	286	
Higher secondary	40.8	59.2	100.0	130	
Source of income ***					χ^2 value = 71.7, p = 0.000
Agriculture	29.4	70.6	100.0	218	
Business	28.7	71.3	100.0	101	
Labor	27.8	72.2	100.0	237	
Govt or Pvt. service	25.0	75.0	100.0	112	
Foreign employment	74.4	25.6	100.0	82	

Religion					χ^2 value = 0.94, p = 0.954
Hindu	33.3	66.7	100.0	477	
Buddhist	32.3	67.7	100.0	235	
Others	34.2	65.8	100.0	38	
Type of family					χ^2 value = 0.189, p = 0.664
Nuclear	33.7	66.3	100.0	418	
Joint	32.2	67.8	100.0	332	
Decision on use of FP methods*					χ^2 value = 5.01, p = 0.025
Involvement in the decision on FP use	32.5	67.5	100.0	735	
No involvement	60.0	40.0	100.0	15	
Perception on use of FP among unmarried girl					χ^2 value = 0.311, p = 0.577
Completely agreed/agreed	33.3	66.7	100.0	696	
Disagreed	29.6	70.4	100.0	54	
Knowledge on the place of obtaining FP methods					χ^2 value = 0.087, p = 0.768
Yes	33.2	66.8	100.0	730	
No	30.0	70.0	100.0	20	
Total	33.1	66.9	100.0	750	

Table 2: *Background characteristics of respondents by Current use of FP contraceptives.*
*Note: Chi-square test significant at *** = P < 0.001, ** = P < 0.01 and * = p < 0.05.*

Multivariate analysis

The predictors of the use of contraception among married women of reproductive age were explored through multivariate logistic regression analysis by calculating adjusted odds ratios (aOR). Regarding socio-demographic characteristics, the district was a significant predictor of family planning in which women belonging to Rasuwa (aOR = 0.208), Nuwakot (aOR = 0.237), Sindhuli (aOR = 0.226), and Sindupalchowk (aOR = 0.315) districts were less likely to use FP than women residing in Kavre district. Similarly, women belonging to age group 20-34 years three times (aOR = 2.897, CI = 1.233-6.803) and >35 years seven times (aOR = 7.489, CI = 2.331-14.055) more likely to use FP methods than women aged less than 20 years. Regarding the household income source, women who had foreign employment as the major source of household income were significantly less likely to use FP methods (aOR = 0.175, CI = 0.95-0.322) than women having agriculture as a major household income source.

Although not significant, women in female-headed households were less likely to use FP methods than male-headed households. Likewise, women married at the age of 18 or above were less likely to use FP methods than women married at less than 18 years. Regarding caste/ethnicity, Dalit women were less likely, and Janajati women were slightly more likely to use FP methods than Brahmin/Chhetri women. Likewise, education negatively influenced the use of family planning methods as women who had primary or above education were less likely to use it than illiterate women. Similarly, women following Buddhist or other religions were less likely to use FP methods than Hindu women. Likewise, women from a joint family were less likely to use FP methods than women from nuclear families. Similarly, women who had 'no involvement in the decision to use FP' were less likely to use FP methods than women involved in such decisions.

Women who disagreed on the perception that unmarried girls should use FP were less likely to use FP methods than women who agreed on the perception.

Predictors	aOR	95% CI	
		Lower	Upper
District			
Kavre (ref.)	1.00		
Rasuwa	0.208***	0.098	0.441
Nuwakot	0.237***	0.117	0.481
Sindhuli	0.226***	0.105	0.487
Sindupalchowk	0.315**	0.150	0.662
Sex of household head			
Male (ref.)	1.00		
Female	0.755	0.422	1.353
Age group			
<20 years (ref.)	1.00		
20-34	2.897*	1.233	6.803
>35 years	7.489**	2.331	14.055
Age at marriage			
Less than 18 years (ref.)	1.00		
18-19 years	0.894	0.544	1.468
20 and above years	0.669	0.403	1.110
Caste/Ethnicity			
Brahmin/Chhetri (ref.)	1.00		
Dalit	0.550	0.295	1.025
Janajati	1.042	0.602	1.804
Level of Education			
Illiterate (ref.)	1.00		
Primary education	0.813	0.455	1.452
Lower secondary	0.994	0.563	1.754
Higher secondary	0.690	0.350	1.361
Source of income of HH			
Agriculture (ref.)	1.00		
Business	1.139	0.653	1.987
Labor	1.067	0.649	1.755
Govt or Pvt. service	1.582	0.906	2.764
Foreign employment	0.175***	0.095	0.322
Religion			
Hindu (ref.)	1.00		

Buddhist	0.749	0.447	1.256
Others	0.687	0.303	1.557
Type of family			
Nuclear (ref.)	1.00		
Joint	0.904	0.625	1.306
Decision on use of FP			
Involvement in the decision on FP use (ref.)	1.00		
No involvement	0.383	0.120	1.225
Perception on use of FP among un-married girl			
Completely agreed/agreed (ref.)	1.00		
Disagreed	0.899	0.459	1.762
Knowledge on the place of obtaining FP methods			
Yes (ref.)	1.00		
No	1.278	0.449	3.640
Constant	4.731*		
-2 Log likelihood	829.266		
Cox and Snell R Square	0.151		

Table 3: *Multivariate analysis: Adjusted Odds Ratios (aOR) and 95% Confidence Interval (CI) of using contraception by predictors among married women in reproductive ages.*
*Note: *** = P < 0.001, ** = P < 0.01 and * = p < 0.05, ref. = Reference category.*

Discussion

Our study revealed high usage of modern contraceptive methods (66.9%) compared to the national prevalence (44.2%) [6]. The higher prevalence in the study area may result from interventions of CARE Nepal. In contrast to our study but similar to the national percentage is the finding of a study from Nepal [18] and India [21], where more than two-fifths of the respondents had ever used any contraception during their married life. The main reasons for not utilizing contraceptives may be the desire for more children, cultural barriers, socio-economic status, husband's objection, lack of knowledge of free availability of contraceptives, and educational status of women [18].

Bivariate analysis showed that a significantly higher proportion of women aged 35 years or above were currently using FP methods. In contrast, a study conducted in India showed that most women (52.4%) using contraception were aged 15-34 years [16]. Likewise, another study in the Northern Peri-Urban areas showed that most females (55%) of the age group 15-20 were currently using contraception [28]. Similarly, in our study, a significantly higher proportion of the women who got married at 18-19 years used FP methods more than women married before 18 years or at age 20 years or above (p = 0.03). It could be that those who got married at an early age completed their desired number of children, so they used FP. On the other hand, those who got married after 20 may still want children, so less likely to use FP. The finding contradicts the study conducted in India, where contraceptive usage is highest with women who married before 18 years (80%) [20].

Our study also showed that women who had no involvement in the decision-making process to use FP were less likely to use FP methods than women involved in such decisions. The findings of a few other studies were also consistent with this finding, such as studies

conducted in Bangladesh [11] and Pakistan in which use of contraception was higher among those women who took the decision together with their husbands as increased women's autonomy may facilitate the more uptake of contraception because of increased female participation in decision making [10].

Although not significant, our study showed an inverse relationship between education and the use of family planning methods. The use of contraceptives is higher among women who had completed primary education or were literate only used family planning methods than women who completed secondary or higher secondary education. This finding contradicts the studies conducted in Nepal and [13,14] India [8,20], in which contraceptive usage increases with increasing educational status.

Findings also revealed that a higher proportion of women involved in the decision-making process to use FP (68%) were currently using FP methods more than their counterparts, and the association was statistically significant. A similar finding was obtained in another study conducted in Nepal [18], in which the use of family planning was more among the women who had communication about FP with their husbands and others.

Similarly, logistic regression analysis showed that older-aged women were significantly more likely to use modern contraceptives. This finding contradicts the study conducted in Bangladesh in which the likelihood of using modern contraceptives was found higher among young women [11]. In addition, our study shows that women who had foreign employment as the major source of household income were significantly less likely to use FP methods than women having agriculture as a major household income source. It could be because those involved in agriculture live together with their husbands and those whose income is from remittance have separation from their husbands. The study also found that low utilization of FP is found among women who were left behind due to the migration of husbands.

Our study did not show any significant effect of education on the use of contraception in multivariate analysis. Contrary to the findings of our study, a study in Ethiopia showed that educational status (aOR = 0.901, 95% Cl (0.340, 4.107), had a protective effect on the utilization of modern contraceptives [29]. Similarly, in Ghana [5], men with at least a primary education were more likely to use contraception than men with no education. Similarly, different other studies [17,31] showed that education was positively correlated with contraception use. Although not significant, women who did not know the place of obtaining the FP method were more likely to use FP than women who knew obtaining FP. It could be due to their partner bringing the FP.

Conclusion

The study showed high usage of contraceptives in five study districts compared to national prevalence. The high prevalence may be attributed to the contribution of family planning programs through CARE Nepal. Bivariate analysis showed that district, age group, age at marriage, source of income, and decision on using FP methods were factors associated significantly with the use of contraceptives. Similarly, logistic regression analysis showed that district, age group, and source of income were significantly associated factors. From this finding, we can infer that the program was delivered uniformly throughout the district, and hence, few significant differences were observed. However, the findings indicate that there is still a need for a Family planning program in the different districts of Nepal.

Bibliography

1. Adhikari R., *et al.* "Correlates of unintended pregnancy among currently pregnant married women in Nepal". *BMC International Health and Human Rights* 9 (2019): 17.

2. Alkema L., *et al.* "National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis". *Lancet* 381.9878 (2013): 1642-1652.

3. Anila Tresa Alukal., *et al.* Awareness and practice of contraceptive methods among women in Kerala India". *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* (2018).

4. Apanga PA and Adam MA. "Factors influencing the uptake of family planning services in the Talensi District, Ghana". *Pan African Medical Journal* 20.1 (2014).

5. Butame SA. "The prevalence of modern contraceptive use and its associated socioeconomic factors in Ghana: evidence from a demographic and health survey of Ghanaian men". *Public Health* 168 (2019): 128-136.

6. Central Bureau of Statistics and UNICEF (CBS) (2020). "Nepal Multiple Indicator Cluster Survey 2019". Survey Findings Report. Kathmandu, Nepal: Central Bureau of Statistics and UNICEF Nepal (2020).

7. Cleland J., *et al.* "Family planning: the unfinished agenda". *The Lancet* 368.9549 (2006): 1810-1827.

8. Donati S., *et al.* "Family planning knowledge attitude and practice survey in Manipur state". *Journal of Obstetrics and Gynaecology India* 53 (2003): 485-490.

9. FP2020 Partnership. "FP2020 Momentum at the Midpoint 2015-2016" (2017).

10. Hakim A., *et al.* "Women's autonomy and uptake of contraception in Pakistan". *Asia-Pacific Population Journal* 18.1 (2003): 63-82.

11. Islam AZ. "Factors affecting modern contraceptive use among fecund young women in Bangladesh: does couples' joint participation in household decision-making matter?" *Reproductive Health* 15.1 (2018): 1-9.

12. Kantorová V., *et al.* "Estimating progress towards meeting women's contraceptive needs in 185 countries: A Bayesian hierarchical modelling study". *PLOS Medicine* 17.2 (2021): e1003026.

13. Manzoor., *et al.* "Trends in Family Planning Practices of Women in Child-Bearing Age: A Community Based Survey in Northern Peri-Urban Areas of Lahore". Pakistan Journal of Medical Research 57.2 (2018).

14. Ministry of Health and Population (MoHP) [Nepal]. "Second Long-Term Health Plan, 1997– 2017". Kathmandu, Nepal: Ministry of Health and Population (2007).

15. MoHP, "National Family Planning Costed Implementation Plan 2015-2020". Ministry of Health and Population. Kathmandu (2015).

16. Ministry of Health, Nepal; New ERA; and ICF. "Nepal Demographic and Health Survey 2016". Kathmandu, Nepal: Ministry of Health, Nepal (2017).

17. Mohanan P., *et al.* "Fertility pattern and family planning practices in rural area in dakshina Kannada". *Indian Journal of Community Medicine* 28 (2003): 15-18.

18. Obwoya JG., *et al.* "Factors influencing contraceptives use among women in the Juba city of South Sudan". *International Journal of Population Research* (2018).

19. Panta PP., *et al.* "Knowledge and Practice of Family Planning Methods among Married Women of Reproductive Age of Chepang Community in Benighat VDC of Dhading District". *Journal of Karnali Academy of Health Sciences* 3.1 (2020): 1-12.

20. Pradhan A., *et al.* "Nepal Family Health Survey 1996". Kathmandu, Nepal and Calverton, MD: Ministry of Health [Nepal], New ERA, and Macro International Inc (1997).

21. Qazi M., *et al.* "Knowledge, attitude, and practice of family planning among women of reproductive age group attending outpatient department in a tertiary centre of Northern India". *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* 8.5 (2019): 1-9.

22. Rao GR Moulasha K and Surrender S. "Knowledge attitude and practice of family planning among fishermen in Tamily Nadu Family Welfare". September 93 (1993): 50-54.

23. Saifuddin Ahmed., *et al.* "Maternal deaths averted by contraceptive use: an analysis of 172 countries". *Lance*t 380 (2021): 111-125.

24. Schummers L., *et al.* "Association of Short Interpregnancy Interval with pregnancy outcomes according to maternal age". *JAMA Internal Medicine* 178 (2018): 1661.

25. Seyife A., *et al.* "Utilization of modern contraceptives and predictors among women in Shimelba refugee camp, Northern Ethiopia". *PLoS One* 14 (2019): 3.

26. Sharma SK., *et al.* "Ethnic differentials of the impact of family planning program on contraceptive use in Nepal". *Demographic Research* 25 (2011): 837-868.

27. Singh RKN., *et al.* "Acceptability of contraceptive methods among Urban eligible couples of Imphal, Manipur". *Indian Journal of Community Medicine* 29 (2004): 130-137.

28. Srivastava R., *et al.* "Contraceptive knowledge attitude and practice (KAP) survey". *The Journal of Obstetrics and Gynecology of India* 55 (2005): 546-550.

29. Tukue D., *et al.* "Prevalence and determinants of modern contraceptive utilization among women in the reproductive age group in Edaga-hamus Town, Eastern zone, Tigray region, Ethiopia, June 2017". *PloS one* 15.3 (2020): e0227795.

30. World Health Organization. Report of a WHO Technical Consultation on Birth Spacing (2018).

31. Wulifan JK., *et al.* "A scoping review on determinants of unmet need for family planning among women of reproductive age in low and middle-income countries". *BMC Women's Health* 16.1 (2015): 1-15.

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