

Prevalence and reasons behind use of injectable contraceptive among the women of reproductive age group: A cross-sectional survey in rural areas of Nadia District, West Bengal

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ABSTRACT

Context: Estimated 42 million reproductive age group women currently use injectable contraceptive, fourth most prevalent contraceptive worldwide. **Aims:** To find out the prevalence, reasons and the associated factors for using injectable contraceptive among the women of reproductive age group. **Settings and Design:** A sub-centre-based observational, cross sectional survey was conducted among 212 reproductive age group women living in the rural areas of a district, West Bengal. **Methods and Material:** A multi-stage cluster random sampling technique was done considering villages as the cluster to get the required sample. Totally, 212 reproductive age group women were chosen from a total of 16 villages, selected by simple random sampling. Information regarding study variables was collected by direct interview of the respondents by visiting individual houses with help of a pre-designed, semi-structured proforma. Strict confidentiality and anonymity were maintained throughout the study. **Statistical Analysis Used:** Data were analysed with SPSS 22.0 (licensed). Mean, median, proportion were used for quantitative variables whereas qualitative attributes were presented by proportion. Associations between dependent and independent variables were tested by Chi-square test. **Results:** The proportion of teenage marriage was unexpectedly high. More than half mothers were unwilling to have babies in future. One-third of study population used injectable contraceptive, ASHA was the main suggestion provider in choosing the method. The major reasons of use were discomfort in previous method and suggestion of service provider. Irregular menstrual problem and easy maintenance was the commonest cause of dissatisfaction and satisfaction, respectively. **Conclusions:** Use of injectable contraceptive must be sincerely promoted through social marketing and the front line health workers should motivate the women to use it by providing correct information.

Keywords: Cross sectional survey, frontline health workers, injectable contraceptive, reproductive women, satisfaction

Introduction

Family planning is important in population stabilisation as well as has got pivotal role in maternal and child health development.^[1] National Family Health Survey - 3 (NFHS – 3) showed that, there is 13% unmet need for contraception and half of this need is for spacing method.^[2] Worldwide injectable contraceptive came as a new set of contraceptive. There is no such birth control

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method which is 100% effective and safe. The side effects of most methods are not a threat to life, rather inconvenience. Injectable contraceptives are used to prevent conception along with convenience, privacy, safe and efficient protection to women. Depo medroxy progesterone acetate (DMPA) is currently used by reproductive women of 130 countries.^[3] Many women consider injectable contraceptive-induced amenorrhea as beneficial and convenient one. In the formation of strategies for family planning, the perspectives of women may play a very important role in increasing client satisfaction, continuation, and also expanding method usage. Two large, open-label, phase 3 studies assessed the one year efficacy, safety, and patient satisfaction of injectable contraceptive efficacy, safety, and patient satisfaction. In both studies, no pregnancy reported and both formulations were well tolerated. The effectiveness of injectable contraceptives was found more than 99% with consistent and correct use.^[4] The adverse effects are the commonest cause for discontinuation and another valid reason being the repeated injection once in three months, for which they must return to the centre. The initiative for introducing this contraceptive in national program began in 1980.^[5] Globally, DMPA is considered as fourth most prevalent contraceptive. It is extensively used as a safe, effective, and acceptable measure worldwide. Approximated 42 million women of reproductive age group used this method as per choice currently across the world. In India, DMPA was approved by the Drug Controller General of India (DCGI) in 1993 for marketing purpose and in 1999, DMPA social marketing approach began.^[6] The effectiveness of this contraceptive depends on first injection time, regularity, technique, and post care.^[7] A prospective cohort study among immediate post-partum women in Indian setting

showed unaffected lactation and non-botheration of recipients by weight gain, too.^[8] A Nigeria study showed cost, informed choice and education level were the determinants of current contraceptive use.^[9] There is paucity of research in investigating factors responsible either for acceptance or rejection in West Bengal. Therefore, this study was conducted to determine the prevalence, find out the reasons and the associated factors behind use of injectable contraceptive.

Subjects and Methods

An observational, descriptive epidemiological study using cross sectional survey was planned in the rural areas of Nadia District, West Bengal from January to June, 2020. Women of reproductive age group residing in the rural areas considered as the target population. The pilot study was carried out in one block of the district under study after obtaining institutional ethical clearance. IEC approval was obtained on 26-12-2019. For calculating the sample size, the prevalence of using injectable contraceptive by reproductive women (p) was assumed as 50%. The sample size calculated was 96 after considering $Z\alpha = 1.96$ at 95% confidence level. The sample size became 192 after adding design effect of 2. The final sample size for the research became 212 after adding the non-response rate of 10%. Reproductive age group individuals, willing to participate and with at least one living children were included in the study. In the present study, a multi-stage cluster random sampling technique was done. [Figure 1] Villages were considered as the cluster. In the first step, two sub-divisions of the district were identified. Two blocks were randomly selected from each

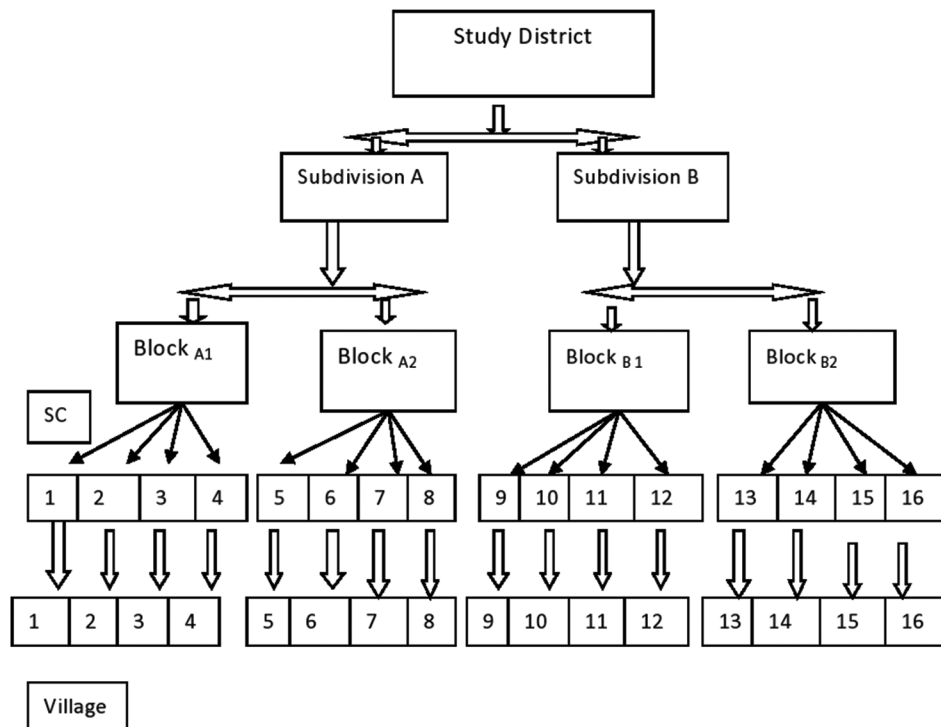


Figure 1: Sampling Technique (Multistage cluster sampling technique). [SC = Sub-centre]

sub-division, and a total of four blocks were selected. From each block, four sub-centres (SC) were selected (stratified based on distance from head-quarter) which brought a total of sixteen SC that got selected. One village was randomly selected from each SC. As the sample size was 212, so for equal representation, thirteen (13) respondents were selected from each of 16 villages. If the selected village had inadequate number of women within reproductive age group, complied with inclusion criteria, the adjacent village was chosen. A pre-designed, pre-tested and semi-structured questionnaire was prepared in local vernacular for interview. The tool was first prepared in English and then it was translated into Bengali by a linguistic expert keeping semantic equivalence. Face validity of each item has been checked from previous researches in the presence of public health experts. As per their opinions, required modifications were made in the questionnaire. Information regarding variables was collected by direct interview of the respondents by visiting individual houses of the respondents along with frontline health workers. Through review of family planning related register was done to reduce recall bias. Help from ASHA and ANM were solicited to reduce the bias. Strict confidentiality and anonymity were maintained throughout the study. Age, religion, caste, education, occupation, income, number of living children, decision maker on contraceptive use etc., were the independent variables while knowledge, practice and use of injectable contraceptives of respondents used as dependent attribute. Socio-economic status had been assessed through B. G. Prasad scale modified for the year 2018. Practice refers to use of the contraceptive methods by the women of reproductive age group. Perception refers to understanding or opinion about contraceptive methods. Knowledge refers to the correct verbal response of women of reproductive age group to the structured interview schedule. Frontline health workers refers to the Auxiliary Nurse Midwives (ANM) and Accredited Social Health Activist (ASHA) workers of the selected sub centres having working experience of at least 2 years.^[10] After collection, data were entered in MS-EXCEL after coding. Mean, median, proportion were used for quantitative variables whereas qualitative attributes were presented by proportion. Chi square test was used to check associations between dependent and independent variables. All analyses were two-tailed with *P* less than 0.05 considered statistically significant.

Results

The present cross sectional survey was done in 212 reproductive women residing in rural areas of the study district of West Bengal. The respondents aged between 16 to 42 years. The mean (\pm SE) age of the respondents was 25.70 (\pm 0.36) years. The proportion of teenage marriage was unexpectedly high (84.91%). The median family income was Rs. 8000/- per month.

Socio demographic and fertility profile: Majority (95.75%) of women were aged between 15 and 35 years. Hindu and Muslims represented more or less equal (51.89% vs. 48.11%). More than half (55.18%) lived in nuclear family. Illiteracy was

noted in 13 mothers, one-third completed middle education, one in every four had primary education and 35.84% had secondary or more education. Most of the respondents (91.98%) were home-makers. Regarding the educational background of husbands, 10.39% were either illiterate or they can just sign their name. More than one third (38.20%) completed primary education, 27.36% had middle level education. Nearly half (44.82%) of respondent's partners were businessman, 26.42% were engaged in agriculture. According to Prasad's SES, majority belonged to the lower middle class (68.39%). It was seen that 115 mothers two or more living children. The respondents had variance in context with age interval. More than half were

Table 1: Background profile of respondents (n=212)

Attributes	Frequency	Percentage
Age group (years)		
16-25	109	51.41
26-35	94	44.34
>35	9	4.25
Age at marriage (years)		
13-19	180	84.91
\geq 20	32	15.09
Education level		
Illiterate	13	6.14
Primary completed	53	25
Middle completed	70	33.02
Secondary completed	44	20.75
Higher secondary and above	32	15.09
Employment status		
Service	3	1.41
Agriculture	1	0.47
Business	13	6.13
Home-maker	195	91.98
Social class (modified Prasad's SES)		
Upper and upper middle	3	1.12
Middle	57	26.89
Lower middle	145	68.39
Lower	7	3.30

Table 2: Fertility statistics of study population (n=212)

Attributes	Frequency	Percentage
No. of living children		
1	97	45.75
2 or more	115	54.25
Age interval between last two children (years)		
1-3	48	41.03
4-6	44	37.60
7-9	25	21.37
Desire for babies		
Yes	94	44.33
No/No response	118	55.65
Feeling pressure from family members		
Yes	17	8.02
No/No response	195	91.98
Place of last delivery		
Institutional delivery	203	95.75
Home delivery	9	4.25

unwilling to have babies in future. Institutional delivery was most common (95.75%). [Tables 1 and 2]

The proportion of use of condoms (32.07%) and injectable contraceptives (30.18%) was nearly same among the reproductive mothers. In the current study, 42.92% heard about injectable contraceptive as “Antara” and ASHA was the major (89.01%) source of information. Doctors and ANMs shared information equally. ASHA was the main suggestion provider (57.82%) in choosing injectable contraceptive followed by Government and private doctor. Regarding ideal time for having pregnancy after discontinuing injectable contraceptive, most of the respondents (64.06%) were not aware. More than half (53.13%) had correct knowledge of no bleeding after use. Majority (68.75%) of mothers had right knowledge of no risk, whereas 7.82% had wrong idea on knowledge on risk of using injectable contraceptive in cardio-vascular diseases. [Table 3] The study revealed that, more than half (51.56%) women were using this method more than one year. Among injectable contraceptive users, 41 respondents were using other contraceptives in past. The reasons of shifting were discomfort in previous method (51.22%) and suggestion of service provider (48.78%). Majority of users (90.62%) were maintaining the intervals of 3 months between last two doses.

Twenty nine users (45.32%) were satisfied with use of injectable contraceptive. On analysing the reasons of dissatisfaction in using injectable contraceptives, irregular menstrual problem was the commonest reason (45.72%) followed by pain in lower abdomen (28.58%), weight gain (11.43%), fear due to unknown side effects (8.57%). On finding out the reasons of satisfaction, easy maintenance was the main reason (86.21%) followed by less number of side effects (13.79%). Nearly half (45.31%) of mothers were interested to continue “Antara”. Irregular menstrual cycle (65.72%) was the most common reason behind non-use followed by dizziness (20%), non-availability of husband (11.43%) and unwanted pregnancy (2.85%). [Table 4].

A good number of respondents told that they would suggest their peers in using this modern method. Majority (92.18%) was counselled on use of injectable contraceptives and ANM took major part (85.94%). Most of the users (78.13%) were counselled either twice or more, mostly during routine check-up. Four out of five users were satisfied with the counsellor. The decision to choose injectable contraceptive was taken jointly in most of the cases (96.88%).

In the current study, no significant association between the variables and use of injectable contraceptive was observed. [Table 5]

Discussion

The current research tried to focus on finding out the prevalence and reasons behind use of injectable contraceptive among the women of reproductive age group residing in the rural areas of Nadia district. The present study had 212 women aged between

Table 3: Prevalence of use and knowledge of injectable contraceptive

Attributes	Frequency	Percentage
Use of different contraceptives (n=212)		
OCPs	68	32.07
IUCDs	43	20.28
Injectable contraceptives	64	30.18
Condoms	37	17.45
Ideal interval between two doses (n=64)		
Gap of 3 months	58	90.63
More than 3 months	1	1.56
Can't say	5	7.81
Ideal time for pregnancy after discontinuing injectable contraceptives (n=64)		
After 7 months	23	35.94
No response	41	64.06
Probability of Injectable contraceptive cause bleeding problem (n=64)		
Yes	28	43.75
No	34	53.13
No response	2	3.12
Contraindication of using of injectable contraceptive in breast feeding (n=64)		
Yes	2	3.12
No	49	76.56
No response	13	20.32

Table 4: Satisfaction and Reasons behind choosing injectable contraceptives

Variables	Frequency	Percentage
Satisfaction level (n=64)		
Satisfied	29	45.32
Not satisfied	35	54.68
Reasons for dissatisfaction (n=35)		
Fear due to unknown side effects	3	8.57
Possible adverse effects on health	1	2.85
Irregular menstrual problem	16	45.72
Weight gain	4	11.43
Dizziness	1	2.85
Pain in lower abdomen	10	28.58
Fear due to unknown side effects	3	8.57
Reasons for discontinuation (n=35)		
Irregular menstrual cycle	23	65.72
Dizziness	7	20
Unwanted pregnancy	1	2.85
Husband out of station	4	11.43

16 and 42 years with average age of 25.70 years, supported by earlier studies. The illiteracy rate among immediate post-partum women in the Jharkhand study was too high than (54% vs. 6.14%) present research reflecting better encroachment of education in rural areas of Bengal, but most of the respondents were homemaker like our one.^[11,12] The high-prevalence of teenage marriage in our survey might be due to socio cultural settings of the study area. One in every five women completed secondary level of education in our research. A Karnataka study carried out with 80 eligible women aged between 18 and

Table 5: Factors associated with use of injectable contraceptive (n=212)

Variables	Use of injectable contraceptive		Test of significance
	Yes (%)	No (%)	
Age group			
>25	28 (26.92)	76 (73.07)	$\chi^2=0.751$, df=1, P=0.310
>=25	36 (33.33)	72 (66.66)	
Socio-Economic Status			
Middle and above	20 (33.33)	40 (66.67)	$\chi^2=0.212$, df=1, P=0.530
Upper lower and lower	44 (28.95)	108 (71.05)	
Type of Family			
Nuclear	31 (26.49)	86 (73.50)	$\chi^2=0.947$, df=1, P=0.193
Joint	33 (34.73)	62 (65.68)	
Monthly Family Income			
>8000 (Median)	23 (28.04)	59 (66.26)	$\chi^2=0.148$, df=1, P=0.589
<=8000	41 (31.53)	89 (68.46)	
Education level of respondents			
Up to middle level	40 (29.41)	96 (70.58)	$\chi^2=0.030$, df=1, P=0.741
Secondary and above	24 (31.57)	52 (68.42)	
Place of Delivery			
Institutional delivery	60 (29.55)	143 (70.44)	$\chi^2=0.337$, df=1, P=0.344
Home delivery	4 (44.44)	5 (55.55)	

36 years where majority completed secondary level of education. The reason could be difference in the study setting.^[8] The average age of contraceptive acceptors was found to be much higher (33.4 years) in the Nigeria study as the study respondents were using all types of contraceptives.^[9] A prospective cohort study from Uganda showed that, more than half (53%) of injectable contraceptive recipients belonged to upper middle class in comparison with one third in the current study. This study also reported higher rate (77.8%) of twelve month continuation of injectable contraceptive than the present study, the reason being presence of irregular menstruation, lower abdominal pain etc.^[13] Our results were similar with a study from Sub-Saharan Africa in context with stoppage of use by the adaptors within first year.^[14] In the present study, nearly two-third of the users (60.52%) reported irregular menstrual problem as the cause of discontinuation that was similar with the finding reported in another study from India. This research reported irregular menstrual problem (70%), amenorrhoea (65%) as strong reasons.^[8] The present study revealed that, 11.42% of users were not satisfied due to weight gain, nearly similar as claimed by study from Gujarat, India. The Gujarat study reported amenorrhea, excessive bleeding, irregular periods and weight gain as reasons for discontinuation. This study also observed that, 16% of doctors never prescribed whereas 41% were currently prescribing IC. It was also noted that, one fifth doctors found positive qualities. Inadequate counselling found to be reason of knowledge deficit regarding injectable contraceptive adverse effects that was the ultimate cause of substantial dissatisfaction in the study from Gujarat. In our study also, only 15.63% users had good knowledge and nearly one-third users had poor knowledge scores. The proportion of counselling was also too less in current study during antenatal check up at sub- centre level.^[11] Another study in Indian setting claimed

that, in post-partum women, lactation remained unaffected after using injectable contraceptives that was quite similar with our study, where, 76.56% of users did not feel any problem in lactation.^[8] Dr. Sikha Rani in her study concluded that, use of injectable DMPA in the immediate postpartum period was an effective and safe contraceptive measure. In our study, 45.31% users agreed with this concept.^[12] In the present study, among the users, 45.31% wanted to continue injectable contraceptive, whereas 60.52% users reported irregular menstrual problem, 18.42% felt dizziness. The study also stated that, despite 92.18% of the IC users were counseled, still more than half of the users (68.75%) had poor knowledge. A community based study among 457 reproductive women residing in the urban area of Mysuru showed that, the prevalence was 55.1%. Tubectomy was the commonest permanent method while male condom the most prevalent temporary contraception method. The prevalence of use of “Antara” was quite low in comparison with recent study (4.7% vs. 30.2%).^[15] A cross sectional survey among 634 reproductive women of Gambia found high prevalence of injectable contraceptive usage (58.5%). Fear of adverse effects, male child preference was the main reasons behind non usage of any contraceptive by respondents. The other reasons were refusal by spouse, religious taboos, unawareness etc.^[16] A study on utilization and associated factors for modern contraceptive methods done in a city of North-west Ethiopia revealed that, 41.2% practiced modern contraceptive methods, more than our study. Half of study population had well knowledge, 45.3% showed a positive attitude towards injectable contraceptives. The associated significant risk factors were for age group 20 to 29 years, early education and degree holders, women having up to six desired children, without history of previous child death, good knowledge and favourable attitude.^[17]

The present study has focused on prevalence and reasons for using injectable contraceptives among reproductive women and this area was not highlighted much in earlier literature. Therefore, it will help the primary care physicians to use this information as a baseline for further research.

As the study was conducted in rural areas of a district of Bengal, therefore the generalisation of findings to the diversified population of India and their different living conditions could bring some bias. Quantification of some more risk factors could not be included in our study due to time and manpower constraints.

The prevalence of use of injectable contraceptive was not up to satisfactory level in the present study. This modern method must be sincerely promoted through social marketing and the front line health workers can play a pivotal role. The knowledge and practice lacked. Therefore, the frontline health workers should visit the houses to promote and motivate the women of reproductive age group to use this method by providing correct information of its safety and effectiveness. They along with other service providers should give more emphasis on counselling the beneficiaries. As majority of the users did not want to continue

this method in future; therefore, regular training of the front line workers, introducing performance-based incentive and supportive supervision are of utmost need. The gap in both knowledge and practice has made the researchers recommended for implementation of special awareness generation with help of community level health workers to bridge it.

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Conflicts of interest

There are no conflicts of interest.

References

- IUCD Reference Manual for Medical Officers and Nursing Personnel. Family planning division, Ministry of Health and Family Welfare, Government of India. 2013 Sep [cited 2020 Dec 13] Available from: https://nhm.gujarat.gov.in/images/pdf/IUCD_Reference_Manual_Nursing_Personnel.pdf.
- Castle S, Askew A. Contraceptive Discontinuation: Reasons, Challenges, and Solutions. New York: The Population Council; 2015.
- World Health Organization. Family Planning: A Global Handbook for Providers. 2018 May [cited 2020 Dec 13] Available from: <https://www.who.int/publications/i/item/family-planning---a-global-handbook-for-providers>.
- Jain J, Jakimiuk AJ, Bode FR, Ross D, Kaunitz AM. Contraceptive efficacy and safety of DMPA-SC. *Contraception* 2004;70:269-75.
- Srivastava RK, Tanwar H, Singh P, Patro BC. Injectable Contraceptives to expand the Basket of Choice under India's Family Planning Programme: An Update. 2012 Sep [cited 2020 Dec 13] Available from: http://www.nihfw.org/Doc/Policy_unit/Injectable%20Contraceptives%20Programme%20An%20Update.%20September%202012.pdf.
- Reference manual for injectable contraceptive (DMPA). Family planning division, Ministry of Health and Family Welfare, Government of India. 2013 Mar [cited 2020 Dec 13] Available from: https://nhm.gov.in/images/pdf/programmes/family-planing/guidelines/Reference_Manual_Injectable_Contraceptives.pdf.
- Khadilkar SS. Short-term use of injectable contraception: An effective strategy for safe motherhood. *J Obstet Gynaecol India* 2018;68:82-7.
- Rai L, Prabakar P, Nair S. Injectable depot medroxyprogesterone - A safe and an effective contraception for an indian setting. *Health and Population: Perspectives and Issues* 2007; 30:12-23.
- Ogboghodo EO, Adam VY, Wabgatsoma VA. Prevalence and determinants of contraceptive use among women of child-bearing age in a rural community in Southern University of Benin, Benin City, Nigeria. *Journal of Community Medicine and Primary Health Care* 2017;29:97-107.
- Pandey VK, Aggarwal P, Kakkar R. Modified BG Prasad's socio-economic classification-2018. The need of an update in the present scenario. *Indian Comm Health* 2018;30:82-4.
- Kotecha PV, Patel SV, Baxi RK, Kapadia S, Mehta K. Women's and providers' experiences with injectable contraceptives (Depo-provera): A view from Vadodara, India. *Indian Journal of Clinical Practice* 2020;31:152-6.
- Rani S. A study on injectable DMPA (Depomedroxy progesterone acetate) isomg use as short-term contraception in immediate postpartum women. *International Journal of Medical and Health Research* 2017;3:17-22.
- MacLachlan E, Atuyambe L, Millogo T, Guiella G, Yaro S, Kasasa S, *et al.* Continuation of subcutaneous or intramuscular injectable contraception when administered by facility-based and community health workers: Findings from a prospective cohort study in Burkina Faso and Uganda. *Contraception* 2018;98:423-9.
- Ross J, Alfred A. Increased use of injectable contraception in Sub-Saharan Africa. *Afr J Reprod Health* 2012;16:68-80.
- Doweraha J, Narayana Murthy MR, Kulkarnic P. Prevalence and pattern of contraceptive use and unmet need among women of reproductive age in urban Mysuru. *Clin Epidemiol Glob Health* 2020;5:1221-4.
- Barrow A. A survey on prevalence and knowledge of family planning among women of childbearing age in the provincial settings of the Gambia: A descriptive cross-sectional study. *Advances in Preventive Medicine*. [Last Cited 2021 Apr 03] Available from: <https://www.hindawi.com/journals/apm/2020/8862290/>.
- Oumer M, Manaye A, Mengistu Z. Modern contraceptive method utilization and associated factors among women of reproductive age in Gondar City, Northwest Ethiopia. *Open Access J Contracept* 2020;11:53-67.