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ARTICLE

Utilization of family planning methods among rural Ethiopian women
Agidew Abebe

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Full Length Research Paper

Utilization of family planning methods among rural Ethiopian women

Agidew Abebe

Department of Rural Development and Agricultural Extension, College of Agricultural Science, Ariba Minch University, Ariba Minch Ethiopia.

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This study was conducted at the Mirab Abaya District of Southern Ethiopia. The aim of this study was to identify factors that determine the decision to utilize family planning methods among rural women. The sample size for this study was 115 (53 family planning user and 62 non-user respondents). The quantitative data were analyzed through frequency, percentage and binary logistic regression. The binary logistic regression result shows that contact with health extension agents had significant positive effect on the decision to use family planning methods at 1% significance level, while the education level of the women and annual gross income had a significantly positive effect, and house type had significant negative effect on the decision to use family planning methods at 5% significance level. However, attitudes on family planning methods and access to Non-Governmental Organizations' support had significant positive effect on the decision to use family planning methods at 10% significance level. Therefore, policy makers and family planning service providers should give attention to determinants that significantly influence the utilization decision of family planning methods through emphasizing women's education, income improvement activities and provision of incentives to motivate them.

Key words: Family planning, utilization, descriptive statistics, frequency, binary logit.

INTRODUCTION

High fertility is a major contributor to poverty; also unregulated fertility is associated with high maternal, neonatal and child mortality due to teenage pregnancy; short birth interval; underweight babies etc (CSA, 2006).

According to Eltomy et al. (2013), a woman's ability to space or limit her pregnancies has a direct impact on her health and well-being as well as on the outcome of each pregnancy. The benefits of family planning extend beyond slowing the pace of population growth and family planning is also cost-effective by reducing a woman's

exposure to unintended pregnancies; family planning saves lives and costs less than maternity-care services (Setty-Venugopal and Upadhyay, 2002).

The provision of the family planning service is one of the important strategies for reducing maternal morbidity and mortality worldwide and as well as to control rapid population growth (WHO, 1999).

To achieve these objectives Ethiopian government has taken actions and developed Family Planning Extension Package (MoH, 2003a).

E-mail: agidew.abebe@gmail.com. Tel: +251913963893.

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According to CSA (2006), there is substantial difference in fertility by regions ranging from a low of 1.4 children per woman in Addis Ababa to a high as 6.2 children per woman in Oromiya; and when compared with total fertility rate of 5.2 children of the country it is high and totally very high in rural parts of the region. However, the fertility rate per women was 6.4 in rural as compared to 3.3 of towns.

The primary Population plan of Ethiopia adopted in 1993 targeted 4 children per woman and increasing the contraceptive prevalence rate to 65% by the year 2015. Later on, the National Office of Population was established to implement and oversee the strategies and actions related to family planning, since the adoption of the National Population Policy, a favorable environment has been created for expanding family planning programs in the country (MoH, 2011).

Therefore, this study was conducted at Mirab Abaya District of Southern Ethiopia. In the District there was no study conducted on the related issues of utilization of family planning methods. Therefore, to fill this gap this study was aimed to assess the utilization of family planning methods and to identify the factors that determine the decision to use family planning methods among rural women.

MATERIALS AND METHODS

In this study a multi-stage random sampling technique was used. In the first stage Mirab Abaya District was purposively selected from Southern Ethiopia. In the second stage based on the distance from town the 23 Kebeles were clustered into two. Those Kebeles located at less than 9 km radius from town were clustered as close Kebeles. On the other hand, those Kebeles located at more than 9 km radius from nearby town were clustered as far Kebeles. In the third stage through random sampling technique two sample Kebeles from close and two sample Kebeles from far were selected. Further, the population frames of four Kebeles were stratified into two strata (user and non-user of family planning methods). Finally, 53 user and 62 non-user respondents were selected from lists through probability proportional to size procedure (Table 1).

The structured questioner was used for the data collection. The questioner was pre-tested and modified based on the context of the area. Eight enumerators who can speak local language were employed. Before survey work for the enumerators training was given on the contents of the questionnaire and how to approach the respondents. Finally, the survey work was administered under the close supervision of the researcher. Besides, secondary data were also collected from relevant organizations. The data were analyzed through frequency, percentage and binary logistic regression model with the help of SPSS.16 software. The binary logit model was used for the analysis of the determinant factors that affect the decision to use the family planning methods.

In this study the dependent variable was the decision to use the family planning methods. It is a dummy variable and which represents the decision to use the family planning methods. In relation to this, woman who does currently using or used modern birth control methods in her life to delay or to limit the birth was considered as the family planning user (1). Woman who did not use modern birth control methods for any of the purposes of family planning in her life was considered as non-users (0).

The description of the independent variables and hypothesized relationship with the dependent variable was summarized in Table 2.

RESULTS

The result of the analysis that has been conducted to address specific objectives of the study is presented here and it included the following core points. These are: The status of utilization of family planning information and methods; and interpretation of binary logistic regression results.

The status of women's access to family planning information

Source of information for respondents about family planning

Table 3 show that from the total respondents, 80.9% obtained information about the family planning services from the health extension agents. This result also revealed that the majority of family planning user respondents and non-user respondents had obtained information about the family planning services from the health extension agents. Consequently, this implies that in the study area the major source of information for the women about the family planning services were the health extension agents.

Frequency of getting information from available sources

A result in Table 4 shows that from the total respondents (69.7%) obtained information about the family planning services from the available sources one time per year. This result also revealed that more than half of the total respondents had obtained information about the family planning services from the available sources one time per year.

Means of information exchange about the family planning issues

Table 5 shows that from the total respondents, about 66.1% got information on the family planning issues when they went for the medical services. This result also revealed that more than half of the total respondents' means of the information exchange on the family planning issues when they went for the medical services. Additionally, this result implies that in the study area better means of information have been exchanged on the family planning issues among the rural women when they went for the medical services.

Table 1. The number of sample size by sample Keels.

| No. | Sample Kebeles | Total | Family planning users | Sampled | Family planning non-users | Sampled | Total Sampled |
|--------------|----------------|-------|-----------------------|---------|---------------------------|---------|---------------|
| 1 | <i>Fura</i> | 340 | 150 | 10 | 190 | 12 | 22 |
| 2 | <i>Yayke</i> | 450 | 210 | 13 | 240 | 16 | 23 |
| 3 | <i>Dalbo</i> | 670 | 290 | 19 | 380 | 24 | 34 |
| 4 | <i>Doshe</i> | 330 | 170 | 11 | 160 | 10 | 17 |
| Total | | 1790 | 820 | 53 | 970 | 62 | 115 |

Source: Kebele health posts.

Table 2. The summary of the independent variables, the description their measurements and the expected relationship with the dependent variable.

| No. | Independent variable | Variable type | Units of measurement | Expected relationship |
|-----|--|---------------|----------------------|-----------------------|
| 1 | Age of respondents | Continuous | Year | - |
| 2. | Number of children | Continuous | Number | + |
| 3. | Education level of woman | Continuous | Grade level | + |
| 4. | Access to the Non-Governmental Organizations' support. | Dummy | 0 and 1 | + |
| 5. | Decision making power. | Dummy | 0 and 1 | + |
| 6. | Type of house | Dummy | 0 and 1 | - |
| 7. | A woman's Attitude | Dummy | 0 and 1 | + |
| 8. | Contact with the Health Extension Agents. | Continuous | Frequency | + |
| 9 | Training | Dummy | 0 and 1 | + |
| 10 | Annual gross income | Continuous | Birr(ETB) | + |
| 11 | Land holding size | Continuous | Hectare | - |

Table 3. Sources of information for the respondents.

| Source | User | | Non-user | | Total | |
|--|------|------|----------|------|-------|------|
| | N | % | N | % | N | % |
| Health extension agents | 42 | 79.2 | 51 | 82.3 | 93 | 80.9 |
| Non-governmental organizations workers | 4 | 7.5 | 2 | 3.2 | 6 | 5.2 |
| Other health experts | 7 | 13.2 | 9 | 14.5 | 16 | 13.9 |

Source: Own field survey, 2016.

Table 4. Frequency of getting information from the available sources.

| Frequency | User | | Non-user | | Total | |
|-------------------------------|------|------|----------|------|-------|------|
| | N | % | N | % | N | % |
| Once per year | 33 | 62.3 | 47 | 75.8 | 80 | 69.5 |
| Four times per year | 19 | 35.8 | 14 | 22.6 | 33 | 28.7 |
| More than four times per year | 1 | 1.9 | 1 | 1.6 | 2 | 1.7 |

Source: Own field survey, 2016.

Have information about the availability of different birth control methods in the area

Table 6 shows that from the total respondents, 96.5% have information about the availability of combined oral

contraceptive method in the study area. This result also revealed that both of the family planning user and non-user respondents have better information about the availability of combined oral contraceptive method, male condom, injection contraceptive method and implantable

Table 5. Means of information exchange on the family planning issues.

| Means of information exchange | User | | Non-user | | Total | |
|-------------------------------|------|------|----------|------|-------|------|
| | N | % | N | % | N | % |
| By meeting | 10 | 18.9 | 10 | 16.1 | 20 | 17.4 |
| When went for medical service | 30 | 56.6 | 46 | 74.2 | 76 | 66.1 |
| By interpersonal discussion | 13 | 24.5 | 6 | 9.7 | 19 | 16.6 |

Source: Own field survey, 2016.

Table 6. Information about the availability of different contraceptive method.

| Contraceptive method | | User | | Non-user | | Total | |
|-----------------------------------|-----|------|------|----------|------|-------|------|
| | | N | % | N | % | N | % |
| Combined oral contraceptive | Yes | 49 | 92.5 | 62 | 100 | 111 | 96.5 |
| | No | 4 | 7.5 | - | - | 4 | 3.5 |
| Emergency contraceptive | Yes | 15 | 28.3 | 17 | 27.4 | 32 | 27.8 |
| | No | 38 | 71.7 | 45 | 72.6 | 83 | 72.2 |
| Single drug oral contraceptive | Yes | 11 | 20.8 | 17 | 27.4 | 28 | 24.3 |
| | No | 42 | 79.2 | 45 | 72.6 | 87 | 75.7 |
| Male condom | Yes | 51 | 96.2 | 60 | 96.8 | 111 | 96.5 |
| | No | 2 | 3.8 | 2 | 3.2 | 4 | 3.5 |
| Female condom | Yes | - | - | - | - | - | - |
| | No | 53 | 100 | 62 | 100 | 115 | 100 |
| Injection contraceptive | Yes | 51 | 96.2 | 60 | 96.8 | 111 | 96.5 |
| | No | 2 | 3.8 | 2 | 3.2 | 4 | 3.5 |
| Loop | Yes | 1 | 1.9 | - | - | 1 | 0.9 |
| | No | 52 | 98.1 | 62 | 100 | 114 | 99.1 |
| Implantable | Yes | 52 | 98.1 | 60 | 96.8 | 112 | 97.4 |
| | No | 1 | 1.9 | 2 | 3.2 | 3 | 2.6 |
| Female voluntary surgical service | Yes | - | - | - | - | - | - |
| | No | 53 | 100 | 62 | 100 | 115 | 100 |
| Male voluntary surgical service | Yes | - | - | - | - | - | - |
| | No | 53 | 100 | 62 | 100 | 115 | 100 |

Source: Own field survey, 2016.

contraceptive method in the study area. However, the total respondents had no information about the availability of female condom, female voluntary surgical services and male voluntary surgical services in the study area. Additionally, information gathered from the key informants imply that in the study area combined oral contraceptive method, male condom, injection contraceptive method and implantable contraceptive method were better available in the health posts and health centers and they have better access to it interims of information for the rural women in the study area.

Status of the utilization of family planning methods

Source of the birth control service provision

Table 7 shows that from the total user respondents (88.7%) had used the birth control services form the health posts. This result also revealed that the majority of the family planning user respondents' sources of the birth control services were the health posts. Additionally, this

result implies that in the study area the major source of the birth control services provision for the rural women were health posts.

Decision makers to use the birth control methods

Figure 1 shows that more than half of the family planning user respondents' decision makers to use the birth control methods were both husbands and wives.

Types of the contraceptive methods used last two years

Table 8 shows that in the last two years from the total user respondents (79.2%) had used the implantable contraceptive method. This result also revealed that majority of the family planning user respondents had used the implantable contraceptive method in the last two years. Additionally, this result implies that in the study area the majority of the rural women have preferred to

Table 7. Sources of the birth control service provision.

| Sources | N | % |
|--------------------------------|----|------|
| Non-governmental organizations | 1 | 1.9 |
| Public health center | 4 | 7.5 |
| Health posts | 47 | 88.7 |
| Hospital | 1 | 1.9 |

Source: Own field survey, 2016.

Table 8. Types of the contraceptive methods used by the Respondents in the last two years.

| Types of contraceptive methods used | N | % |
|-------------------------------------|----|------|
| Implantable | 42 | 79.2 |
| Injection | 9 | 17 |
| Pills | 1 | 1.9 |
| Tubaligation | 1 | 1.9 |

Source: Own field survey, 2016.

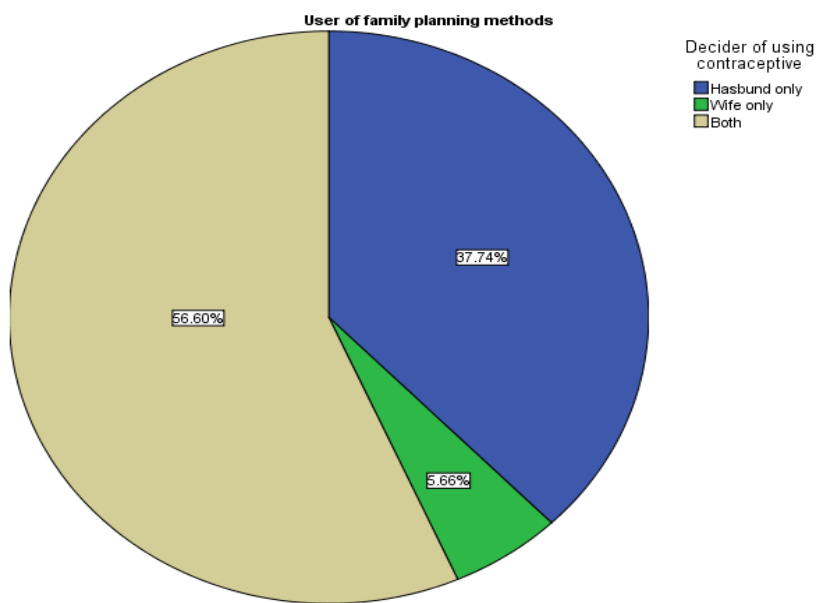


Figure 1. Decision makers to use the birth control methods.

use the implantable birth control methods.

purpose of spacing children.

Purposes of using the contraceptive methods

Figure 2 shows that from the total users of respondents, 98.11% had used the contraceptive methods for the purpose of spacing children. While, the remaining 1.89% of the respondents had used the contraceptive methods for the purpose of limiting children. These results also revealed that the majority of the family planning user respondents had used the contraceptive methods for the

Determinants that affect the decision to use the family planning methods

In the binary logistic regression result the maximum likelihood estimate reveals that the decision to use the family planning methods among the rural women is determined by the interaction of the different factors (demographic, socio-economic, institutional and psychological). To test the measure of the goodness of fit

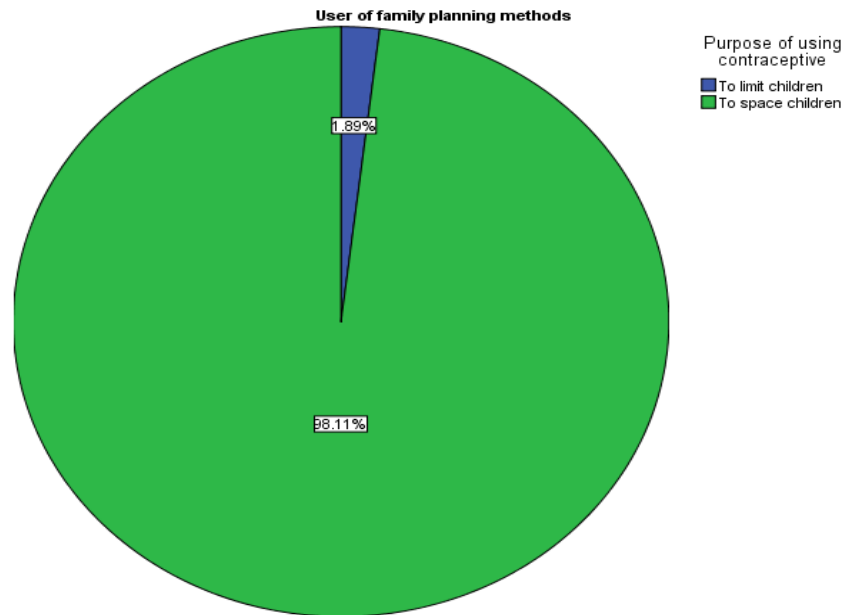


Figure 2. Purposes of using the contraceptive methods.

in logistic regression analysis, the likelihood ratio test that says chi-square distribution with degree of freedom equal to the number of independent variables included in the model (Gujarat, 2004). Consequently, the chi-square computed indicates as the model was significant at 1% significance level. The other measure of the goodness-of-fit in the logistic regression is observing the value in the prediction table. The fit is said to be good if the overall correct prediction rate exceeds 50%. Accordingly, the prediction table shows that correctly predicted users of the family planning methods were 81.1%. While, correctly predicted family planning non-users were 87.1%. However, the overall prediction was 84.3%.

The results in Table 8 show that six variables significantly influence the decision to use the family planning methods in the study area.

Education level of the women

Significant positive effect on the decision to use the family planning methods among the rural women at 5% significance level. This implies that all other things being kept constant, the odds ratio supports the decision to use the family planning methods increased by a factor of 1.295 when the education level of women increased by one level.

Access to the non-governmental organizations support (NGOs)

There is significant positive effect on the decision to use

the family planning methods at 10% significance level. The odds ratio in favor of reaching the decision to use the family planning methods increased by a factor of 0.325 for those rural women who have access to the NGOs support to obtain the health services; holding other factors constant.

Therefore, those women who have access to the NGOs support to obtain the health services found to be more decided to use the family planning methods as compared to those who have no access.

Woman's attitude on the family planning methods

There is significant positive effect on the decision to use the family planning methods at 10% significance level. The odds ratio in favor of reaching on the decision to use the family planning methods increased by a factor of 0.295 for those rural women who have favorable attitude towards family planning methods, keeping other things constant.

Annual gross income of respondents' household

There is significant significant positive effect on the decision to use the family planning methods at 5% significance level. The odds ratio in favor of the decision to use the family planning methods increased by a factor of 1 for household who have better annual gross income. Therefore, household who have the higher annual gross income has more decided to use the family planning methods.

Table 9. The binary logistic regression.

| | B | S.E. | Wald | df | Sig. | Exp(B) | 95.0% for Lower | EXP(B) Upper |
|---|-----------|-------|--------|----|-------|--------|--------------------|-----------------|
| Age of woman | 0.018 | 0.039 | .221 | 1 | 0.638 | 1.018 | 0.944 | 1.099 |
| Education level of woman | 0.258** | 0.106 | 5.941 | 1 | 0.015 | 1.295 | 1.052 | 1.593 |
| Number of children | 0.173 | 0.151 | 1.320 | 1 | 0.251 | 1.189 | 0.885 | 1.598 |
| Type of house (1) | -1.279** | 0.629 | 4.131 | 1 | 0.042 | 0.278 | 0.081 | 0.955 |
| Land holding size | -0.144 | 0.861 | 0.028 | 1 | 0.867 | 0.866 | 0.160 | 4.682 |
| Step 1 ^a Annual gross Income | 0.0001** | 0.000 | 5.801 | 1 | 0.016 | 1.000 | 1.000 | 1.001 |
| Decision making power (1) | -0.702 | 0.631 | 1.238 | 1 | 0.266 | 0.496 | 0.144 | 1.706 |
| Contact with extension agent | 2.138*** | 0.633 | 11.392 | 1 | 0.001 | 8.483 | 2.451 | 29.359 |
| Training (1) | 1.252 | 1.111 | 1.271 | 1 | 0.260 | 3.499 | 0.396 | 30.887 |
| NGOs support (1) | 1.124* | 0.608 | 3.417 | 1 | 0.065 | 0.325 | 0.099 | 1.070 |
| Woman's attitude (1) | 1.220* | 0.685 | 3.171 | 1 | 0.075 | 0.295 | 0.077 | 1.131 |
| Constant | -7.075 | 2.431 | 8.472 | 1 | 0.004 | 0.001 | | |
| Correctly predicted user | 81.1 | | | | | | | |
| Correctly predicted non-user | 87.1 | | | | | | | |
| Overall percentage | 84.3 | | | | | | | |
| Chi-square value | 76.677*** | | | | | | | |
| -2log likelihood | 82.042 | | | | | | | |

*, **and *** represent significant at 10, 5 and 1% level respectively. Source: Computed from field survey data, 2016.

Type of house

There is significant negative effect on the decision to use family planning methods at 5% significance level. The odds ratio disfavors the decision to use the family planning methods decreased by a factor of 0.278 for household who have corrugated iron roofed house.

Contact with the health extension agents

There is significant positive effect on the decision to use family planning methods at 1% significant level. The odds ratio in favor of the decision to use the family planning methods increased by a factor of 8.483 for household who have better contact with health extension agent.

DISCUSSION

Table 9 revealed that education level of women had significant positive effect on the decision to use family planning methods. Therefore, more educated women have decided more to use the family planning methods when compared with less educated women in the study area. This finding was similar with the hypothesis and in agreement with this finding, Ibnouf et al. (2007) reported that education level had significant influence on the odds of the respondents using modern contraception methods. Compared with those with no schooling, the learned were significantly more likely to report using contraception

($P = 0.003$).

Access to NGOs support had significant positive effect on the decision to use the family planning methods. Therefore, those women who access NGOs support to obtain health service have decided more to use the family planning methods when compared with those who have no access to NGOs support. The result obtained from key informant interview revealed that in the study area access to NGOs support to obtain health services improves the women's access to information about family planning; the communication and contact with health extension agents as well as improve awareness about different contraceptive methods. This consequently increases their interest to use of the family planning methods. This finding agreed with the hypothesis. The result of the study confirmed the prior expectation of women's attitude towards family planning methods had significant positive effect on the decision to use the family planning method among the rural women at 10% significance level. Therefore, those women who have favorable/positive attitude are found to be more decided to use family planning method as compared to those women who have unfavorable/negative attitude towards family planning methods. This finding agreed with the hypothesis and in agreement with this finding of Belaineh et al. (2004), a study conducted in Addis Ababa University Female Students indicated that positive attitude towards emergency contraceptive had positive relation with utilization of it.

The type of house had significant positive effect on the decision to use the family planning method among the

rural women. Therefore, household who has better house type has less decision to use the family planning methods. Their house type shows their economic potential and their livelihood level. Accordingly, better-off household need extra children. This finding agreed with the hypothesis. Contact with health extension agent had significant positive effect on the decision to use the family planning methods. Therefore, household who have better contact decided more to use the family planning methods, because the contact of the women improve their access to information and creates awareness about different birth control methods.

Conclusion

In the study area the major source of information for women about the family planning services were health extension agents. However, the frequency of getting information about the family planning services from available sources was less. In the study area better means of information exchanged on the family planning issues among the rural women was when they went for medical services. The total respondents had no information about the availability of female condom, female voluntary surgical services and male voluntary surgical services. However, combined oral contraceptive method, male condom, injection contraceptive method and implantable contraceptive method were better available in the health posts and health centers and had better access to them interims of information by the rural women. The major sources for the birth control services provision for the rural women were the health posts. The majority of rural women preferred to use the implantable birth control methods. However, majority of the family planning user respondents used the contraceptive methods for the purpose of spacing children. From regression result, contact with the health extension agent had significant positive effect on the decision to use the family planning methods at 1% significance level. While education level of respondents and annual gross income had significant positive effect on the decision to use the family planning methods at 5% significance level whereas house type had significant negative effect on the decision to use the family planning methods at 5% significance level. However, attitude on the family planning methods and access to NGOs support had significant positive effect on the decision to use family planning methods at 10% significance level.

Therefore, the policy makers and the family planning service providers should give attention to determinants that significantly influenced the decision to use the family

planning methods through emphasizing women education and income improvement activities. It should be also better to create access to NGOs support for non-user women with special attention on the intervention of family planning service. It is also better to provide the awareness creation training about the utilization of family planning methods for the rural women. Because, when their attitude will be positive they highly decide to use the family planning methods. It is also better to increase women's contact through provision of incentives to motivate them. This will creates awareness about the utilization of family planning methods for the rural women.

Conflict of interest

The authors have not declared any conflict of interest

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