Janaki Medical College Journal of Medical Sciences (2026); Vol.14 (2):102-111

JMCJMS

DOI: https://doi.org/10.3126/jmcjms.v14i02.98120

ISSN: 2091-2242
eISSN: 2091-2358

OPEN ACCESS

Original Research

Choices and Trends of Modern Methods of Family Planning Use at a Very Remote District Hospital of Nepal

Pramod Kattel[1*], Deepak Raj Kafle[1]

[1]Department of Obstetrics and Gynaecology, Pokhara Academy of Health Sciences, Western Regional Hospital, Ramghat, Pokhara, Kaski, Gandaki Province, Nepal

Correspondence to:
Dr. Pramod Kattel
Department of Obstetrics and Gynaecology,
Pokhara Academy of Health Sciences,
Western Regional Hospital, Ramghat, Pokhara,
Kaski, Gandaki Province, Nepal
E-mail: pramodkattel985@gmail.com
ORCID: https://orcid.org/0000-0002-6486-0339

Received: 1 June 2026
Revised: 24 July 2026
Accepted: 29 July 2026

Citation:
Kattel P, Kafle DR. Choices and trends of modern methods of family planning use at a very remote district hospital of Nepal. Janaki Med Coll J Med Sci. 2026;14(2):102-111.

ABSTRACT:

Background and Objectives: Family planning involves controlling the number and spacing of children through contraception, infertility treatment, and reproductive education. The objective of this study is to identify the choices and trends of modern contraceptive methods at a very remote district hospital in Nepal.

Materials and Methods: A hospital-based descriptive cross-sectional study was conducted at the family planning clinic of Rolpa Hospital from 1st Shrawan 2079 to 30th Asar 2082. All cases receiving family planning services in fiscal years 2079/80, 2080/81, and 2081/82, as registered in the family planning register of Rolpa Hospital, were included in the study.

Results: In this study, in fiscal year 2081/82, new users of modern methods of family planning were 46 (25.99%) cases for Inj. Depo-Provera, followed by Minilap (n= 35, 19.77%) and OCPs (n=26, 14.69%). Fifteen (8.47%) females aged less than 20 years opted for some forms of contraception. It is seen that the number of current users of family

planning is increasing, but the rate of increase is decreasing compared with fiscal year 2079/80 to 2080/81 (Δn=208, 40.78% rise) and fiscal year 2080/81 to 2081/82 (Δn=149, 20.75% rise). At Rolpa Hospital, the proportion of cases opting for Minilap to Vasectomy as a permanent method of contraception is 52.4%, 60.7%, and 61.4% in successive fiscal years from 2079/80, 2080/81 to 2081/82.

Conclusion: Family planning is not just about contraception but is also a public health strategy and a reproductive right aimed at improving overall family well-being and national health indicators. For this purpose, the Government of Nepal should focus on the use of Long-acting reversible contraceptives like Intra-uterine devices for needy couples.

Keywords: Implant; IUDs; LARCs; LAPM; Minilap; Sayana Press; Vasectomy

INTRODUCTION

Family planning (FP) is the voluntary, informed decision by couples to determine the number, timing, and spacing of their children through the use of contraceptives and other reproductive health services. Contraceptive use may be natural or modern. As of 2021, approximately 874 million people of reproductive age, 15-49 years, were using modern methods of contraception [1]. In Nepal, as of 2019, over three million women and girls were using modern methods of contraception [2]. About 57% of women of reproductive age are using some forms of contraception, with a modern contraceptive prevalence rate of 43% [3]. Among married women, 78% have a demand for FP, with 55% of this demand met by modern methods. Approximately 45-50% of pregnancies are unintended, totaling around 539,000 cases annually as of 2017 [4]. Nearly two-thirds of unintended pregnancies end in abortion [5]. About 20.8% of currently married women of reproductive age, who desire pregnancy prevention or spacing, lack access to contraception. The prevalence is more pronounced among women aged 15-24 years, with 29.6% of women having an unmet need for family planning, a decline from 33.3% in 2016. The use of modern contraceptives is lowest among women aged 15-19 years (14.2%), followed by women aged 20-24 years (24.9%). Currently, 1 in 5 married women has an unmet need for family planning. Current trends show a declining number of contraceptive users [3].

Although Rolpa Hospital provides family planning services, the status of choices and trends in the use of modern contraceptive methods at the district hospital had not been previously analyzed. This study was conducted to establish a baseline of family planning method preferences among the population of Rolpa. It also helps in service extension through satellite clinics in rural areas of the district by knowing preferences so that a plan can be made accordingly. The findings are expected to be valuable for policymakers at the local, provincial, and federal levels, including the district health office, provincial health directorate, and family welfare division. Thus, the objective of this study was to identify the choices and trends in the use of modern contraceptive methods at a very remote district hospital in Nepal.

MATERIALS AND METHODS

A hospital-based descriptive cross-sectional study was conducted at the family planning clinic of Rolpa Hospital from 1st Shrawan 2079 to 30th Asar 2082. Rolpa Hospital is a 50-bed secondary A-level public hospital located in Rolpa district and operates under the Ministry of Health, Lumbini Province.

This hospital provides family planning services, Short-Acting Reversible Contraceptives (SARCs) and Long-Acting Reversible Contraceptives (LARCs) regularly, but has to depend on camps for a permanent method of contraception, which is held once a year. SARCs comprise emergency contraceptive pills (ECPs), oral contraceptive pills (OCPs), depot medroxyprogesterone acetate-intramuscular (DMPA-IM) and depot medroxyprogesterone acetate-subcutaneous (DMPA-SC), whereas LARCs comprise implants and intrauterine contraceptive devices (IUCDs). Permanent methods comprise vasectomy and minilap (tubectomy).

All cases receiving family planning services in fiscal year (FY) 2081/82 and those from earlier years (FY 2080/81 and FY 2079/80) registered in the family planning register of Rolpa Hospital were included in the study. Ethical approval was obtained from Rolpa Hospital, Health Directorate, Ministry of Health, Lumbini Province Government (Ref: 16/2081/82).

Data regarding age-wise new acceptors of family planning in fiscal year 2081/82, along with current users of family planning and the share of female sterilization among total new acceptors in the last three fiscal years (2079/80 to 2081/82) for trend analysis, were taken for study purposes. Descriptive statistics, including absolute numbers, percentages, and proportions, were used to summarize variables. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 16 and presented in tabular form.

RESULTS

In this study, in fiscal year 2081/82, among new users of modern methods of family planning, 46 (25.99%) cases opted for Inj. Depo-Provera, followed by Minilap (n=35, 19.77%) and Oral Contraceptive Pills (n=26, 14.69%). Fifteen (8.47%) females aged less than 20 years opted for some forms of contraception, with almost all cases opting for SARCs (n=14, 7.91%) (Table 1).

It is seen that the number of current users of family planning is increasing, but the rate of increase is decreasing as compared to the previous year. The rate of rise of FP users is calculated as, (Δn, current users - users of previous year) with respect to users of the previous year, i.e., Δn×100/users of the previous year). Thus, the rate of rise of family planning users in 2080/81 with respect to 2079/80 was 40.78%, and the rate of rise of family planning users in 2081/82 with respect to 2080/81 was 20.75% (Table 2).

At Rolpa Hospital, the proportion of female sterilization (Minilap) among all permanent contraceptive acceptors increased over the three fiscal years, rising from 52.4% (22 of 42) in 2079/80 to 60.7% (34 of 56) in 2080/81 and 61.4% (35 of 57) in 2081/82. The total number of permanent contraceptive acceptors also increased from 42 to 57 during the study period. While the number of female sterilization cases increased from 22 to 35, male sterilization cases increased from 20 to 22 and remained unchanged in the last two fiscal years (Table 3).

Table 1. New Acceptors of Family Planning in the Fiscal Year 2081/82 (N=177)

Family Planning Methods	Age in years		Total n(%)
	<20 years	≥20 years	
ECPs (Econ)	4	1	5(2.83%)
OCPs	3	23	26(14.69%)
DMPA-IM (Depo-Provera)	6	40	46(25.99%)
DMPA-SC (Sayana Press)	1	22	23(12.99%)
Implant (Jadelle)	1	14	15(8.47%)
IUCDs (Cu-T 380 A)	-	5	5(2.83%)
Vasectomy	-	22	22(12.43%)
Minilap (Tubectomy)	-	35	35(19.77%)
Total	15(8.47%)	162(91.53%)	177(100.00%)

Table 2: Current Users of Family Planning in the Last Three Fiscal Years

Current Users	FY 2079/80	FY 2080/81	FY 2081/82
	n	n	n
ECPs	-	9	10
Male Condom	58	63	55
OCPs	53	65	72
DMPA-IM	130	193	234
DMPA-SC	-	33	53
Implant	163	187	215
IUCDs	52	58	61
Vasectomy	25	47	69
Minilap (Tubectomy)	29	63	98
Total	510	718	867

Table 3. Share of Female Sterilization among Total New Acceptors in the Last Three Fiscal Years

Fiscal Years	Female (n)	Male (n)	Total (N)	Female Proportion
2079/80	22	20	42	**52.4**
2080/81	34	22	56	**60.7**
2081/82	35	22	57	**61.4**

DISCUSSION

Proper utilization of family planning services is needed in our context. Utilization of family planning helps to reduce maternal morbidity & mortality, and also to achieve Goal 3 of the Sustainable Development Goals (SDG). It is also a tool that reflects gender equality and women's empowerment status, as stated in SDG 5 [6]. In addition to family planning services, the Safe Motherhood Program (SMP) with Comprehensive Emergency Obstetrics and Neonatal Care (CEmONC) services and Comprehensive Abortion Care (CAC) services are also provided, as Rolpa Hospital is a listed site for both first- and second-trimester abortion, which plays a vital role in meeting the goals of the SDGs. New acceptors of family planning imply the number of people who used modern contraceptives for the first time during FY 2081/82. With 25.99% users, Inj. Depo is the most popular type, followed by Minilap (19.77%) and OCP users (14.69%). The most preferred SARC is Inj Depo, whereas LARC is Implant, and the Permanent method is Minilap. After injectables, oral pills are gaining popularity, with use in 17.52% (OCPs

in 14.69% and ECPs in 2.83%). It is seen that 2.83% are new users of emergency contraceptive pills. Similar to our study (25.99%, N=177), Annual Health Report 2081/82 also reported inj Depo (37.99%, N=611,480) to be the most popular modern contraceptive among first-time users [7].

Short-Acting Reversible Contraceptives (SARCs) comprise injectables (DMPA-IM and DMPA-SC) and Oral Pills (OCPs and ECPs). Inj. Depo-Provera, i.e., DMPA-IM, and Sayana Press, i.e., DMPA-SC, are considered in the same group of injectables, with dose, route, and at times administrator differences too. Sayana Press is a progesterone-only injection containing medroxyprogesterone acetate given three-monthly or self-administered subcutaneously into the thigh or abdomen. It contains medroxyprogesterone acetate (104 mg/ 0.65 ml suspension) given subcutaneously (SC) but with 30% less dose as compared to Depo-Provera (150 mg/ 1ml) given intramuscularly (IM). It aims to address the 24% unmet need of FP in Nepal. The need for such a self-administered contraceptive was felt following the COVID -19 pandemic. From FY 2080/81, Sayana Press was started, and by FY 2081/82, this had been expanded to 20 districts [7]. This Sayana Press is also available at Rolpa Hospital free of cost to clients as another method of contraception. It is quite interesting to see that the new users of Sayana Press are half (23 new users) of those of Depo-Provera (46 new users). This implies that Sayana Press is also widely acceptable to females of Rolpa. Injectables are relatively easy to use, and one injection works for an intermediate period of three months (12-13 weeks). If the couple wishes for a baby, planning for the same can be done easily, as the return of fertility period is immediate after stopping DMPA-IM, generally, but may take 9-10 months after the last injection in some cases [8]. Though the practice is not good in itself, in some places, it is seen that DMPA-IM is provided in “Haat Bazar” too when husbands do not accept contraception. This “Haat Bazar” injection system avoids the need for females to go to a health facility and helps to maintain confidentiality. After injectables, oral pills are gaining popularity, with use in 17.52% (OCPs in 14.69% and ECPs in 2.83%). The short-acting reversible contraceptives (SARCs) of choice after Injectables are OCPs. The need for daily use of OCPs hinders their compliance and acceptability, which is not so with Sayana Press. The good aspect of Sayana Press is that the return of fertility after the injection is stopped is, on average, four months [8], and it is even helpful in females with other concomitant gynaecological conditions like dysmenorrhoea [9,10].

It is seen that 2.83% are new users of ECPs in our study, similar to the national figure for FY 2081/82, which is 1.26% [7]. New users of ECPs are the individuals who are accessing ECPs for the first time in their lives in the current fiscal year. Since FY 2080/81, Emergency Contraceptive Pills, i.e., ECPs (Econ), have been available at Rolpa Hospital free of cost to clients as another method of contraception. Availability of ECP service through all public health facilities and Female Community Health Volunteers (FCHVs) was established from fiscal year 2080/81. ECPs are progesterone-only oral tablets of 1.5 mg Levonorgestrel given within 120 hours (five days) of unprotected sexual intercourse. Current users of ECPs are individuals who have used ECPs within the period of one fiscal year, whether using them for the first time or multiple times. In general, ECPs are designed for a single use rather than multiple or

continuous uses. The greater the difference between current users and new users of ECPs, the more concerning this is in the sense that people are taking ECPs as another method of contraception, which, in fact, is not true, as ECPs are primarily interceptive [8-10].

LARCs comprise implants and IUCDs. New acceptors of implants in Rolpa Hospital in the fiscal year 2081/82 are 8.47%. The implant available in Rolpa Hospital is Jadelle with two rods, each rod containing 75 mg levonorgestrel, kept in the arm of the non-dominant hand, and is effective for five years. The daily release of hormone is 100mcg/day in the first month, decreasing to 40mcg per day after 12 months and then to roughly 25-30mcg/day by the end of 5 years [8-10]. The other Implant (Levoplant), effective for three years, is also available in 28 hospitals of Nepal but not at Rolpa Hospital [7].

IUCDs are the least accepted LARCs. The new acceptors of IUCDs in FY 2081/82 at Rolpa Hospital were 2.83%, which is similar to the national figure (2.48%, N=611,480) for FY 2081/82 [7]. We do have the availability of copper-containing IUCDs (Cu-T 380 A) whose effect lasts for 12 years [8-10].

Among females of >20 years of age, 48.59% opted for SARCs as compared to 10.73% of females who opted for LARCs and 32.20% for a permanent method of contraception. The ratio of SARC: LAPM (Long-acting and Permanent Methods) is nearly 1:1. For every one LAPM case, one is using SARCs. This shows we have to work more to increase awareness regarding LARCs, which have myths and misconceptions about making females infertile in the long run, and cannot be removed before the time frame in case of need, and complications like uterine perforation and migration into the abdominal cavity are high in case of IUCDs. The rare complication is highlighted as the common one, and it is blamed for causing sexual discomfort, which, if placed properly, is not an issue at all. The Government of Nepal is continuously doing advocacy on family planning, arranging satellite clinics for service provision, and also managing complications arising from family planning services free of cost to increase its acceptance. In addition, though the name itself implies that permanent methods of family planning (Vasectomy and Tubectomy) are permanent, the Government of Nepal still has the provision of reimbursement up to NPR 25,000 for clients undergoing re-canalization procedures as an added measure to promote use of more reliable and long-lasting family planning measures [7]. Among females aged less than 20 years, 8.47% use modern methods of contraception, which is much less than the national data of 14.2% [3,7].

About 8.47% (n=15) of females aged less than 20 years opted for some forms of contraception, with almost all cases opting for SARCs (7.91%, n=14), and LARC users being 0.56% (1 case who opted for an implant). Since the population is increasing, so are the reproductive-age females, but contraceptive users are gradually decreasing from fiscal year 2079/80 to 2081/82. The drop in contraceptive users might be due to delayed age of marriage needing less contraceptive use, decrease in couples using contraceptives as either of the couple is abroad for employment purpose, the adoption of federalism and its significant impact is seen with time in Nepal which causes married couple to be temporarily away (different provinces) from each-other necessitating less contraceptive use unlike before federalism or

when federalism was in infantile stage where the married couples were less and were prioritized to be nearby in government services too. With education, people are opting for more natural methods, as even minor side effects of family planning methods, which gradually subside with time, are also over-concerned and are not used. The deep-rooted concept of "not suited" to minor side effects, considering it to be severe, rather than addressing it with other medical measures, has also caused its decreased use. The use of family planning is dependent on husbands or family members and religious ideology, so their use is also decreasing as women's empowerment is less in practice, though advocacy for it has been long-standing. There are various reasons for the underutilization of contraceptives in the Nepalese context, some of which are highlighted below. Easy availability of over-the-counter ECPs and abortion free of cost makes people opt for abortion multiple times, which has underutilized the effective measures of birth control. The socio-cultural factors of desire for son especially in rural areas, stigma of going to family planning clinic for family planning measures, lack of awareness of its importance, misconceptions of its use (infertility, weakness, cancer, etc.), low female literary, poor reproductive health knowledge, the topic of reproductive health even being skipped by teaches at school due to shy of teaching, long distance to reach health facilities in rural areas, inconvenient service hours for going to the health facilities for workable parents, shortage of manpower in rural areas for insertion of implant and IUCDs which needs special training, poor counseling, lack of privacy as family planning clinic and other health seeking site being the same, stock-outs of contraceptives at times, negative provider attitudes, lack of autonomy in reproductive decisions in women, real or perceived side effects, inadequate counseling, etc [3,7-10].

The current contraceptive user is defined as an individual of reproductive age who, at a specific point in time, is practicing or whose partner is practicing a recognized method of contraception to prevent pregnancy. It is seen that the number of current users of family planning is increasing, but the rate of increase is decreasing compared with FY 2079/80 to 2080/81 (Δn=208, 40.78% rise) and FY 2080/81 to 2081/82 (Δn=149, 20.75% rise). The rate of rise is seen primarily due to the permanent method of contraception, including LARCs, i.e., LAPM, similar to national status [7]. It is concerning that the overall number of new users is not increasing, as seen by the rate of rise.

In this study, the current users of injectables in fiscal year 2081/82 are 33.09%, similar to the study by Tuladhar and Marahatta [11] (29.85%, N=67), Kafle R [12] (39.39%, N=66), and Gupta et al. [13] (52.31%, N=65) in contrast to national data for fiscal year 2081/82 [7] (14.27%).

In contrast to our study, Raut and Kharel [14] (27.88%, N=312) and Deo et al. [15] (34.32%, N=67) reported that the majority of current users of modern methods of contraceptives were Oral Pill users; Rizvi et al. [16] (52.86%, N=157) reported the majority to be users of condoms, whereas national data for FY 2081/82 [7] shows the majority of current users of family planning are female sterilization (34.10%).

In the Nepalese context, new users of condoms are determined by those providing a history of use in the current fiscal year and

from the data of those taking condoms from the Maternal and Child Health (MCH) clinics, family planning clinics, or from female community health volunteers. The other is via keeping condoms in a condom box at accessible sites of health facilities from which persons requiring them, of any age and in any number, can obtain them. This helps to find the number of current users. To determine the couple-year protection (CYP), the distributed number of male condoms is divided by the conversion factor of 120 (assuming an average of 10 coituses per month). Thus, for a couple, 120 condoms per year are required to prevent pregnancy [7-10].

In fiscal year 2081/82, the percentage of female sterilization uptake rose to 61.4% from 52.4% in fiscal year 2079/80. In this study, in fiscal year 2081/82, 61.4% (N=57) of sterilizations were performed by minilap, similar to studies done by Raut and Kharel [14] (51.65%, N=91), Tuladhar and Marahatta [11] (68.75%, N=16), Kafle R [12] (69.23%, N=13), Deo et al. [15] (72.22%, N=18), Gupta et al. [13] (88.89%, N=9) and national data for FY 2081/82 [7] (89.6%).

It seems that more preference is given to minilap than vasectomy, though the ease of the procedure is reverse. There is a misconception that permanent methods of contraception make people weak, and males, being the breadwinners of the family, are generally not allowed to opt for a permanent method of contraception as compared to females. In the context of Rolpa, for cases opting for the permanent method of contraception, records and details of cases were kept and called during the sterilization camp, which was held annually. The camp was held in each rural municipality (nine in number), and the last day was kept for the Rolpa municipality (the only municipality of the district where the Rolpa Hospital is situated). The cases missed in other rural municipalities also got the opportunity to undergo a permanent method of sterilization, and the Rolpa municipality covered good number of population as compared to other rural municipalities and people had trust or faith in hospital and had a view that if any advertent events occurred, the doctors present there would manage the case, so the permanent sterilization were seen in good number in Rolpa Hospital. The permanent methods of contraception are vasectomy in males, which is performed by the non-scalpel vasectomy method, which does not need even a single stitch. Similarly, for female sterilization, tubectomy, a mini-laparotomy incision is made under local anaesthesia, and the patient returns home on the same day [17,18].

This study has highlighted different public health implications. The foremost being the need to strengthen LARC services. This highlights the need for involvement of males in family planning awareness and counseling programs. Since the service seekers are adolescents too, the service providers should be adolescent-friendly and more sensitive while providing services, which may provide a positive impact and more adolescents might seek the service. Strengthening outreach services via satellite clinics, mobile outreach camps, and even provision of permanent methods of contraception throughout the year may provide a more positive impact on service seekers. Myths and misconceptions that are prevailing in the community need to be addressed so that the public gets the true information and opts for the procedure of their choice with confidence. Family planning

indicators need to be monitored routinely to identify gaps and make evidence-based planning. Improving contraceptive uptake of long-acting and permanent methods may contribute towards achieving national and global reproductive health goals of universal health coverage and sustainable development goals.

Since this study is done at a very remote district hospital of Nepal, it helps to generate baseline evidence on patterns and trends of use of modern contraceptives in a geographically remote region of Nepal. This study helps to know the trend of use of family planning methods of the last three fiscal years. It has included all eligible cases, minimizing sampling bias within the hospital setting. Since data were used from the family planning register of the hospital, this decreases the chance of recall bias, providing a real scenario of service utilization. This study, being new to its kind for the hospital, helps to generate solid baseline evidence for policymakers who really want to contribute to the family planning sector in terms of resource optimization, make plans for arranging outreach family planning clinics, and promote long-acting reversible contraceptives.

Though many positive aspects are derived from the study, it is not without limitations. This is a single-centre study, the findings of which may not be generalized to the whole country. Since this is a hospital-based study, information on the general public who took services outside the hospital is missed, so at times it may not represent the status of the community. Since the study was carried out primarily based on the family planning register, only limited variables were studied. Based on the limitation of the study design, inferential analysis was not done, so factors associated with contraceptive choices and trends are not identified. Any data missing in the register, even if service was provided, may not be taken into account in the study.

CONCLUSIONS

Too early, too many, and too frequent childbearing increases risk to the mother, and to avoid the problem, acceptance of proper family planning methods is a key strategy. In a remote setting like Rolpa Hospital, SARCs, especially injectables, dominate while LARCs and permanent methods remain underutilized. The rate of increase of current users of family planning in successive fiscal years is decreasing, as new users of contraceptives are decreasing. Female sterilization exceeds vasectomy, reflecting the impacts of myths and misconceptions, though it seems to follow gender norms. Limited use of LARCs and decline in new uses of contraception suggest service delivery, access, availability, or awareness gaps, changing community preferences, highlighting the need to strengthen counseling and male involvement in utilization. Couple counseling or family member counseling may also be required to increase the use of family planning services in the Nepalese context.

ACKNOWLEDGEMENT

We would like to acknowledge all the study subjects without whom this study would not have been possible.

AUTHOR'S CONTRIBUTION: Concept and design, Literature search, Data collection, analysis and interpretation**,** Drafting of the manuscript, Critical revision of the manuscript**-PK, DRK**. Both authors reviewed

and approved the final version of the manuscript for publication and agree to be accountable for all aspects of the work.

CONFLICT OF INTEREST: None declared

FUNDING: None

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