Contraceptive use among sexually active female adolescent in Ethiopia:Trends and determinants insight from national demographic and health survey

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Abstract

Background: Sexual and reproductive health and right of young people is a global priority as the reproductive choices made by them have a massive impact on their health and wellbeing, education and economy. Teenage pregnancy is a public health issue and a demographic challenge in Ethiopia. The use of contraceptive method is a most effective way for sexually active adolescent to prevent pregnancy and its related complication. However, little is known about the trends in contraceptive use and its determinant among adolescent girls in Ethiopia. Therefore, this study was designed to examine the trends and correlates of contraceptive use among sexually active girls aged 15-19 years in Ethiopia by using Ethiopian demographic and health survey data.

Methods: Four Ethiopian demographic and health survey data were used to examine trends of contraceptive methods use. To identify factors associated with contraceptive use, the 2016 Ethiopian demographic and health survey data were used. The data was accessed from the demographic and health survey program database and data for sexually active adolescent girls were extracted. Data analysis was done using SPSS version 21. Data were weighted for analysis. Descriptive analysis was used to describe independent variables of the study. Multivariable logistic regression model was used to identify factors associated with contraceptive use.

Results: Contraceptive method use was increased significantly from 6.9% in 2000 to 39.6% in 2016 among sexually active adolescent girls in Ethiopia. The odds of contraceptive use were lower among female adolescent who had no formal education (AOR= 0.044; 95% CI= 0.008−0.231) and attended primary education (AOR= 0.101; 95% CI= 0.024−0.414). But the odds of contraceptive methods use were higher among adolescents in rich wealth status (AOR= 3.662; 95% CI =1.353−9.913) and those who were told about family planning during their health facility visits (AOR= 3.115; 95% CI= 1.385−7.007).

Conclusion: Contraceptive method use was increased significantly among sexually active adolescent girls in Ethiopia in the year 2000 to 2016. Wealth status, educational status and information about family planning during their health facility visits were factors associated with contraceptive use. Improving economic and educational status of young women may help in improving contraceptive use in Ethiopia.

Plain English Summary

Adolescent contributes up to 16 percent of the world's population. Individuals of the adolescence age category (10-19) are in a time of social and biological transition. Sexual and reproductive health and right of young people is a global priority. Teenage pregnancy is a public health issue and a demographic challenge in Ethiopia. The use of contraceptive method is a most effective way for sexually active adolescent to prevent pregnancies and its related complication.

Data for this study are from the four consecutive 2000, 2005, 2011 and 2016 Ethiopian Demographic and Health Surveys [EDHS]. Data for sexually active adolescent girls were extracted from the data set.

The trend of contraceptive use among adolescent is increasing from time to time. However, more than three fifth of the sexually active female adolescents are still not using the contraceptive.

There were significant variations in the use of modern contraception by educational level, wealth status and information about family planning.

Introduction

Adolescence is a critical phase in life and a time of social and biological transition between childhood and adulthood that entails numerous milestones and opportunities, roles, and responsibilities (1−3). Adolescents: Individuals in the age range of 10- 19 years are central to sustainable development since they are a driving force for development. This age group contributes up to 16 percent of the world's population and is one of the fastest growing cohort (4−6).

Although adolescent populations are huge in number and their contribution is important in achieving several developmental goals, an explicit attention has not given to adolescent during millennium development goals (5). However, recently, global developmental goals and strategies recognized adolescents as a previously neglected population group and emphasized the importance of their health and rights (7,8). The 2016 lancet commission report on adolescent also indicated the triple dividend of investing in adolescent (6). Investments done for adolescent supported them to become healthy adults who are equipped to contribute positive to societies (9).

Sexual and reproductive health and right of young people is a global priority as the reproductive choices made by them have a massive impact on their health and wellbeing, education and economy (10,11). In addition, children born to adolescent girls are more likely to have low birth weight (12). Among girls in developing regions, about half of all pregnancies are unintended. More than half of these pregnancies result in abortion, whereas, 14% were unsafe abortions (10), an annual rate of about 16 unsafe abortions per 1,000 occur among girls under the age of 20 years in developing countries (13). These early and unintended pregnancies have major health consequences for both mothers and their babies; pregnancy and childbirth complications are the leading cause of death among adolescent girls globally, with a higher proportion in low- and middle-income countries (14,15).

Access to sexual and reproductive health information and services including high-quality contraceptive methods services are essential in averting the burden of early pregnancies, unintended pregnancies and births and abortion (4,6,11,16). The use of the contraceptive method is a most effective way for sexually active adolescent to prevent pregnancies and its related complication (10). For instance, the use of modern contraceptives prevents an estimated 308 million unplanned pregnancies in 2017 (11), and if all adolescent with an unmet need for modern contraception were to receive the services, unintended pregnancies would drop by 59% from current levels (10). In addition, evidence from developing countries indicated the relationship between improving access to contraceptives and unsafe abortion, and expanding contraceptive method mix can serve as an effective strategy to prevent unsafe abortion (17). Hence, all adolescents who want to prevent pregnancy should able to obtain and use contraception (18).

Available evidences showed that sexually active unmarried adolescents are not seeking to become pregnant and married wish not to become pregnant at a young age or wish to delay a second pregnancy (11,14,19,20). However, there is a high unmet need for modern contraceptive use among adolescent. For instance, to avoid an unintended pregnancy, 38 million adolescents in developing countries need contraceptives, however, only 40% are using an effective contraceptive method (10)(21). Despite having clear needs, adolescents and young adults often fail to access sexual and reproductive health care and unplanned pregnancies happen despite the best of contraceptive intentions (5,6,22). Although efforts are made to eliminate inequalities in the utilization of sexual and reproductive health services across the globe, there are disparities in contraceptive use between different age groups and young people have inadequate access to sexual and reproductive health information and services.

In Ethiopia teenage pregnancy is a public health issue, and a demographic challenge. The proportion varies geographically with 15% in rural and 5% in urban (22). Preventing teenage pregnancies and fertility are among the priority issues of the Ethiopian Federal Ministry of Health (23). The government of Ethiopia is implementing policies and strategies to support young people in increasing their access to sexual and reproductive health services (24–26).

Though there are primary studies on the contraceptive use in Ethiopia, there is paucity of information to identify trends in contraceptive use and its determinants among girls aged 15 to 19 years from data that represent national level picture.   To effectively respond to the reproductive health needs of this growing population, it is imperative to understand their contraception practices. Therefore, the purpose of this study was to examine the trends, and correlates of contraceptive use among sexually active adolescents in Ethiopia by using the Ethiopian demographic and health survey data. The findings of the study will be useful for health planners, policy makers and developmental partners who are working to improve the health and well-being of adolescents in Ethiopia. Furthermore, it will assist in designing programs and strategies to increase coverage, quality, and equity of adolescent girl's reproductive health at the country level.

Data And Method

Data for this study were extracted from the four consecutive years' (2000, 2005, 2011, and 2016) Ethiopian Demographic and Health Surveys [EDHS]. The data set was requested from the Measure DHS program on April 1, 2019 and obtained approval to use data.

The information about contraceptive use was collected from all non-pregnant, fecund reproductive age women using pretested questionnaire. The detail about the methodology could be accessed from EDHS webpage (www.measuredhs.com). In this study, all the four EDHS data were used to describe the trends of contraceptive use among sexually active female adolescent. The 2016 EDHS data were employed to analyze the determinants of contraceptive use.

The 2016 survey comprising 15,683 women aged 15– 49 and 12,688 men aged 15– 59. Among total interviewed women, 6,401 of them were youth; 15-19 girls account 3,498 (22.3%). Of the total adolescent

girls participated in the study, 518 were sexually active in the last four weeks before data collection.

The dependent variable for this study was contraceptive use. Whereas, some selected independent variables include: age, educational status, religion, ethnicity, marital status, working currently, wealth status, visiting of health facility, hearing about family planning information from radio, Television (TV) and newspaper, place of residence and region of residence, and having information of family planning from providers at the health facility.

For this study, some of the study variables were re-coded to suit the purpose of the study while some were used as they are in the original data set. For instance, religious affiliation was re-coded into orthodox Christian, other Christian and Muslim. Wealth status was also re-coded into poor, average, and rich by combining "poorer" and "poor" for poor and "rich" and "richer" for rich. The highest education level was re-coded into no formal education, primary, and second and above by combining secondary and higher.

The data were analyzed using SPSS version 21. Before any statistical analysis, standard EDHS sample weights were applied to account for the unequal probability of selection in the sample and non-response. The recommended procedure on how to weight DHS data in SPSS was followed. The weighting variables used was women's individual sample weight, since the study unit of analysis is women. Descriptive analysis was used to describe background characteristics of the study participants. Multicollinearity was checked before running logistic regression using variance inflation factor. The maximum value of the variance inflation factor was 1.119, indicating that the absence of multicollinearity. Binary and multiple logistic regressions were employed to identify candidate variables and examine the determinants of contraceptive use respectively. Adjusted odds ratios with 95% confidence interval were presented for significant variables in the final model to estimate the likelihood of contraceptive use among various categories of adolescents. All figures and tables in the report depict weighted numbers and percentages.

Operational definitions

Sexually active: Those respondents who reported that they have had sexual intercourse, irrespective of their marital status in the last four weeks at the time of interview.

Contraceptive use: Respondents who at the time of interview said they or their partner are using any contraceptive method to delay or avoid becoming pregnant. It was dichotomous denoting users, and nonusers of contraceptive methods.

Current use of modern contraception: Current users of modern contraceptives include young women who said that they or their partner are currently using any of the following modern methods of contraception, such as female sterilization, male sterilization, the pill, injectable, intrauterine device, implant, condom, and emergency contraception at the time of the survey.

Results

Trends in contraceptive use

The trends of contraceptive use among sexually active female adolescents increased from 6.9 percent in 2000 to 39.6 percent in 2016, increased by more than 6-fold. Regarding the types of contraceptives used, the proportion of modern contraceptive method use had significantly increased. It has increased by 8.7 percent during the survey period from 2000 to 2005 and nearly doubled between 2005 to 2011. The proportion of adolescent who were using modern contraception methods continuously increased between the years 2005 and 2016 and, more than 10 percent increment was observed between 2011 and 2016 (Figure 1).

Disparities in contraceptive use by background characteristics of respondents

The proportion of contraceptive use varies significantly with age, place of residence, educational level and household wealth status of study subjects.

In all four surveys, modern contraceptive use was more common among adolescents in the age category of 18-19 years, who attended secondary and above educational level, lived in urban areas, and who were from rich family groups. The percent of girls with secondary and above educational level and using a method had not changed during 2005 to 2011 and significantly declined by 6.3 percent between 2011 and 2016 (Figure 2).

Modern contraceptive utilization trends by method mix

The trends in mix of currently used modern methods indicated promising improvement. The share of long-acting reversible contraceptive method such as Norplant/implants among sexually active adolescent girls had meaningfully increased by more than 6 percentage between 2000 to 2016. Intrauterine device (IUD) use was not increased as compared to implants. Utilization of Implants was increased by 6.3 percent, whereas, only 1.1 percent increment for IUD in 2016. Among short-term methods, the share of injection contraceptive method had been considerably increased by more than 25 percent from the year 2000 to 2016. The use of condoms was significantly declined between the years 2005 and 2016 from 1.7% to 0.1% (Figure 3).

Contraceptive use and its determinant from 2016 Ethiopian demographic and health survey

Characteristics of sexually active adolescent girls from EDHS 2016

A total of 504 sexually active adolescent girls were considered for this study. The mean age of the respondents was 17.73 years (SD±1.124). The mean ages at first cohabitation and first sexual intercourse were 15.59 years (SD±1.734) and 15.63 years (SD±1.751) years respectively. Nearly half (225, 47.3%) of adolescent girls cohabited at age 15 years or less.

Three-fifth (60.6%) of the sexually active adolescent girls were attended primary education and 440 (87.3%) were from rural residents. While majority (458,91.0%) of study subjects were married, and 125 (24.8%) of them were from poorer socioeconomic group. Slightly more than two two-fifth (41.9%) and 199 (39.5%) of the girls were Muslim and Oromo by their religion and ethnicity respectively. More than

three-fourth (79.7%) of respondents were not participated in the productive work at the time of the survey (Table 1).

Awareness and knowledge about fertility and contraceptive methods

Among sexually active adolescent girls, almost all (98%) of them had knowledge about contraceptive methods. Only 18.1, 13.4 and 4.2 percent of girls reported that they had heard about family planning messages on radio, watched on Television and read on newspaper/magazine respectively in the last few months before the survey. More than three-fourth (79.9%) of girls reported that field workers did not visit them in the last 12 months before the survey. Out of those visited by fieldworker, only 9.9% of fieldworkers talked about family planning. Additionally, only 77 (15.3%) were told about family planning among girls visited health facility in the last 12months. (Table2).

Factors associated with contraceptive use among sexually active adolescents

In binary logistic regression, eleven variables had significant relationship with adolescent girls' contraceptive use. These include respondent's and partner's educational and occupational status, currently working status, wealth status, visited by field worker in the last 12 months, told about family planning at a health facility, place of residence, heard about family planning messages on radio and watched on television in the last few months and were considered for multivariate analysis.

The odds of contraceptive use were nearly 96% (AOR=0.044; 95% CI=0.008−0.231) and 90% (AOR=0.101; 95%CI=0.024−0.414) less likely among sexually active female adolescent who had no formal education and primary education respectively as compared to those who had attended secondary and above educational level. Adolescent category in a rich wealth index s were 3-times more likely to use contraceptive method than their counterparts (AOR=3.662; 95% CI=1.353−9.913). The odds were 3-times among respondents who had visited health facility and informed about family planning as compared to those who had not told about FP during their visit (AOR=3.115; 95% CI=1.385−7.007) (Table 3).

Discussion

The trends of contraceptive use by the adolescent girls were increasing in the last two decades in Ethiopia. Contraceptive use among sexually active girls was increased by 6-folds between 2005 to 2016 EDHS. Possible explanations for this increment may be related to implementation of several interventions aimed at increasing demand for and access to sexual and reproductive health services among adolescents and youths by providing youth-friendly health services and innovative health extension program that brings health services including family planning to the communities' home (27, 28). There is also a national political commitment to family planning in Ethiopia, governments and non-governmental organizations have increased resource allocations for contraceptive security and deliver (29). Further, although much of contraception services are provided by government, provision of short term contraception methods by the private sectors can also played an important role in increasing young women's access to contraceptive services in Ethiopia (30).

The proportion of sexually active female adolescent contraceptive users relying on the IUD and implants increased substantially from no reported users in 2000 to 1.1% and 6.3% in 2016 respectively. However, IUD use did not increase compared to implants. This may be due to the fact that, starting from 2009 insertion of implant was cascaded to the health post level and training was given to the health extension workers on the provision of the service.

Despite the progress that has been achieved, a considerable number of sexually active adolescent girls use short acting methods, especially injectable which has a high failure rate compared to long acting and reversible contraceptive methods. The low uptake of long acting and reversible contraceptive methods may be due to barriers such as lack of availability, fear and misconceptions and provider bias on the provision of long acting methods for adolescents (31, 32).

The share of injection methods rose from 1.6% to 29.1%, while the patterns observed in condoms and pill declined from 1.1% to 0.1% and 3.2% to 1.8% respectively between 2000 and 2016. This finding indicated that adolescent girls appear to be shifting away from condoms and pills, and choosing for injectable contraceptives. This finding is comparable with study from Kenya and Rwanda where, injectable contraceptives have been consistently dominant among women aged 15-24 years (33). Possible reason could be due to the age of the participants. The fertility intention for young population is to delay or space births for two or more years which might explain their preference for short acting methods that are easier to start and stop as needed (34). However, the low use of condoms, and the increasing dominance of injectables have challenges for family planning efforts, and may have significant programmatic and public health implications (35).

Although there are visible changes in the trend of contraceptive use and knowledge of contraception was almost universal, still more than three fifths of sexually active female adolescents are not using the contraception according to 2016 EDHS data. This finding was slightly lower than the report from developing countries where 42–68% of sexually active adolescent females in all the Latin American countries (except Guatemala and Haiti) and in Bangladesh, Indonesia, Kazakhstan and Turkey were currently using contraceptives (34).

However, it is higher than the results from the African countries where contraceptive prevalence was 20–35%, except in Namibia in which it reached at least 40% (34). Also, this finding was slightly higher than the study from Zimbabwe and Malawi, where 35% and 33% of adolescents use contraceptive respectively (36). Further, it was higher compared to figures from Nepal. In Nepal, only 23.1% of married girls age 15-19 are currently using any method of contraception (37). Non-use of contraception could put adolescent in risks for teenage pregnancy, unintended birth, adverse birth and health outcome (36,38,39). Hence, ensuring access and choice of family planning to improve maternal and neonatal health is crucial.

With a high level of contraception methods knowledge, a huge gap exists between the knowledge and practice of contraceptive methods. This gap may be happened because of contraceptive related side effects. Adolescent may fear side effects associated with using contraception and this could in turn

interfere with their practice. Additionally, even though young women's have knowledge about contraception, due to disapproval from their sexual partner, they may not use family planning (40).

There were significant variations in the use of contraception by background characteristics of adolescent girls in Ethiopia. Adolescents who have secondary and higher educational level, who had information about family planning at health facility, and those in the highest wealthy families use significantly more contraception as compared to their counterpart who have not attended formal education, did not have information about family planning at the health facility, and who belong to the poor families.

This study revealed that respondent's education was an independent predictor for contraceptive use. This was similar to a study conducted in Nigeria and Burkina Faso where contraceptive use among adolescents attended secondary/above level education were higher than those who had completed only primary-level education (41). Similarly, in Ghana, the odds of contraceptive use was higher among educated female adolescents (42). Further, low contraceptive use among illiterate female adolescents was reported in Bangladesh (43). This may be because educated women are more likely to appreciate the dividend that contraceptive use has on their lives. Also educated women may have a plan to pursue the highest career within their education as a result; they want to delay their childbearing time.

The likelihood of contraceptive use increased significantly with the increase in household economic status. This finding was in line with report from three African countries: Nigeria, Burkina Faso and Ethiopia. Across all these countries, there is a significant equity gap in modern contraception use because of wealth index (41). Likewise, another study in Ethiopian showed that women in the richer household were more likely to use contraception (44). This could be because, most of the small resources obtained from the petty jobs done by women, and their spouses in poor households are diverted for taking care of the family and less is shifted to the health of the mothers. Hence, poor household preferred not to use the service as they encountered difficulties to cover direct and indirect costs incurred in seeking the services (45).

Further, adolescents, those had been told about family planning during a health facility visit used contraception more than those who were not told about family planning. The existing body of literatures indicated that female adolescent access to family planning information via different sources increases use of modern contraceptive methods. For instance, in Nigeria hearing about family planning on mass media was associated with the use of modern contraceptives (46). Also, being visited by a community health worker resulted in more likely to use modern contraceptive methods (47). Access to information play a significant role in the use of contraception as it has the capacity to raise an individual's awareness, and influence their attitude and could guide to make an informed decision to use the services. However, in the present study only 15% of those who visit health facilities are told about contraception that indicated many sexually active adolescent girls miss out on this information.

Systematic review conducted in 2011 and updated in 2016, on youth-friendly family planning services for young people indicated the importance that young people place on receiving comprehensive, client centered family planning counseling (27). However, there are a number of factors that was identified as

barriers to the delivery of effective contraceptive counselling and care for adolescents. For instance, in Latin America, many consider adolescent use of contraception to be socially unacceptable (48). Since there were significant associations between FP counseling with contraceptive initiation, as well as continuation, health care provider skills in the counselling, and provision of contraception for adolescent are therefore needed be emphasized (49).

This study showed that, more than nine in the ten of adolescents were married and about half were cohabiting at age 15 years and less than; more than three years earlier compared to the recommended age at marriage in Ethiopia. This showed the practice of very early marriage and early sexual activities among adolescent girls.

Early marriage often results from the traditional, and cultural family values that justify control over women's sexuality and fertility (50–52). These types of practices have a direct impact on girls' education and future carrier (53). It has also a negative consequence of the economic development of nations in addition to causing a significant health risk both to a girl, and her baby (54). This was due to an extended time that the girls spend in childbearing years that cause an increase in fertility and population growth. The evidence also indicated that, in marriage union the frequency of sexual activity is higher than in those who are not, hence in the absence of contraception there is greater likelihood of occurrence of a pregnancy (50).

The main strength of this study was the use of a nationally representative data set. The study has also some limitations, the small sample sizes that contributed to a bit wider confidence level for some variables. Possibility of social desirability bias that may result to underreporting of sexual activity. The information was self-reported and it may not indicate the true picture of contraceptive practice by adolescent. The data are from a cross-sectional survey and unable to establish any causal relationship between a response variable (contraceptive use) and the covariates of interest.

Conclusion And Recommendation

There is an increment in the trend of contraceptive use among sexually active female adolescents in Ethiopia between 2000 to 2016. Although there is change in pattern of implant and IUD use, IUD use did not increase as much and injectable was the most widely used contraceptive method. Respondent education, wealth status and being informed about family planning at health facility were significant determinants of contraceptive use. indicated that personal, socioeconomic (macro), health care system (intermediate) factors determine the contraceptive practices. Also, a considerable proportion of adolescents are experiencing early marriage that remains a major bottleneck for adolescents.

As adolescent populations continue to grow, governments must develop more targeted strategies for improving socioeconomic and adolescents' education. This will not only increase contraceptive prevalence, but will also reduce teenage pregnancy and childbearing, and in turn contribute to the achievement of the Sustainable Development Goal 3 of good health and well-being. Improving contraception use among sexually active adolescents will also require connecting adolescents with

information and services during their routine health service visits and taking advantage on missed opportunities for contact with the health facility. Strengthen health workers competency and attitude on counselling, and provision of contraceptive information and services for adolescents is also crucial.

Considering the fact that contraceptive knowledge does not necessarily translate into usable, qualitative studies, are needed to understand why high knowledge levels are not associated with high usage patterns. Strengthening community and school-based programs to address the school environment and/or community attitudes toward early marriage is important. Consequence of early marriage should be emphasis on the integrated Life Skill Education and comprehensive sexuality education. Legal issues around early marriage- enforcing laws on age at marriage should be strengthen.

List Of Abbreviations

AOR: Adjusted odd Ratio, COR: Crude odd Ratio, DHS: Demographic and Health Surveys, EAs: Enumeration areas, EDHS: Ethiopian Demographic and Health Surveys, HIV/AIDS: Human immunodeficiency virus infection and acquired immune deficiency syndrome, IUCD: Intra-Uterine Contraceptive Device, SPSS: Statistical Package for the Social Sciences, STIs: Sexual transmitted infections, TV: Television

Declarations

Ethics approval and consent to participate: Manuscript has adhered to the ethical standards. The data set was requested from the Measure DHS program. An approval was then granted to download the data.

Consent for publication: Not applicable

Availability of data and materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request

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Availability of data and materials: The raw data available at https://dhsprogram.com/publications/publication-fr328-dhs-final-reports.cfm

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Tables

Table 1 : Distribution of sexually active female adolescents age 15-19 by their background characteristics, Ethiopia DHS 2016

Variable		Frequency	Percent
Age category	15-17	161	32.0
	18-19	343	68.0
Education of respondent	No education	143	28.4
	Primary	305	60.6
	Secondary and above	56	11.0
Place of residence	Urban	64	12.7
	Rural	440	87.3
Marital status	Married	458	91.0
	Never married	23	4.5
	Divorced/separated	23	4.5
Wealth index	Poor	230	45.6
	Average	97	19.3
	Rich	177	35.1
Religion	Muslim	211	41.9
	Orthodox Christian	201	39.9
	Other Christian	90	17.9
	Other	2	0.3
Ethnicity	Oromo	199	39.5
	Amhara	155	30.7
	Tigraie	34	6.8
	Sidama	22	4.4
	Somalie	17	3.3
	Walaita	12	2.4
	Gamo	10	1.9
	Guragie	8	1.5
	Other	48	9.4
Respondent occupation	Not working	300	59.6
	Agriculture	102	20.3

	Sales	57	11.3
	Others*	45	8.8
Currently working	No	402	79.7
	Yes	102	20.3
Husband Occupation(N=458)	Not working	35	7.6
	Agriculture	301	65.8
	sales	33	7.2
	Professional/technician	16	3.4
	Others+	74	16.1
Husband Education(N=458)	No education	147	32
	Primary	220	48.1
	Secondary and above	91	19.9

*professional/managerial/technical, services, skilled and unskilled manual

+ skilled and unskilled manual, services, I don't know

Table 2: Distribution of adolescents age 15-19 by their exposure to family planning information, knowledge about fertility and contraceptive method, Ethiopia DHS 2016

Variables		Frequency	Percent
Heard family planning message on radio on last few months	Yes	91	18.1
	No	413	81.9
Watch family planning messages on TV on last few months	Yes	68	13.4
	No	436	86.6
Read about family planning messages on newspaper/magazine last few months	Yes	21	4.2
	No	483	95.8
Received family planning text message on mobile phone	Yes	5	1.1
	No	498	98.9
Visited by field worker in the last 12 months	Yes	101	20.1
	No	402	79.9
Field worker talk about family planning	Yes	50	9.9
	No	51	10.2
Visited health facility in the last 12 months	Yes	211	42.0
	No	292	58.0
Told about family planning in the health facility	Yes	77	15.3
	No	135	26.7
Knowledge of ovulatory period	During her period	37	7.3
	After period ended	148	29.4
	Middle of the cycle	76	15.0
	Before period begins	33	6.5
	At any time	116	23.0
	Do not know	95	18.8
Knowledge about any contraceptive method	Knows no method	7	1.3
	Knows only traditional method	4	0.7
	Knows modern	494	98.0

		method		
Number of living children		No child	308	61.1
		One child	173	34.4
		Two and more	22	4.5
Decision maker on contraceptive use		Mainly Respondent	34	19.7
		Mainly husband	3	1.9
		Joint decision	133	78.4

Table 3: Bivariate and multivariate logistic regression model showing predictors of contraceptive use among sexually active adolescents, 2016 EDHS

Variables and its category		COR [95% CI]	AOR [95% CI]
Adolescent age category	15-17	.408 (.270, .616)	.524 (.218 1.260)
	18-19	1	1
Place of residence	Urban	3.256 (1.882, 5.632)	0.692 (.113 4.238)
	Rural	1	1
Heard family planning on radio last few months	Yes	2.365 (1.491 3.750)	1.046 (.405 2.699)
	No	1	1
Heard family planning on TV last few months	Yes	3.323 (1.943 5.682)	0.374 (.093 1.506)
	No	1	1
Told about FP at health facility	Yes	3.083 (1.721 5.523)	3.115 (1.385 7.007) *
	No	1	1
Husband Education	No education	.422 (.247 .722)	1.083 (.320 3.671)
	Primary	.445 (.271 .731)	0.330 (.107 1.015)
	Secondary & above	1	1
Wealth Index	Poor	1	1
	Average	1.886(1.135, 3.134)	0.424 (.130 1.380)
	Rich	4.701(3.070, 7.198)	3.662 (1.353 9.913) *
Respondent occupation	Not working	1	1
	Agriculture	1.407 (.891 2.222)	1.841 (.632 5.359)
	Sales	2.730 (1.447 5.154)	2.599 (.387 17.455)
	Others (skilled, unskilled manual)	1.048 (.577 1.902)	0.468 (.085 2.587)
Respondent education	No education	.206 (.106 .399)	0.044 (.008 .231) *
	Primary	.369 (.203	0.101 (.024

			.669)	.414) *
	Secondary & above		1	1
Currently working	Yes		1.797 (1.160 2.784)	2.622 (.660 10.412)
	No		1	1

* Significant value at 0.05

Figures
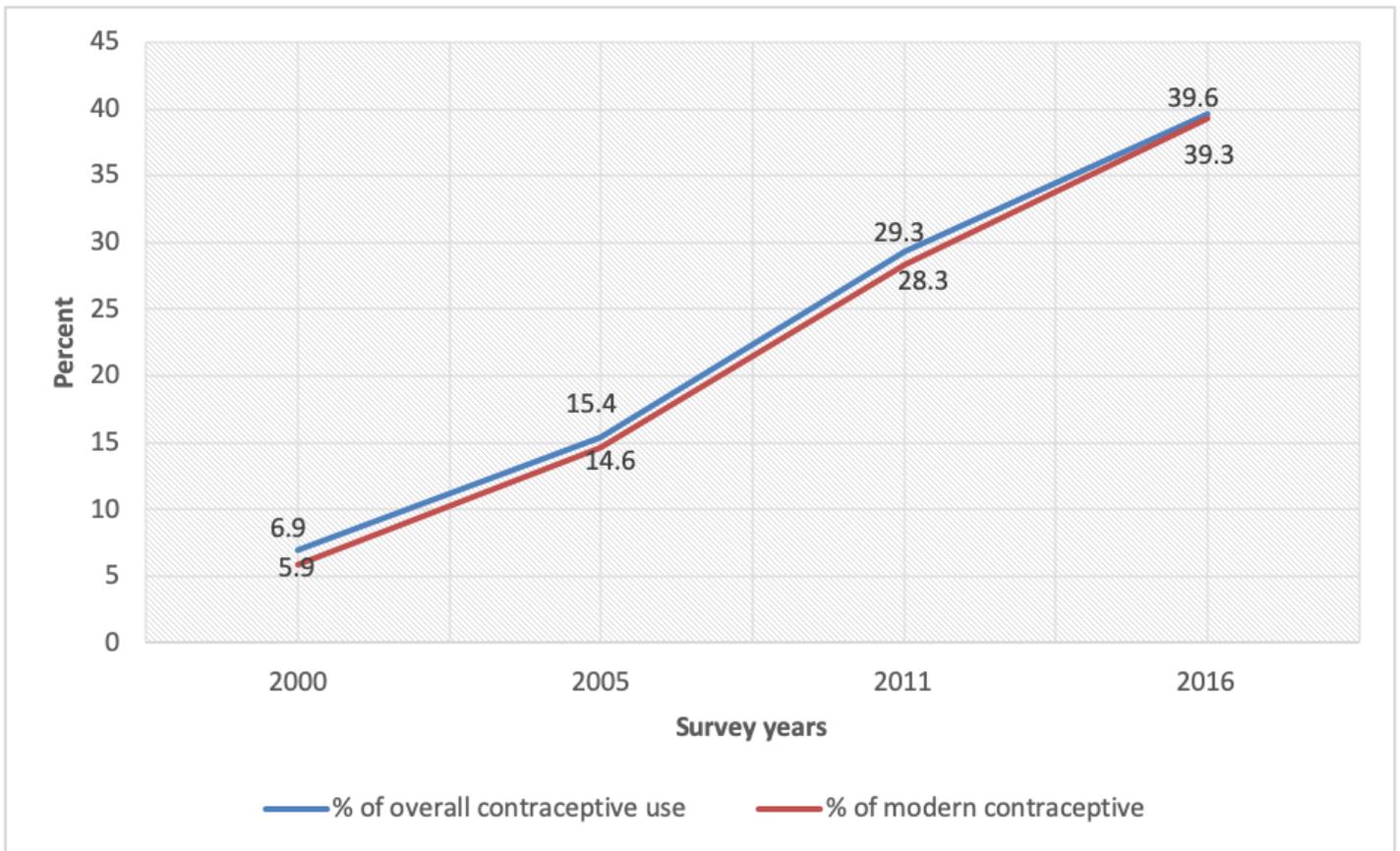
Figure 1

Trends in use of modern contraceptives among sexually active adolescent, Ethiopia DHS 2000-2016
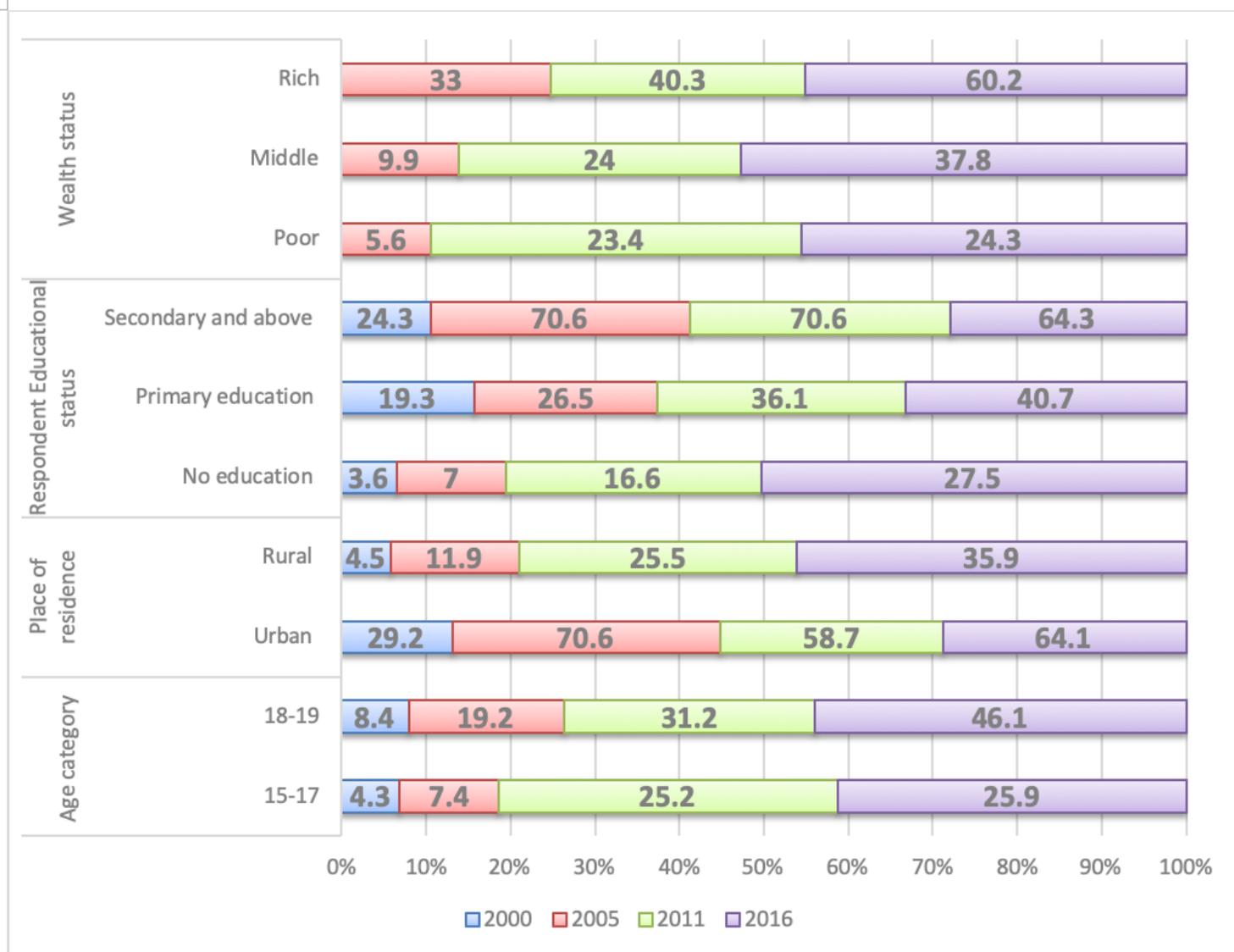
Figure 2

Differentials in contraceptive use among sexually active adolescent by background characteristics, Ethiopia DHS 2000-2016
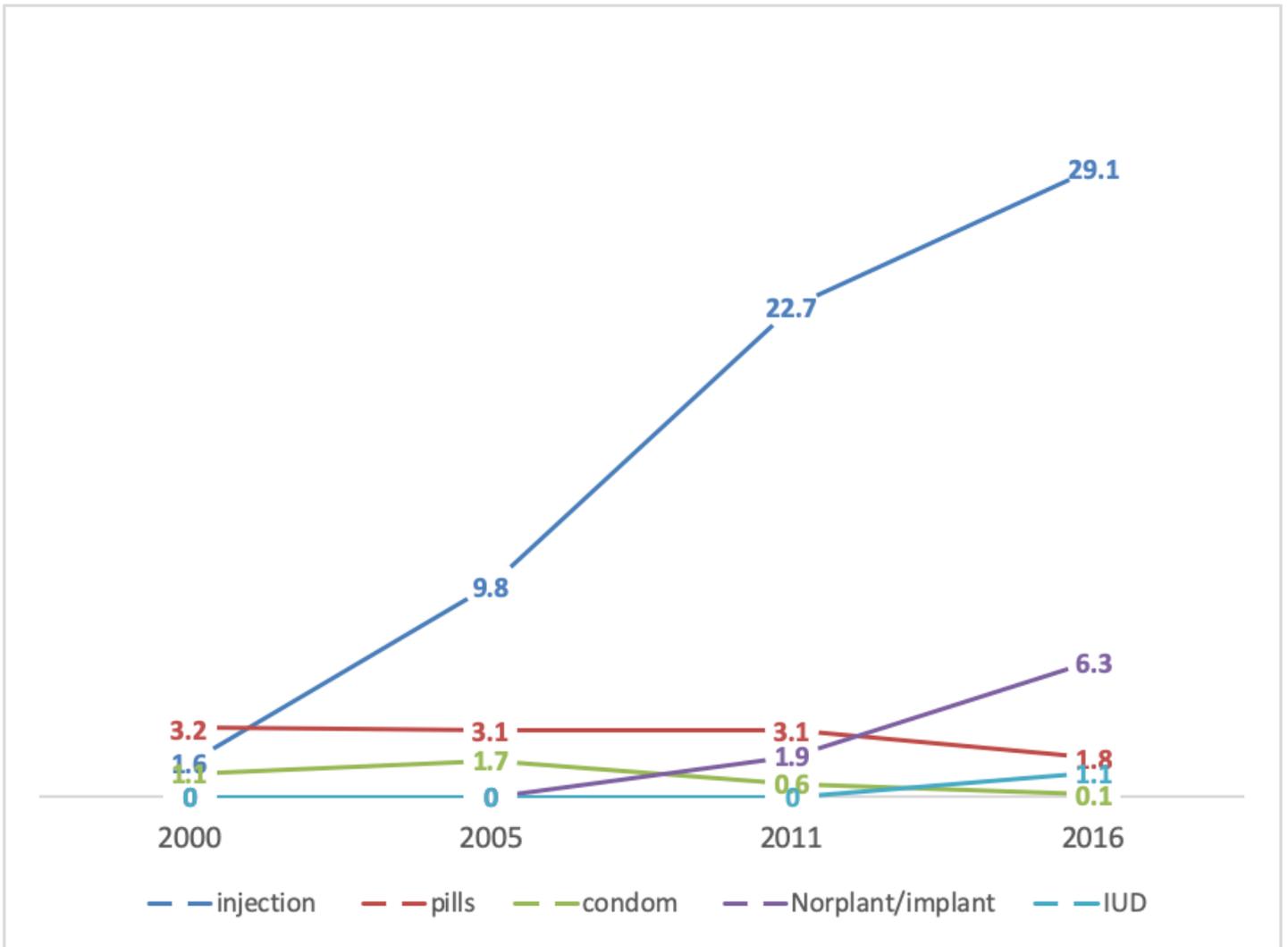
Figure 3

Trends in method mix contraceptive use among sexually active adolescent, Ethiopia DHS 2000-2016