Contraceptive utilization and associated factors among youths in Hossana town administrative, Hadiya zone, Southern Ethiopia

Getachew Ossabo Babore*, Asnakech Zekiwos Heliso

Department of Comprehensive nursing, School of Nursing, College of medicine and health science, Wachemo University, Hossana, Ethiopia

* gossabo2004@gmail.com

Abstract

Background

In low-income countries out of, 60.7 million unintended pregnancies, 19% of them are subjected to abortion of which 11% of were unsafe. Surprisingly, about 2.5 million occur in women under the age of 20 years. Aim of this study is to measure the level of contraceptive utilization and associated factors among youths in Hosanna town administration.

Method

Institutional based cross-sectional study was conducted in Hossana town administration, Hadiya zone, Southern Ethiopia. A multistage sampling procedure was employed by clustering health facilities into reproductive health clubs and health facilities to select 781 study participants. Data was collected by using structured pre-tested, self-administered questionnaires. All coded and cleaned data were entered into EPI-info version 3.5.1 and it was exported to SPSS version 16.0 for recoding and further analysis.

Result

Among youths who had been sexually active within the last 12 months, 67.6% had used contraceptives prior to the survey. Multivariate analysis was found statistically significant association between contraceptive utilization and education status of mothers who attained university AOR = 4.57 [95% CI (1.29, 16.19)], utilization of sexual and reproductive health services within last 12 months AOR = 2.26 [(95% CI: 1.33, 3.86)], age initiation of first sex between 15–19 year OR = 2.63 [(95% CI 1.48, 4.64)], discussion with sexual partner AOR = 1.99 [(95% CI: 1.27, 3.13)], good knowledge on contraceptive advantage AOR = [1.89 (95% CI: 1.07, 3.32)]. Whereas educational status: being secondary level decrease utilization of contraceptives by 51% AOR = 0.49 [95% CI (0.27, 0.94)].
Conclusion & recommendation

The findings of our study imply that level of contraceptive utilization is higher than as compared to the previous studies. Discussion with a sexual partner as well as with a spouse, having awareness on contraceptive advantages, early age initiation of sexual intercourse, maternal educational status and getting sexual and reproductive health services recently were identified as predictors of contraceptive utilization.

Introduction

Youths are the segment of the population where they begin actively exploring their sexuality. Also, a transition period is characterized by significant physiological, behavioral, psychological, emotional, and social changes [1, 2]. World Health Organization (WHO) defined the age groups of 10–19, 10–24 and 15–24 years as adolescents, young people and youths, respectively [3, 4]. Globally, youths constitute more than 20% of the total population. Surprisingly, 85% of them have lived in developing countries whereas, they constitute 20% and 33% out of the total population in Sub Saharan Africa (SSA), Ethiopia respectively [5–7].

In fact, a transition period is risky in addition many youths in the world often lack knowledge on: Sexual and reproductive health (SRH), the consequences of unprotected sex, and methods of contraceptives. Moreover, they have experienced less access to affordable, accessible and equitable health services. So, they are a vulnerable group of the population [8–10]. However, youths have a fundamental right to access family planning (FP) they have been facing enormous problems. For instance, unwanted pregnancies, that result in unsafe abortion and stigmatization from family [11, 12]. Girls under the age of 15 years are 5 times at high risk of dying from complications related to pregnancy or childbirth. Similarly, girls within the age range of 15–19 years as compared to 20s are 7 times higher risk of acquiring Human Immune Virus (HIV) than boys. Thus, it is important to note that early sexual debut, early marriage especially in the rural area, and very-low use of contraceptives have been associated with unwanted pregnancy [13, 14].

Globally, 2.7 million infant deaths and the loss of 60 million healthy lives were prevented by the utilization of modern contraceptives [15]. Scaling up the utilization of modern contraceptive through decreasing unmet needs is area of interest. Thus, meeting unmet needs; would avert 52 million pregnancies annually worldwide, would reduce the number of unplanned birth in developing countries by 72% as well the number of induced abortions by 64%, furthermore expected to avert 12,800 maternal & about 1.1 million child deaths [16, 17]. Therefore, investing in contraceptives delivery is beyond noticeable prevention of unplanned pregnancy and reduction of disease burden [18].

In Ethiopia, since it launched FP service was highlighted as one of the basic strategies for reducing the high risk of pregnancies, which occurs as a result of too: early, late, and frequent pregnancies. However, in Ethiopia FP service begun in 1966 yet, its coverage and utilization level by young people in the existing health care system has been reported as very low [19, 20].

Globally, out of 250 million pregnancies each year one third is unintended or unwanted, of which 20% end up in induced abortion. Whereas in low-income countries from 182 million pregnancies 60.7 million is unintended, subsequently 19% are subjected to abortion out of this 11% are unsafe abortion. Surprisingly, 2.5 million occurred in women under the age of 20 years [9, 21]. Evidence has shown that out of 33% of hospital care that provided for
complications occurred as a result of abortion for the woman was age bel low 20 years. Further-
more, out of total women who seek medical care, 67.2% of them treated for incomplete abor-
tions are under the age of 24 years [22].

The consequence of unwanted pregnancy is beyond unsafe abortion as well as its complica-
tions. Moreover, accelerate rises of the fertility rate, unless substantial and multidimensional
effort is undertaken, world population will grow to 9 from 7 billion whereas African popula-
tion from 1.1 to 2.4 billion by 2050 [23, 24]. Besides total fertility, for many countries, adoles-
cent fertility becomes a public concern and global agenda. Because it is associated with adverse
maternal and child health outcomes includes obstructed labor, low birth weight, high infant &
maternal mortality [25].

Youths’ contraceptives utilization is influenced by multiple factors; having higher education
increase contraceptive utilization by 9 folds [26, 27]. Similarly, the presence of Health facilities
with different set-ups, having SRHs provision facilities near to the residence, and design of ser-
vice provision facilities [28, 29]. In addition, Lack of information, social stigma, judgmental
attitudes by service providers, lack of confidentiality, logistics and policies had been identified
as barriers to access contraceptives [30].

Despite the fact, substantial increase in contraceptive use one-third of young women age
15–24 years have an unmet need for FP and their unmeet need was twice as compared to oth-
ers. In Ethiopia the contraceptive prevalence rate (CPR) among young women increased sub-
stantially from 15% - 29% in 2005 & 2011 EDHS, and the unmet need for young people is still
high. It is reported as 32%, 22% among youths age 15–19 and 20–24 years respectively [31]
According to the further analysis of three years EDHS 1/4th of all pregnant adolescents and
young women age (15–24) years feel that their pregnancies were mistimed or unwanted. Fur-
thermore, in Ethiopia 28% of adolescents (15–19), 24% of young women (20–24) years were
experienced with unintended pregnancies [31–33].

In the study area, youths account for 20% of the total population. Here are noticeable migration
of young people from rural to urban for job opportunities, academic-related issues and preference
of resident. But public-sector concerns and non-governmental involvement, through availing
youth’s attraction centers, youth-friendly service offering facilities has been seen very few. As a
result, they have been exposed to numerous SRH problems [HTA, health office report, 2016].

Therefore, provision of integrated SRH service under the care of healthcare professionals
and investing in youths is one of the key strategies to overcome the burden on the entire popu-
lation and interrupt intergeneration effect [34, 35] [Fig 1: Conceptual frame work].

Methods and material

Study area

The study was conducted in Hossan town administration, Hadiya Zone, SNNP regional state,
Ethiopia. Hadiya zone is one of 14 Zones and four special woredas found in the SNNPR state.
It has ten woredas and two towns administrative. According to the Central Statistical Agency,
the total population of the zone was 1,547,848 out of these 782,128 are male whereas 765,720
of them are female [41-unpublished]. Hossana town administrative (HTA) is an urban setting,
it is located in the northern part of SNNP regional state 232 KM far from the country’s capital
city (Addis Ababa) and 120 KM from the regional capital town. It has 3 sub-city administrates
which consists 10 kebeles (last administrative unit). According to the HTA office current bud-
get year (2017 & 2018) projection estimation, the total population of the town administration
is 100,081 out of them, youths comprise 19,286. The town administrative has one referral Hos-
pital, three health centers (HC), one higher clinic, more than 15 Private clinics, 17 drug ven-
dors and 5 reproductive health clubs (RHCs).
Study design and period
Institutional based cross sectional study design, which was conducted from January 2-30/2017.

Source and study population
The source population for this study compress all youth between the ages of 15–24 years who visit health facilities and RHCs. Whereas, Study participants consist youths’ who were visited randomly selected HC and RHCs for medical care as well as reproductive health services selected by using systematic sampling method.

Eligibility criteria
All youths (15–24) years old visited HCs and RHCs for medical/ RH care included, but youths: who were severely ill (unable to respond as a result of a critical medical condition) as well as
mentally ill, who weren’t living in HTA for the last six months, and had got training on youth friendly service/ peer education were excluded from the study.

**Sample size calculation for specific objective one**

The sample size for the first specific objective was calculated by using a single population proportion formula through considering the following assumption: a confidence level of 95% with the corresponding value for the normal distribution of \( Z_{\alpha/2} \) for \( \alpha = 5\% \) is 1.96, margin of error \( (d) = 5\% \), design effect \( (D) = 2 \) and considering the proportion of contraceptive utilization rate \( (P) \) among youths = 62.2\% from the study [11]. Then an estimated sample size calculated by using the following statistical formula was 723.

\[
n = \left( \frac{(Z_{\alpha/2})^2 \cdot P \cdot (1-P)}{d^2} \right) \cdot D
\]

After adding 10\% to compensate a possible non-responses rate, the needed sample size was 795.

Also, the sample size for the first specific objective was calculated by using the statistical software Open Epi version 3.1/ Statcalc. Through considering the above assumptions, contraceptive prevalence rate 62.2\% and using a total population (youths) in the study area 19,286 yield 710 samples, but after adding 10\% non-response rate a sample was 781.

**Sample size calculation for second specific objective**

For the second specific objective, sample size calculation was performed by using Open Epi software version 3.1. Based on the study [8] taking factors that have a significant association with contraceptive utilization are educational status, parent monitoring and living with whom parents. Then, assuming having a formal education, high parenting monitoring and living with one parent as an exposure factor with respective proportion, odds ratio and considering 95\% CL, 80\% power of the test (Table 1).

Among the samples size calculated for factors or second objective, we had picked the largest sample size 720. Finally, by comparing sample sizes calculated for both specific objectives we had chosen the first objective sample size value, \( n = 795 \).

**Sampling procedure**

Multi-stage sampling was applied to select study units by clustering facilities into two strata as RH club and HFs. Among nine health facilities, six were selected by using a simple random sampling, through applying the lottery method. These health facilities were preferred over the community because most of the time youths are around there as of having a library, youth-friendly service, a few recreation centers and high peer’s density.

---

### Table 1. Sample size calculation for specific objective two, factor associated with contraceptive utilization among youths.

| Factors associated with contraceptive utilization | Percent of control exposed | Confidence level 1-\( \alpha \) or CI 95% | Power or 1-\( \beta \) | Ratio control to case | AOR | Sample size (n) | NR-rate (10\% of n) | Final sample size |
|--------------------------------------------------|----------------------------|------------------------------------------|------------------------|----------------------|-----|----------------|-------------------|------------------|
| Having formal educational                         | 41.8%                      | 95\%                                     | 80\%                   | 1:3                  | 2.4 | 288            | 29                | 317              |
| High parent monitoring                            | 12.09%                     | 95\%                                     | 80\%                   | 1:2                  | 1.84 | 660            | 66                | 720              |
| Living with parents                              | 38.7\%                     | 95\%                                     | 80\%                   | 1:5                  | 1.6 | 614            | 61                | 675              |

AOR = Adjusted Odds ratio, CI = Confidence Interval, n = Estimated sample size, NR = None Response rate

https://doi.org/10.1371/journal.pone.0275124.t001
Ahead of allocating proportional size for each facility, a total number of youths, who were served in all randomly selected facilities during the last two months (N = 1807) was taken from registration books as a sampling frame. First, a total estimated sample size (n = 795) was divided by the total number of youths served during the last two months [N] in all six facilities, which gave a proportionate value (P). Secondly, proportionate value [P], multiplied by a total number of youths [Nj] those served during the last two months in each selected facility. Then, a proportionate to population size (PPS) value was provided for each facility. Finally, data were collected by using a systematic sampling method, through considering Kth value for each facility (Fig 2: Sampling procedure).

Data collection tool, quality control and management

Data collection tool was prepared in English and translated into the Amharic language; it also back-translated to English by another translator. A tool was adapted from different kinds of literatures used in this study. Before, one-day orientation was provided for all supervisors and data collectors regarding the overall procedures of the data collection issues.
To validate the appropriateness of the tools, a pre-test questionnaire was applied among 39 youths in Gimbichu HC. After identifying difficult and unfit questions for software as well as made confusion for respondents, a necessary amendment was undertaken. Data were collected by six health professionals (clinical Nurse, Midwifery) and two supervisors under the overall coordination of the principal researcher using pre-tested structured, self-administered questionnaires. Ahead of distributing questionnaires, all ethical issues were addressed and verbal consent was taken from all voluntary youths. The research assistant and researcher had made cross-checked for completeness, consistency & accuracy on a daily basis.

Variables

**Dependent variable.** Contraceptive utilization.

**Independent variables.** *Socio-demographic.* Age, sex, educational status (youth), marital status, religion and educational status (parents).

*Socio-economic and cultural.* Cost to buy contraceptive, income, living arrangement, culture, sexual partners, peer (pressures), spouse.

*Health facilities related.* Distance of health facilities, availability of RH clubs, service providers’ attitude, privacy, affordability of contraceptive.

*Individual factors.* Contraceptive knowledge, practice, awareness on SRH service provision, SRH knowledge and its risk factors and decision-making power.

Operational definition

**Youths.** Person within the age group 15–24 years.

**Contraceptive.** Any type of hormonal or non-hormonal birth control methods used by youths.

**Contraceptive utilization.** Any type of contraceptive method used at last time of sexual intercourse with in the 12 months before conducting this study.

**Sexually active.** Youths who ever had at least one penetrative sexual experience in his/her life.

**Practice.** Youths who have ever used any hormonal or non-hormonal type of contraceptive method correctly and consistently.

Statistical analysis

All cleaned and coded data were entered into EPI-info software version 3.5.1. Then, it was exported to SPSS software Version 16.0 for further analysis and recoding. Frequency tables and cross-tabulation were used to filter errors and missing values as well as to elaborate descriptive variables.

To identify candidate variables for multivariable analysis, bivariate logistic regression was employed for each variable. Variables which have statistically significant at P value $< 0.25$ enter into the last model. To determine predictors of contraceptive utilization by youth’s multivariable analysis was performed. Predictor variables were identified by looking odds ratio at 95% of confidence level and p-value $< 0.05$.

Ethical consideration

The study protocol was approved by the institution review board of the Woliat Sodo University/WSU whereas ethical approval and clearance letter was obtained from the institution’s review board of college of medicine and health science, WSU. Cooperation and permission letter was written for respective sectors from government offices. After all, ethical issues settled
before conducting study or administering questionnaire. In addition, for those youths below 19 years who selected randomly parent as well as guardian permission was requested before distributing self-administered questionnaire.

All data collectors addressed and informed participants about the purpose of study and benefit. Then they assured issue of confidentiality, having full mandate to withdraw from study and refuse to participate. Finally, oral consent was taken from each participant. There is no any legal as well ethical restriction on sharing this article data. The article didn’t contain sensitive issues of human being like tissue as well as any organ. For further enquires you can communicate the institution review committee member. They witness their agreement by orally as stating I, participant below understands the benefit and confidentiality of this study and I agreed to participate on the study. Files documented and precede self administered questions if they agreed and otherwise we move to next participants.

Result

Socio demographic characteristics of the respondents

A total of 758 youths were returned self-administered questionnaires which gave a response rate of 97%. More than three fourth of participants were within the age range of 20–24 years. The majority of the respondents were Hadiya 358 (47.2%) and followed by Amhara 125 (16.5%). Nearly fifty percent of youths’ educational status was between 9th–12th. But, only 10.9% of mothers and 26.4% of fathers reached college or TVET level. However, more than one fifth 159 (21%) of the respondents were married, 71 (9.4%) of youth living together (Table 2).

Sexuality and contraceptive utilization

Among the study subject, nearly three quarters 71.6% were sexually active, out of them 316 (58.2%) were initiate sexual intercourse before celebrating 20th birth date. Among sexually active youth, 385 (70.9%) of them had discussed with their sexual partner but, 5.3% of them didn’t support utilization of contraceptives. Descriptive finding also reported that thirty-four Percentage of respondent had used contraceptives while having their first sexual intercourse. Nearly three-quarters (73.8%), 32.6% of them were used condoms and ECP respectively when had first sexual contact. Youths who initiate sex below 19 years were less experienced in using contraceptives than 20–24 years. Surprisingly, only 26.4%, 36.2% of youth whose age below 19 years and 20–24 years used contraceptives respectively when had fist sex. Half of the youths who didn’t use contraceptives at first sex, reported that the main reasons were at first sex contraceptive is not necessary, had no contraceptive information at a time, and a few of them reported that it decreases sexual pleasure.

The majority, 97% of the respondents knew where they could obtain contraceptives. Almost all of the participants 743 (98.0%) reported that they had ever heard about a contraceptive. They reported as 75.6% from TV and the least 5.1% from parents by mentioning at least one contraceptive method. The most commonly reported methods were condoms 93.1%, followed by ECP 52.6% and DMPA 48.2%. However, 4.5% of respondents knew all hormonal contraceptives, but only 9.5% knew one method whereas 16.0% knew four contraceptive methods. In addition, a study assessed the benefit of contraceptives reported by youths. 56.5%, 84.6%, 50.8% of youths reported as it’s important to protect from STIs, prevent unwanted pregnancy, and prevent early pregnancy & childbirth, respectively. But the least, 2.8% of them to get money/ incentives.
| Variable                          | Category          | Frequency | Total  | Percentage |
|----------------------------------|-------------------|-----------|--------|------------|
|                                  | **HC**            | **RHC**   | **Total** | **Percentage** |
| **Age (year) (N = 758)**         | From 15–19 years  | 115       | 66     | 181        | 23.9 |
|                                  | From 20–24 years  | 249       | 328    | 577        | 76.1 |
| **Sex (N = 758)**                | Male              | 143       | 165    | 308        | 40.6 |
|                                  | Female            | 220       | 230    | 450        | 59.4 |
| **Religion (N = 758)**           | Orthodox          | 105       | 116    | 221        | 29.2 |
|                                  | Protestant        | 165       | 211    | 376        | 49.6 |
|                                  | Islam             | 50        | 34     | 84         | 11.1 |
|                                  | Catholic          | 38        | 29     | 67         | 8.8  |
|                                  | Others *          | 5         | 5      | 10         | 1.3  |
| **Ethnicity (N = 758)**          | Hadiya            | 153       | 205    | 358        | 47.2 |
|                                  | Gurage            | 56        | 38     | 94         | 12.4 |
|                                  | Amhara            | 76        | 49     | 125        | 16.5 |
|                                  | Silte             | 27        | 16     | 43         | 5.7  |
|                                  | Kembeta           | 41        | 54     | 95         | 12.5 |
|                                  | Others **         | 10        | 33     | 43         | 5.7  |
| **Educational status (respondents) (N = 758)** | No formal education | 4       | 2      | 6          | 0.8  |
|                                  | From 1–4 grade    | 9         | 9      | 18         | 2.4  |
|                                  | From 5–8 grade    | 62        | 50     | 112        | 14.8 |
|                                  | From 9–12 grade   | 166       | 207    | 373        | 49.2 |
|                                  | College and above | 123       | 126    | 249        | 32.9 |
| **Occupation (respondent) (N = 758)** | Student            | 198       | 233    | 431        | 56.9 |
|                                  | Employee          | 56        | 62     | 118        | 15.6 |
|                                  | Daily labor       | 18        | 17     | 35         | 4.6  |
|                                  | Merchant          | 58        | 60     | 119        | 15.7 |
|                                  | House wife        | 20        | 20     | 40         | 5.3  |
|                                  | Farmer            | 3         | 1      | 4          | 0.5  |
|                                  | Others ***        | 10        | 11     | 11         | 1.5  |
| **Education status (mother) (N = 758)** | No formal education | 102      | 113    | 215        | 28.4 |
|                                  | Primary (1-8th)   | 98        | 131    | 229        | 30.2 |
|                                  | Secondary (9-12th) | 92       | 95     | 187        | 24.7 |
|                                  | TVET or college   | 52        | 31     | 83         | 10.9 |
|                                  | Higher (university) | 19      | 24     | 43         | 5.7  |
| **Education status (Father) (N = 758)** | No formal education | 32       | 25     | 57         | 7.5  |
|                                  | Primary (1-8th)   | 38        | 66     | 104        | 13.7 |
|                                  | Secondary (9-12th) | 112      | 132    | 244        | 32.2 |
|                                  | TVET or college   | 105       | 95     | 200        | 26.4 |
|                                  | Higher (university) | 76      | 76     | 152        | 20.1 |
| **With whom you live (respondent) (N = 758)** | Both parents      | 95        | 157    | 252        | 33.3 |
|                                  | One parent only   | 50        | 53     | 103        | 13.6 |
|                                  | Sister or brother | 56        | 38     | 94         | 12.4 |
|                                  | Lonely            | 101       | 90     | 191        | 25.2 |
|                                  | Spouse            | 59        | 49     | 108        | 14.3 |
|                                  | Others +          | 3         | 7      | 10         | 1.3  |

* others = seventh day, John witness and pagan ** others = Oromo, Tigre, sidama and Woliata **** = drivers * + = with others relatives. HC = Health centre, RHC = Reproductive health club.

https://doi.org/10.1371/journal.pone.0275124.t002
Contraceptive utilization among youths

The overwhelming majority of sexually experienced youths, 353 (67.6%) reported that they had ever used the contraceptives method at the last time they had sex. The most commonly used types were condoms, 139 (39.4%), followed by ECP 73 (20.7%) and injectable 72 (20.4%) (Fig 3: level of contraceptive utilization and types used).

Among the respondents, more female youth 222 (68.1%) used contraceptives following the last sexual intercourse as compared with males. Similarly, those who had gotten any SRH service within 12 months before the survey used contraceptives more than their counterparts. Moreover, this study found that youths who discussed with a sexual partner or spouse 277 (74.3%) were used contraceptives more than hadn’t discussed 75 (51.7%). Participants who did not use contraceptives while having last sexual contact reported the main reasons: 57.5% lack of privacy, 54.6% fear of side effects and 28.2% refusal by a sexual partner.

Determinants of contraceptive utilization

Bivariate logistic regression was employed to determine factors which are statistically significant with 95% of CL at P-value < 0.25. Variables: youths educational status, mother’s educational status, having a discussion with a sexual partner or spouse, youth knowing where they can collect contraceptive, contraceptive knowledge, utilization of SRH within the last twelve months, living style, age in which initiation of first sex, and youths thought that lack of money can hinder using contraceptive have been seen statistically significant.

Multivariable analysis, considering the variables which were a statistically significant in bivariate logistic regression was performed. Thus, the result of multivariable analysis had showed that mothers educational level being college and above AOR = 4.57 [95% CI: 1.29, 16.19], initiating sex with in the age of 20–24 year AOR = 3.12 [95% CI: 1.63, 5.97], having a discussion with a sexual partner or spouse AOR = 1.99 (95% CI: 1.27, .3.13), Utilization of SRH service within last the twelve months AOR = 2.26 (95% CI: 1.33, 3.86), having awareness on contraceptive advantages AOR = 1.89 (95% CI: 1.07, 3.32), youths educational level being secondary AOR = .49 [95% CI: 0.27, 0.94], and having a discussion with sexual partner AOR = 2.20 (95% CI: 1.36, 3.57) were identified as predictors of contraceptive utilization.

The multivariate model analysis shown that; mothers who attained higher level of education were 4 times more likely use contraceptive than unable to read and write, and youths who...
initiate sex at the age of 20–24 year, 3 times increase odds of utilization of contraceptive than their counterparts. Youths who obtained SRH service in the last twelve months 2 times more likely to use contraceptive than those hadn’t got SRH, having discussion with sexual partner or spouse regarding to contraceptive had significant association in the model, it increase nearly 2 times the contraceptive utilization level than did not discus, and knowing two and above advantages of contraceptive increase odds of utilization of contraceptive nearly by 2 folds whereas youths who attained secondary level of education 51% times less likely to use contraceptive (Table 3).

Discussion

This study found, 67.6% of youths had ever used contraceptives when they had last sexual intercourse. The finding is less than studies conducted in Gondor 79.2% [28] and South Africa 89.1% [36]. But it is higher than studies done in Addis Ababa 61.8% [37], Uganda 62.2% [38] and three Bolivian cities [29]. The possible reason for low utilization could be study area setting, youths’ age difference and sexuality status. A Study conducted in Gondor, consists of youths’ age 15–19 years only and the town is more advanced than our study area, whereas South Africa study considered among sexually active youths only. Those may bring different opportunities for better awareness on contraceptives following sexual intercourse.

A substantial number of studies identifies that youths with primary and above education were more likely to utilize contraceptives. In this study 61.7% of youths whose educational status is secondary used contraceptives. This finding is less than a study done in Gondor 86%, [28] Nambia 77% [39] whereas higher than from studies conducted in Uganda 35% [38], Kenya 19.7% [40] and South Africa 59.1% [18]. The difference might be related to the educational compositions of youths’, because educated youths may have good knowledge as well as better awareness of contraceptives in turn may increase utilization of contraceptives.

### Table 3. Multivariate analysis of factors associated with contraceptive utilization among youths at Hossan town, in Southern Ethiopia, 2017.

| Variable                        | Category                  | Contraceptive utilization | Crud odd ratio (COR) | Adjusted odd ratio (AOR) | P-value |
|---------------------------------|---------------------------|---------------------------|-----------------------|--------------------------|---------|
| Education status of respondent  | Primary & below +         | 66 (75.8) 21 (24.1)       | 1                     | 1                        |         |
|                                 | Secondary                 | 156 (61.7) 97 (38.3)      | .512 [.29, .89]        | .49 [.27, .94]           | 0.01    |
|                                 | college/TVET to higher    | 131 (72.0) 51 (28.0)      | .817 [.45, 1.47]       | .682 [.35, 1.34]         |         |
| Educational status of mothers   | Unable to read & read+     | 25 (55.6) 20 (44.4)       | 1                     | 1                        |         |
|                                 | Able to read & write      | 69 (74.2) 24 (25.8)       | 2.30 [1.09, 4.87]      | 3.20 [1.37, 7.47]        | 0.015   |
|                                 | Primary                   | 84 (62.7) 50 (37.3)       | 1.34 [.68, 2.66]       | 1.58 [.73, 3.41]         | 0.029   |
|                                 | Secondary                 | 44 (67.7) 21 (32.3)       | 1.68 [.77, 3.67]       | 1.78 [.73, 4.32]         |         |
| Obtaining SRH                   | Yes                       | 40 (47.1) 45 (52.9)       | 2.84 [1.77, 4.56]      | 2.26 [1.33, 3.86]        | 0.02    |
|                                 | No                        | 313 (71.6) 124 (28.4)     | 1                     | 1                        |         |
| Service in 12 months            | Less than 15 year         | 37 (49.3) 28 (50.7)       | 1                     | 1                        |         |
|                                 | 15 to 19 years            | 231 (70.5) 89 (29.5)      | 2.46 [1.47, 4.12]      | 2.63 [1.49, 4.64]        | 0.01    |
|                                 | 20–24 years               | 102 (72.3) 39 (27.7)      | 2.69 [1.50, 4.82]      | 3.12 [1.63, 5.97]        |         |
| Discussion with sexual partner or spouses | Yes | 277 (74.3) 96 (25.7) | 2.69 [1.09, 4.02] | 1.99 [1.27, 3.13] | 0.01 |
|                                 | No                        | 75 (51.7) 70 (48.3)       | 1                     | 1                        |         |
| Contraceptive advantages knowledge | One advantage +     | 29 (64.4) 16 (35.6)       | 1                     | 1                        |         |
|                                 | Two advantages            | 91 (70.5) 38 (29.5)       | 2.25 [1.37, 3.69]      | 1.89 [1.07, 3.32]        | 0.014   |
|                                 | Three and above           | 229 (67.6) 110 (32.4)     | 1.90 [1.14, 3.18]      | 1.736 [0.962, 3.13]      |         |

https://doi.org/10.1371/journal.pone.0275124.t003
Primary and above education status of mothers were increase contraceptive utilization of youths by 2 folds as compared to their counterparts. Our finding is in agreement with a study done in Gondor [28]. The fact that educated mothers more open and willing to discuss with their youths on SRH matters. In this study utilization of any SRH services recently were more likely to utilized contraceptive as compared to their counterparts. This proportion was lower than study done in Uganda 75.9% [41]. On another hand it is higher than studies done in Bahir Dar 32.2% [5] and Kenya 29.5% [40], the possible reason for the higher proportion could be our study included youths who visited RH clubs in addition to health facilities, so youths here might get more contraceptive information and counseling services from health workers, which in-turn increase better awareness on contraceptive utilization.

This study found that there is significant association between age of sexual initiation and contraceptive utilization. Out of sexual active youths’ 14.5%, they reported having had sexual intercourse before they turned 15 years of age. The finding is higher than study conducted in Dasie town, 8.2% [42], in Bishofitu, Ethiopia 12.7% [37], 6.9% in South Africa [36] and Uganda 11% [38]. The possible reason for the deference could be the socio cultural prohibition of youth to report premarital sex, and youths who exposed to the different pornographic film impose them to early initiation of the sex.

Among 70.9% of youths had discussed with their spouse or sexual partner, 74% of were used contraceptive when had last sexual intercourse. Which increase odds of contraceptive utilization by 2 folds. This finding was in-line with study conducted in Nambia 62% [39], South Africa 60.7% [18]. The proportion is higher than Namibia & South Africa. The possible reason might be the analysis of Namibia was from Namibian DHS, it consists both rural and urban youths’. Rural youth due to less access to SRH service, cultural inhibition and information may have poor communication with partners.

**Conclusion**

This study demonstrated that contraceptive utilization rate among youths was higher than as compared to previous studies. The finding revealed that having discussion with sexual partner/spouse, obtaining any SRH service recently, had awareness on advantage of using contraceptives and age of initiation of sexual intercourse were predictors of contraceptive utilization whereas educational level of respondents decrease odds of contraceptive utilization.

This study found that sexually active youth who had sexual exposure recently did not used contraceptive. They reported the main reasons due to fear of privacy, lack of spousal support, fear of health professionals’ attitude and fear to be seen by somebody knows.

**Recommendation**

Active and early sensitization of youth in school, reproductive clubs, youth centers and youth friendly clinics through seminars, review meeting, coffee ceremonies, peer to peer in-door and out-door play and other gathering that create an opportunities where youths share when and how the use contraceptive at any an occasional and unplanned sexual exposures. Skill development training and sensitization should be undertaken among youths to improve negotiation between sexual partners as well as spouses.

Governments, implementing partners, and other concern bodies should pay attention towards increasing the service offering facilities like, Youth friendly clinic integrating with health centers, youth centre linking with town municipal and others RH clubs. This will give comfortable zones for youths because it guarantees their confidentiality which in-turn increase access to get services and create opportunity to discuss freely with sexual partners.
The governing body (FMOH), implementing agencies should have developed strategy and guideline for better delivery of the service especially for the youths who initiate sex at late age.

Supporting information

S1 File.
(DOCX)

S2 File.
(DOCX)

Author Contributions

Conceptualization: Getachew Ossabo Babore.

Data curation: Asnakech Zekiwos Heliso.

Formal analysis: Getachew Ossabo Babore.

Methodology: Getachew Ossabo Babore.

Software: Getachew Ossabo Babore, Asnakech Zekiwos Heliso.

Supervision: Asnakech Zekiwos Heliso.

Writing – original draft: Getachew Ossabo Babore.

References

1. Schwarz S., Adolescent Reproductive and Sexual Health: Facts for Policymakers. 2010. 2019.
2. Rosen J., Adolescent health and development (AHD) a resource guide for world bank operations staff and government counterparts. Hnp Discussion Paper. 2004.
3. Negash W., et al., Reproductive health service utilization and associated factors: the case of north Shewa zone youth, Amhara region, Ethiopia. The Pan African Medical Journal. 2016. 25(Suppl 2).
4. Alemayehu T., Haider J., and Hable D., Determinants of adolescent fertility in Ethiopia. Ethiopian Journal of Health Development, 2010. 24(1).
5. Abebe M. and Awoke W., Utilization of youth reproductive health services and associated factors among high school students in Bahir Dar, Amhara regional state, Ethiopia. Open Journal of Epidemiology, 2014. 2014.
6. UNESCO Young People Today. Time to Act now. 2013, UNESCO New York.
7. MoH E., National Adolescent and Youth Reproductive Health Strategy. Health F, editor. Addis Ababa, Ethiopia, 2006.
8. Cherie N., Tura G., and Aderajew N.T., Reproductive health needs and service utilization among youths in West Badewacho Woreda, Hadiya Zone, South Ethiopia. Journal of public health and epidemiology, 2015. 7(4): p. 145–153.
9. Melaku Y.A., et al., Sexual and reproductive health communication and awareness of contraceptive methods among secondary school female students, northern Ethiopia: a cross-sectional study. BMC public health, 2014. 14(1): p. 1–11. https://doi.org/10.1186/1471-2458-14-252 PMID: 24628909
10. Alliance A.Y. and Finder P., Youth friendly sexual and reproductive health services: An assessment of facilities. Dar es Salaam: African Youth Alliance/Pathfinder International, 2003.
11. Hindin M.J. and Fatusi A.O., Adolescent sexual and reproductive health in developing countries: an overview of trends and interventions. International perspectives on sexual and reproductive health, 2009. 35(2): p. 58–62. https://doi.org/10.1363/lpsrh.35.058.09 PMID: 19620089
12. Babirye S., et al., Clients and Providers’ Perceptions on the Quality and Provision of Contraceptive Services to Youths at Community Level in Rural Uganda: A Qualitative Study. Int J Reprod Fertil Sex Health, 2018. 5(2): p. 118–125.
13. Brock S. and Rita Columbia R., Integrating Reproductive Health and Family Planning A Framework for into Youth Development Programs. Baltimore, USA: Program of the International Youth Foundation, 2009.
14. Abajobir A.A. and Seme A., Reproductive health knowledge and services utilization among rural adolescents in east Gojjam zone, Ethiopia: a community-based cross-sectional study. BMC health services research, 2014. 14(1): p. 1–11. https://doi.org/10.1186/1472-6963-14-138 PMID: 24678725

15. Debebe S., Limenih M.A., and Biadgo B., Modern contraceptive methods utilization and associated factors among reproductive aged women in rural Dembia District, northwest Ethiopia: Community based cross-sectional study. International Journal of Reproductive BioMedicine, 2017. 15(6): p. 367.

16. Singh S., Darroch J.E., and Ashford L.S., Adding it up: the costs and benefits of investing in sexual and reproductive health 2014. 2014.

17. Betron M. and Gonzalez-Figueroa E., Gender identity and violence in MSM and transgenders: policy implications for HIV services. Washington, DC: Futures Group International, USAID| Health Policy Initiative, Task Order, 2009. 1.

18. MacPhail C., et al., Contraception use and pregnancy among 15–24 year old South African women: a nationally representative cross-sectional survey. BMC medicine, 2007. 5(1): p. 1–8. https://doi.org/10.1186/1741-7015-5-31 PMID: 17963521

19. Kesetebirhan A., National guideline for family planning services in Ethiopia. Federal Democratic Republic of Ethiopia, Ministry of Health, 2011.

20. Hailemariam A. and Haddis F., Factors affecting unmet need for family planning in southern nations, nationalities and peoples region, Ethiopia. Ethiopian journal of health sciences, 2011. 21(2): p. 77–90. https://doi.org/10.4314/ejhs.v21i2.69048 PMID: 22434988

21. Darroch J.E., Singh S., and Frost J.J., Differences in teenage pregnancy rates among five developed countries: the roles of sexual activity and contraceptive use. Family planning perspectives, 2001: p. 244–281.

22. Singh S., Bankole A., and Woog V., Evaluating the need for sex education in developing countries: sexual behaviour, knowledge of preventing sexually transmitted infections/HIV and unplanned pregnancy. Sex education, 2005. 5(4): p. 307–331.

23. Kaneda T. and Bietsch K., 2015, World Population Data Sheet, Population Reference Bureau, 1875 Connecticut Ave. NW Suite. 520: p. 20009–5728.

24. Nations U. and U.N.P. Fund, By choice, not by chance: family planning, human rights and development. 2012: United Nations Publication Fund.

25. Mengistu T.S. and Melku A.T., Sexual and reproductive health problems and service needs of university students in south east Ethiopia: Exploratory qualitative study. Science journal of public health, 2013. 1(4): p. 184–188.

26. Govindasamy P., Kidanu A., and Bantayerga H., Youth reproductive health in Ethiopia. 2002: OCR Macro Calverton, Maryland.

27. Harris-Bourne V., Trends in adolescent fertility and contraceptive use in the developing world. 1997: DIANE Publishing.

28. Feleke S.A., et al., Reproductive health service utilization and associated factors among adolescents (15–19 years old) in Gondar town, Northwest Ethiopia. BMC health services research, 2013. 13(1): p. 1–10. https://doi.org/10.1186/1472-6963-13-294 PMID: 23915299

29. de Belmonte L.R., et al., Barriers to adolescents' use of reproductive health services in three Bolivian cities. Washington: Focus on Young Adults/Pathfinder International, 2000.

30. Scholl, E. and W. Finger, Expanding Contraceptive Options and Access for Youth. YouthLens, (12).

31. Gebreselasie T. and Govindasamy P., Levels and trends in unmet need for family planning among adolescents and young women in Ethiopia: further analysis of the 2000, 2005, and 2011 Demographic and Health Surveys. DHS Further Analysis Report, 2013(72).

32. Ayele W., et al., Trends and determinants of unmet need for family planning and programme options, Ethiopia. Further analysis of the 2000, 2005, 2011.

33. Demographic E., Health survey 2011 central statistical agency Addis Ababa. Maryland: Ethiopia ICF International Calverton, 2012: p. 70–1.

34. Akinyi O.P., Determinants of utilization of youth friendly reproductive health services among school and college youth in Thika West District, Kiambu County, Kenya. Kiambu county, Kenya, 2009.

35. Hardgrove A., et al., Youth vulnerabilities in life course transitions. 2014.

36. Southward L., et al., Contraceptive use and associated factors among South African youth (18–24 years): A population-based survey. South African Journal of Obstetrics and Gynaecology, 2012. 18(2).

37. Wordofa D., Determinants of Sexual Behaviour among Out-of-School Youth in Bishoftu Town, Oromia Region. 2008, Addis Ababa University.
38. Kayongo S.B., Uptake of modern contraception among youths (15–24) at community level in Busia District, Uganda. Unpublished Master’s Thesis. Makerere University School of Public Health, Kampala, Uganda, 2013.

39. Indongo I.N.K., Contraceptive use among young women in Namibia: Determinants and policy implications. 2008, University of Pretoria.

40. Obare F., et al., Levels, trends and determinants of contraceptive use among adolescent girls in Kenya. 2011.

41. Kampala, J.B.A., Socio-demographic factors associated with contraceptive use among young women in comparison with older women in Uganda.

42. Mazengia F. and Worku A., Age at sexual initiation and factors associated with it among youths in North East Ethiopia. Ethiopian Journal of Health Development, 2009. 23(2).