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Determinants of Contraceptive Use among Women of Reproductive Age Group in Surma Woreda, Southwestern Ethiopia: Cross Sectional Community Based Study

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Abstract
Back ground: Modern contraceptive plays a vital role in the reduction of maternal and child morbidities and mortalities; prevention of pregnancy is an effective form of primary prevention. The link between fertility and the consequences of population growth can be stabilized by giving more emphasis on contraceptive methods at community level. In remote southern communities of Ethiopia, the contraceptive utilization is still low when compared to other districts in the region.
Objective: The aim of this study was to assess determinants of contraceptive use among reproductive aged women in Surma *woreda*.
Methods: A cross-sectional community based study triangulated with qualitative study was conducted from April to May 2015. Multi-stage sampling technique was used to select a total of 584 women participants for the quantitative study, whereas purposive sampling was employed for the qualitative study. Key-informant interview guide and pre-tested questionnaire were used for data collection. Data were entered into Epi-Info version 3.5.3 and analyzed using SPSS version 20. Logistic regression analysis was carried out to see the effect of predictors on the dependent variable.
Results: The current modern contraceptive prevalence rate is found to be 3.3%. Among the variables partner approval was significantly associated with modern contraceptive use (AOR=6.006; 95%CI= (1.804, 19.994). The Suri have long-standing tradition of fertility regulation i.e. the rhythm method and a culture that support child spacing.
Conclusion: There is low prevalence of modern contraceptive use while traditional contraceptive methods are widely practiced. Partner approval as well as the culture and lifestyle of the community are believed to have influenced modern contraceptive use. Hence, continuous health education on modern contraceptives, male involvement and adequate number of community based agents should be trained to reach the community.
Keywords: Contraceptive, Prevalence, determinants, Surma, Ethiopia

Background information

Family planning is considered as the ideal primary public-health measure, and its use in reducing maternal and child mortality and morbidities should be emphasized(1). The world health organization estimate shows that 32% of maternal deaths and about 10% of child deaths could be averted with the promotion of contraceptive use in countries with high fertility rate. The elimination of unwanted births would reduce population growth by about 20%, easing poverty and hunger(2). Unmet need for contraception is high in sub-Sahara Africa. Majority of the sub-Sahara African countries have an unmet need exceeding 20% of which 19 of them have reported levels between 30% and 49%(3).n

Maternal mortality rate had decreased from 543,000 in 1990 to 210,000 in 2015, with an average annual decline of 3.1% and a 4.8% annual percentage decline in Ethiopia; however 1 in 67 mothers die giving birth(4). Ethiopia is one of the six countries that contribute about 50% of the maternal deaths(5). Considerable variation in response to modern contraceptive uses is due to the various traditional practices, lack of information and inaccessibility is seen(6). Half of non-first births to women in Ethiopia occur less than three years of the previous birth, which is closely associated with poor health of a child during infancy and further(7). Since pregnancy is an absolute requirement for maternal mortality, prevention of pregnancy is an effective form of primary prevention.

The overall MMR and contraceptive prevalence rate of Ethiopia has been progressing with evidence. With the complicated link between fertility, population growth and poverty, the benefit of family planning for the survival and health of mothers and children is apparent(2). There are both traditional i.e. use of spermicidal herbs and abortion, and modern fertility regulation methods; particularly the former, as a result of lack of information and inaccessibility which is due to the security problems of Surma *woreda.*

Thus, determining the factors affecting contraceptive use and exploring the various traditional fertility regulation methods to understand a community's outlook about modern contraceptives and other traditional fertility control is crucial for expanding the use of family planning methods, especially in remote parts of the country where traditional method still constitute a considerable proportion of all contraceptive methods. Hence, since there is no recent study conducted in Surma *woreda*, the findings of this study will be used as a bench-

mark for studies on similar remote populations and related ethnic groups in Ethiopia on top of providing insight about indigenous methods, their efficacy and side-effects.

Methods

A Community-based cross-sectional study design triangulated with qualitative study was conducted from April to May 2015 to assess determinants of contraceptive use among women of reproductive age group in Surma *woreda*, southwestern Ethiopia.

The source of population was sexually active women of reproductive age group residing in the *woreda* during the study period selected from Women of reproductive age group who live in Surma *woreda*. For the qualitative study purposively selected key informants.

The required sample size was calculated by considering the assumptions for single population proportion formula: Prevalence of contraceptive use (P) =89%, 5% of absolute Precision, Z= standard normal distribution value at 95% confidence level of $Z\alpha/2= 1.96$, and adding a 5 % non-response rate and the final sample sizes were 603. For Qualitative part, the sample size for the qualitative part was identified considering the saturation and redundancy of information. As a result the number of key-informant Interviews was determined based on redundancy of ideas.

A systematic random sampling technique was used to select households which had sexually active reproductive aged women. First, *kebeles were* categorized into different strata. Rural *kebeles* were selected based on accessibility and safety. And for the qualitative part, key informants which included community leaders and elderly men and women were selected purposively.

As operational definition, modern contraceptive utilization was defined as use of at least one of the modern contraceptive methods (regular contraceptive pills, IUCD, injectables, implants, condoms and male or female sterilization.)

Knowledge of modern contraceptive was defined as ability to mention at least one modern contraceptive technique.(7)

The data were collected using a structured questionnaire. The questionnaire for the quantitative study was prepared in English and translated into Amharic language then translated back to English for analysis.

For the qualitative part individual key-informant interviews were conducted using semi-structured questionnaire. Redundancy of information and indeterminate measures were used to limit the number of questions. The variables studied were: Socio-demographic variables, fertility preference and decision making and program related factors.

Analysis

The quantitative data was entered using Epi-info version 3.4.3 and data cleaning and analysis was done by using SPSS version 20. First descriptive analysis was done for the variables. And binary logistic regression was done for the independent variables to identify predictors; association and strength was presented using odds ratios, 0.05 levels of significance and 95% confidence intervals. Multiple logistic regressions were done to control confounders. Goodness of model fitness was tested by using Hosmer and Lemeshow test and was found to be fit (P-value=1).

Data from the key-informant interviews were transcribed and translated to English and categorized according to the main thematic areas manually. The findings were presented in narratives in triangulation with the quantitative results using the well said verbatim as illustrations.

Ethical clearance was obtained from University of Gondar from the Research and Ethical Review Committee of Institute of public health. Communication with the respective official administrators was made through formal letter obtained from the University of Gondar. The purpose of the study was explained and an informed written consent maintaining confidentiality was obtained from study participants.

Results

Socio demographic characteristics

A total of 584 women responded to the questionnaire, yielding a response rate of 92.1%. Five hundred twenty-nine (90.6%) were rural dwellers. The mean age of respondents was 29.4(SD=7.094). Five hundred sixty-six (96.9%) were Surma in terms of ethnic background. And 81.7% of the women were married. The major religion in the community is protestant Christianity (75.9%) and 90.8% of the respondents were unable to read and write. Out of all these women, 61.3% are unemployed and 11.8% of them had radio only. (Table 1)

Reproductive history of respondents

The mean age at marriage is 20.17(SD=0.483). Four hundred ninety-eight of the respondents (85.3%) had history of pregnancy, of which three hundred twelve (62.9%) have a history of one to three pregnancies. And twenty three (3.9%) of the respondents had aborted once in their lifetime. About 96.7% of the women use traditional method to regulate their fertility. (Table 2)

Knowledge and use of contraceptives

Five hundred forty-eight (94.3%) are knowledgeable of modern contraceptive, and are able to mention at least one modern contraceptive method. Twenty-four of the respondents (4.1%) had used modern contraceptive at least once in their lifetime. Nineteen (3.3%) of the respondents are currently using modern contraceptive. Depo-Provera (injectables) was the most commonly used method 15 (79%). And only 19.5% of the respondents' partners approve use of modern contraceptives. (Table 3)

Factors associated with modern contraceptive use

Residence, marital status, age, occupation, knowledge of modern contraceptives, number of pregnancy, TV/Radio ownership, and desire for more children towards modern contraceptive practice were not significant at greater than 0.2 level of significance and these variables were excluded from further analysis.

Remaining variables were entered to multiple logistic regressions; out of these variables one remained to be significantly associated with modern contraceptive use.

Women whose partner approves modern contraceptive use were about 6 times more likely to practice modern contraceptive methods than women whose partners don't approve. (AOR=6.006; 95%CI= (1.804, 19.994). (Table 5)

Traditional fertility regulation method

Sexual practice and Marriage

A total of key-informant interviews were conducted with an equal male to female ratio. Women have rights on their sexual activities. Women have rights to chose when and who to marry. Premarital sex is common practice in this community and sexual relations begin at an age as early as 15. An elderly man described,

"*A girl usually gets married at 21 or 22, generally above 20 years of age.*"

Women are not asked for marriage unless they want to and are ready for it. As one of the elderly women explained,

"Girls pierce and wear clay lip plates to show that they are ready for marriage, otherwise men don't even ask for their hand-in-marriage."

Marriage occurs after the woman chooses her husband to be following their 'Donga' plays. The husband-to-be has to give cattle and a rifle to the girl's family as a dowry. The number of the cattle varies ranging from 15 to 60 cattle; 15 cattle if they are in love and the man is not wealthy enough to give more than the minimum price. And these cattle are returned back in case of a divorce.

Suri people have a cattle-centered culture and it's the measure of the wealth of a family. Polygamy is common in this community; men can marry as many as they want provided that they have cattle to give for the bride's family. Women also encourage polygamy, encouraging their husbands to marry. An extended and large family is a sign of strength and pride. On the other hand, the Suri culture prohibits polyandry or any extra marital sexual relations for the Suri women. Men don't even marry divorced women due to fear of conflict with her former husband.

Both girls and boys enjoy sex before marriage. The girls use rhythm methods to avoid pregnancy as well as to keep their partner from going to other girl; as a man elucidated,

"Women are wise; they count on their menstrual days and intentionally get pregnant in order to trap men into marriage."

The man who impregnated her is forced to marry her and bring cattle to her family or he will be beaten in public. Even though premarital sex is common, out of wed-lock pregnancies are unthinkable. But on certain occasions girls induce abortion behind closed doors; an old lady said,

"When there is unwanted pregnancy we abort by drink juice of the roots of sorghum every other day for a week. We usually get ill after but we just tell our family we have headaches and stay home till we recover."

An elderly man stated that abortion is a dangerous practice.

Fertility regulation

Rhythm method is widely practiced among Suri girls. Mothers teach young girls how to prevent pregnancy. Girls count on their menstrual day by either making knots on ropes tied to their waist or by the presence and position of the moon. An elderly man stated,

"Elderly mothers gather young girls and teach them when to have sex and when they might get pregnant, but currently alcohol is changing the culture and extra marital pregnancies are becoming common."

Girls make ten knots when their menstrual cycle begins on a thread they wear on their waist. They untie a knot every day till their cycle is over. After that women believe that they can enjoy sex and not get pregnant till all the knots are untied. The other method for effective rhythm method is using the moon. An aged woman elaborated,

"*We have our own calendar; a month has 26 days; 13 moon nights and 13 dark nights which we call 'Muhur', for example my menstrual period came on the 3rd day of the dark night, this means I won't get pregnant till the days of the moon nights."*

About the case of modern contraceptive, in addition to their desire for large family size men in the Suri community disapprove modern contraceptive use due to their belief that modern contraceptives are introduced in their community to contain their population. In addition to this, as one elderly man mentioned,

"*Now a day, our wives go and get injections behind our backs; it's hard to monitor them; they might have extra marital sexual relations.*"

Extended and big family is considered as pride and strength; so the Suri people want to have as many children as possible. There is no child preference in this community; both girls and boys are assets, as girls bring cattle for the family from dowry and boys are source of pride and also bring cattle by looting, which they call 'forest wealth'. A woman said,

"*Young girls bring wealth to the family from dowry which is wealth without any struggle and the young boys are refuge for their family and bring as well as guard the forest wealth.*"

Even if they want big family, Suri women don't give birth one over the other, but they have a culture of spacing children. They give birth when the last child is able to walk and can identify and differentiate people. A lady stated that,

"*We give birth after the last child grows two teeth in the front on both upper and lower gum and a total of four teeth on both sides of the jaw. The child has to be able to walk before another child is conceived.*"

Due to the ongoing conflict between the Suri community and the neighboring Dizzi and Bume tribes, Suri people lead a semi-nomadic life. So children have to be able to walk, run or hide in order to ease the burden of carrying children for the mother. Additionally, they believe that the mother should fully recover and rest from the collateral effects of pregnancy and delivery. Women space births mainly by postpartum sexual abstinence; couples separate beds or men can go to their other wife or practice extra marital sexual relations. A man said,

"*We don't sleep together until the women ask or since the women count days they will direct us on when to have or not to have sex.*"

Discussion

Contraceptive use has a great input for the betterment of maternal and child health, women empowerment, achievement of universal primary education and environmental sustainability by stabilizing population size.

The current modern contraceptive prevalence was found to be 3.3%. Traditional rhythm method is widely practiced among Suri girls. Mothers in the community teach young girls how to prevent pregnancy by counting on their menstrual days. In contrast to DHS 2011 estimate, it was more than eight times less for MCM (27%). The current use of MCMs was lower than the studies conducted in Hamer, Southern Ethiopia, in rural and urban residents (8.4% and 75.7%) and in Farta district, North-West Ethiopia (66.2%)(15, 17). The possible reason for not using MCM in this *woreda* could be, women are not well-informed about MCMs and due to cultural influences like desire for more children in relation to the benefits they bring to the family i.e. pride and wealth. Additionally, a large family gives people in this society a sense of pride and strength.

Regarding factors influencing modern contraceptive use partner approval had significant association with modern contraceptive use. Women whose partners approve modern contraceptives are 6 times more likely to use contraceptives. Since Suri men believe modern contraceptives allow women to have out of wed-lock sexual relations and due to the misconceptions about the intent of MCMs, men disapprove modern contraceptive use. Similar with this result, studies conducted in Nigeria and Jimma University Hospital illustrated significant association of modern contraceptive use with partner/spousal approval(9, 16). It is believed that women whose partners approve are motivated as well as liberated to use contraceptives.

Traditional contraceptive methods are widely practiced in Surma; of these the traditional rhythmic method and post partum abstinence are commonly used to regulate birth intervals. Suri people have a habit of more than 2 years post partum abstinence in counter to the national report which is much shorter than 2 month. And similar with a previous study conducted in this woreda, and unlike Hamer women, Suri women don't use herbs to prevent pregnancy(6, 17).

Sex preference was not found to be significantly associated with contraceptive use as opposed to the study in Pakistan which showed significant effect of son preference on contraceptive use. The Suri people want both girl and boys equally due to the wealth, pride and strength they bring to the family(8).

Limitation of the study

The rural *kebeles* were selected based on accessibility and relative security.

Conclusions

In conclusion, the findings of this study showed that modern contraceptive use was very low. And partner approval has significant effect on modern contraceptive utilization. Most Suri women have negative outlook towards modern contraceptives. There is marked evidence that the major contraceptive methods in the community are the traditional rhythmic method and post partum abstinence. The culture and nomadic nature of

the community is believed to have influence on modern contraceptive use.

The findings of this study have implications for family planning programs to examine ways to increase contraceptive use in pastoralist communities. Hence, continuous health education on modern contraceptives and adequate number of CBD agents should be trained to reach the community. Therefore, working in collaboration with non-governmental organizations and local community with community involvement, especially men involvement are important. Attention should be given to narrow the gap of isolation of the community by expanding education, access to media and other infrastructure like road, health facilities, etc.

Additionally, further studies on the quality of family planning services and other studies focusing on service providers, male partners and to identify factors influencing the utilization of modern contraceptives shall be conducted to produce better evidence.

Competing interests

The authors declare that there are no competing interests.

Authors' contributions

The Author wrote the proposal, participated in data collection, analyzed the data and drafted the paper; additionally approved the proposal with some revisions, participated in data analysis and revised subsequent drafts of the paper. All authors read and approved the final manuscript.

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