Original article

Reproductive Health Knowledge and Attitude among Adolescents: A community based study in Jimma Town, Southwest Ethiopia

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Abstract

Background: Adolescents often lack basic reproductive health RH information, knowledge, and access to health services for RH. Many have less than favorable attitudes and do not feel comfortable to discuss RH with parents or other key adults.

Objectives: To assess RH knowledge, attitude and provider preference among adolescents of age 15 to 19 years.

Methods: A community-based cross-sectional study was conducted in Jimma Town, Southwest Ethiopia from February to March 2004. A structured questionnaire was utilized to collect data from the sampled population. Adolescents aged between 15 to 19 years old were interviewed about their knowledge and attitudes regarding health services for RH. The data were entered into two different computers using SPSS for windows version 12.0.1 and analyzed using STATA 9.1. Descriptive and bivariate analyses using t-test were employed to depict results.

Results: The majority of adolescents knew major health services for RH and the main health service providers of RH. The major sources of information for RH were radio for 80.4% and television for 73% and school teachers for 71.8% of respondents. The overall mean score indices of knowledge for health services of RH, health services providers and source of information were 3.44, 3.78 and 4.68 respectively. The average index score of attitude for health services of RH was also moderately favorable (2.98).

Conclusion: The level of knowledge and attitude about health services for RH, source of information for these services and service provider centers is encouraging. However, the role of health professionals and families as the source of information for the adolescents seems to be low. This should be improved using a more integrated all stakeholders particularly adolescents' families and health professionals who have a vital role to ensure adequate knowledge and favorable attitudes for utilization of the RH in the locality. [*Ethiop.J.Health Dev.* 2008;22(3):243-251]

Introduction

According to WHO estimates, one in every five people in the world is an adolescent, (between 10 and 19 years of age). With an estimated 1.2 billion adolescents alive today, the world has the largest adolescent population in history (1). Of these, about 85% live in developing countries. Moreover, more than half of the world's population is below the age of 25, and four out of five young people live in developing countries (2,3). Many adolescents die prematurely every year, an estimated 1.7 million young men and women between ages of 10 and 19 lose their lives to accidents, violence, pregnancy-related complications and other illnesses that are either preventable or treatable (1). As a result, adolescent reproductive health (RH) is an increasingly important component of global health.

Focusing on adolescent RH is both a challenge and an opportunity for health care providers. While adolescence generally is a healthy period of life, many adolescents are less informed, less experienced, and less comfortable accessing health services for RH than adults (4,5,6). Adolescents often lack basic RH information, knowledge, and access to affordable confidential health services for RH. Many do not feel comfortable in discussing RH with parents (4).

Likewise, parents, health care workers, and educators frequently are unwilling or unable to provide complete, accurate, age-appropriate RH information to young people. This is often due to their own discomfort about the subject or the false belief that providing the information will encourage sexual activity (7). Adolescents may also experience resistance or even hostility and bad attitudes from adults when young people attempt to obtain the RH information and services they need. They therefore may be at increased risk of sexually transmitted infections (STIs), HIV, unintended pregnancy, and other health consequences. For women aged 15 to 19, complications of pregnancy, childbirth, and unsafe abortion are the major causes of death. Young people aged 15 to 24 have the highest rates of sexually transmitted infections (STIs), including HIV/AIDS (8). Particularly, adolescents in the Sub-Saharan region have low family planning utilization rates and limited knowledge about RH and services, and they account for a higher proportion of the region's new HIV infections, maternal mortality ratios, and unmet need for RH information and services (8). These circumstances can be attributed to a number of social, cultural, economic, and gender-related factors, many of which are avoidable problems.

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Little is known about the quality and accuracy of young people's knowledge, attitudes and preference of health service provider for RH (9, 10). Moreover, despite the mass media and community mobilization efforts that engage parents, school teachers, community and religious leaders to promote health services for RH, little is understood about their influence on adolescent knowledge and attitude towards health services for RH. As segmentation of interventions is desirable to address the diverse needs and contexts of adolescents' lives, studying adolescents' knowledge and attitude of RH health services and their determinants is highly relevant to design appropriate program interventions and strategies in the local context. Needless to say that RH services and programs are most effective when appropriately targeted and tailored to the contexts in which young people live, and to their life circumstances. In view of this, the current study is designed to determine RH knowledge, attitude and providers' preference among adolescents of age 15 to 19 years residing in Jimma Town, Southwest Ethiopia.

Methods

Study area and study period: The study was conducted in Jimma Town, which is 350 km away from Addis Ababa, the capital city of Ethiopia in the southwest part of the country. According to the 1994 national population and housing census, the total population of Jimma Town in 2004 was projected to be 88,868, of which the projected adolescent population was estimated to be 19.4% (27,140). The population is composed of Muslims and Christians with diversified ethnic groups. Oromos are the predominant ethnicity in the town. The study period was from February to March 2004.

Study design, Study participants and sampling: This study is a community based cross-sectional study conducted to assess the utilization and accessibility of health services for adolescents in Jimma town. Study participants were adolescents of 15 to 19 years that were permanent residents in the study areas for at least six months. The sample size was determined using Epi Info Version 6.04d statistical package for estimating single population proportions. We assumed 50% proportion with 95 % confidence interval with marginal error of 3% to determine the maximum sample size to improve the precision of our estimate. From the 1994 census, the total projected adolescents (27,140) living in Jimma Town were taken. Therefore, the calculated sample size was 1027. Adding 10% non-response rate, the total number of respondents anticipated for this study were 1130 adolescents in the age group of 15-19 years. From 21 kebeles (smallest administrative unit) found in Jimma Town, 9 Kebeles were included in this study by lottery method. Samples were allocated proportional to the size of each Kebele. The first respondent from each Kebele was identified using lottery method and then systematic sampling techniques were used to identify the other respondents and followed north, east, south and west at an interval of every seventh household.

Data collection and instruments: A structured questionnaire was developed and administered to adolescents. Questionnaires and consent documents were developed in English then translated into Amharic language and back translated into English language by two independent translators. Interviewers were recruited and underwent two days training that included cognitive interviewing, practice interviewing, and role playing. Interviewers undertook a pilot study following the training. After the pilot, interviewers and investigators met to discuss experiences, issues, and resolve questionnaire problems. Pilot data were also checked for consistency, outliers, and missing values. Upon completion of the pilot study, a day-long follow-up training was conducted with a focus on resolving issues, allowing interviewers to share experiences, and finalizing the questionnaires. Households were visited and participants were interviewed in their house in a private area. Adolescents found during the visit were interviewed. If more than one adolescent existed in a household, the lottery method was applied to recruit one. For those households in which adolescents were not found at home during interview, three further visits were made before deciding to go to the next household. Informed consent was obtained from one parent as well as from the adolescent. However, the adolescents were assured that neither the interviewer nor their parents would have access to their responses. Privacy, anonymity and confidentiality were maintained throughout the process of this study. The questionnaire covered several aspects of the adolescent's knowledge and attitudes towards health services for RH.

Knowledge about the type of health services for RH: The adolescents were asked 4 questions which covered the main services provided in Jimma Zone namely; family planning, treatment for sexually transmitted infections, voluntary testing and counseling for HIV/AIDS and information, education and communications about health services for RH. We devised a summary index of knowledge about health services for RH that assigned a score of 1 for each "yes" response and 0 for "no" responses.

Knowledge about RH services providers for RH: We assessed adolescents' familiarity with main health service providers in the locality. Adolescents were asked to list spontaneously RH health service providers followed by probing by interviewers. We assessed adolescents' familiarity with 7 service providers in the locality. The summary index, ranging from 0 to 7, assigned one point for each health service provider known and zero otherwise.

Sources of information about health services of adolescents: We asked the adolescents to spontaneously list the sources of information about health service for RH followed by probing. We summarized 8 sources of information about health services for adolescent RH. The summary score, again ranging from 0 to 8, assigned one point for each source of information for health services mentioned and zero otherwise.

Attitudes toward health services for RH: Adolescents were asked how much they agreed or disagreed with six attitude statements. These questions were: is RH important for adolescents like you; adolescents should use health service for RH for various reasons; each young person should be aware of the importance of health service for RH; adolescents have harder time to get health services for RH than adults; only females should use health services for RH; and are you likely to use health services for RH in the future. The responses, which ranged from "completely agree" to "completely disagree," were converted into four-point scales. A summary index provides the average scores on the six measures.

Data analysis: Data were entered, cleaned and stored into two different computers, using SPSS for windows version 12.0.1 and analyzed using STATA 9.1. Both descriptive and bivariate analysis was used. Descriptive statistics were calculated for all variables. Bivariate analysis using t-tests were carried out to examine the association between mean measures of adolescents' index of knowledge about health services for RH; health services providers and source of RH information, adolescents' average summary index of attitudes towards utilizing health services for RH. The criterion for statistical significance was set at 0.05.

Result

From the sampled adolescents, 1088 were interviewed. Of these, six were excluded due to incompleteness and inconsistency of responses. Complete subject analysis was done for 1082 adolescents out of 1130 sampled households, yielding a response rate of 95.8%. Demographic and socio-economic information of study adolescents are shown in Table 1. The mean age of adolescents included in the study was 16.87 (SD=1.49). Seventy one percent of the respondents were female. Oromo (37%) and Amhara (22.8%) constituted the major ethnic group while most, 56.8%, were Orthodox Christian. Ninety five percent of adolescents had completed fifth grade or above 88.2% of adolescents were in school. Most of the respondents had more than one means of communication, 90.6% were being using radio as major means of communication followed by television and newspaper, 54.6% and 54.2% respectively.

Table 1: **Socio-demographic characteristics of adolescents between 15-19 years of age, Jimma Town, Southwest Ethiopia, 2004**

Characteristics	Frequency	Percent
Age		
Mean	16.87(sd=1.49)	
Sex		
Male	316	29.2
Female	766	70.8
Marital status		
Single	1037	95.8
Ever married	45	4.2
Ethnicity		
Oromo	401	37.1
Amhara	247	22.8
Gurage	155	14.3
Daworo	100	9.2
Others	179	16.5
Religion		
Orthodox	615	56.8
Muslim	336	31.1
Protestant	120	11.1
Others	11	1.1
Educational status		
Up to elementary schooling	56	5.2
More than elementary school	1,026	94.8
Schooling		
Out of school	128	11.8
In school	954	88.2
Family size		
Five and less person per household	576	53.3
six and above person per household	504	46.67
Means of communication*		
Functional Radio	986	90.6
Functional Television	594	54.6
Functional Telephone	573	52.7
Newspaper	590	54.2
Other means of communications	92	8.5
No communication means	57	5.2

*because of multiple response percentages do not add up to 100%

The majority of the respondents knew the major health services for RH. Ninety five percent of the adolescents knew family planning services followed by voluntary counseling and testing for HIV/AIDS (92.4%). Most of the adolescents knew the major service providers for RH. Eighty seven percent knew that they could get services from hospital followed by Family Guidance Association of Ethiopia (FGAE) and Health Center, 86.3% and 82.8% respectively. Only 2% did not know where to find health services for RH and 12.1% of them replied that they could get services from Traditional Healers. The major source of information for RH was radio in 80.4% of the cases, followed by television and school teachers, in 73% and 71.8% cases respectively (Table 2).

Table 2: **Knowledge about the types of health services for RH, service providers and source of information for RH, Jimma Town, Southwest Ethiopia, 2004**

Characteristics	***Frequency***	***Percent***
Knowledge about the types of health services		
Family planning	1031	95.3
STD Treatment	871	80.5
Voluntary testing and counseling	1011	92.4
Information education and communication	788	72.8
Others	24	1.7
Knowledge about Health Service Providers for RH		
Government hospital	940	86.9
Health Centre	896	82.8
Private clinic	464	42.9
Red Cross society	438	40.5
FGAE	934	86.3
Pharmacy	372	34.4
Traditional healers	131	12.1
Others	41	3.9
Don't know	22	2.0
Sources of information for RH		
Radio	870	80.4
Television	790	73.0
Newspaper	602	55.6
Family/relatives	436	40.3
Peer group	756	69.9
Teachers	777	71.8
Posters	323	29.9
Pamphlet	470	43.4
Others	40	3.7

Table 3 summarizes adolescents' scores on the various knowledge indices about health services for RH. Among all participants, the mean score on the 4-point index about the type of health services for RH was 3.44 (SD=0.89), suggesting high levels of awareness about the major health services of RH for the adolescents provided in the locality. Knowledge of health service providers' index was moderate. Of the 7 health services providers for RH in the locality, adolescents' awareness was, on average, 3.78 (SD=1.55). Mean scores were also moderate, 4.68 (SD=1.86), for the 8 point sources of information scale for adolescent RH.

Bivariate analyses identified a number of factors associated with knowledge of health services for RH (type of health services, health service providers for RH and sources of information for RH), including age, marital status, religion, educational status, schooling and family size with all three indices while means of communication in the households only for the knowledge indices for the type of health services and knowledge of service providers. The mean score index showed statistically significant differences for educational status and schooling for all knowledge indices. Means of communication such radio, television and telephone only for knowledge indices of type of health services and knowledge of health service providers. Adolescents who completed elementary, being in school during survey and availability of means of communication at the households except newspaper were positively associated with these three knowledge indices ($P<0.05$). Marital status, on the other hand, was inversely associated only with knowledge index of type of health services for RH where never married had higher mean score than ever married adolescents ($P<0.05$). Religion and age of the adolescents did not show significant difference in the mean scores of the three knowledge indices (Table 3).

Table 3: **Mean scores of knowledge about health services for RH, service providers and sources of information for RH by selected characteristics, March 2004, Jimma Town, Southwest Ethiopia.**

Characteristics	*Health services for RH*	*Health service providers*	Source of information for RH
Overall Score	**3.44**	**3.78**	**4.68**
Age			
15-17	3.46	3.83	4.77
18-19	3.40 (P = 0.3243)	3.69(p= 0.1312)	4.54 (P =0.0522)
Sex			
Female	3.42	3.75	4.58
Male	3.47	3.84(P = 0.3883)	4.91 (P = 0.0082)
Marital status			
Single	3.46	3.79	4.70
Ever married	3.02 (P = 0.0013)	3.36(P = 0.0629)	4.16(P = 0.0552)
Religion			
Muslim	3.43	3.83	4.76
Christian	3.44 (P = 0.8312)	3.74 (P= 0.7195)	4.63 (P = 0.2795)
Educational status			
Elementary and less	2.75	2.64	3.16
Above elementary	3.48 (p= 0.0000)	3.84(P = 0.0000)	4.76 (P = 0.0000)
Schooling			
In school	3.48	3.88	4.72
Out of school	3.09 (p= 0.0000	2.97(P= 0.0000)	4.66 (P = 0.0000)
Family size			
Five and less family size	3.41	3.65	4.45
Above five family size	3.46 (p = 0.3460)	3.92 (P = 0.0040)	4.95(P = 0.0000)
Radio			
No	3.22	3.19	-
Yes	3.46 (P = 0.0091	3.84(P = 0.0001)	
Television			
No	3.35	3.53	-
Yes	3.51 (P= 0.0019)	3.98 (P = 0.0000)	-
Telephone			
No	3.30	3.59	-
Yes	3.56 (P = 0.0000)	3.94 (P = 0.0002)	-
Newspaper			
No	3.39	3.68	-
Yes	3.48 (P = 0.1016)	3.86 (P = 0.0503)	-

Table 4 shows views of adolescents on six statements of attitudes towards utilization of health service for RH. Ninety six percent of adolescents believed (agreed or completely agreed) that health services for RH are important for adolescents and a similar proportion of participants believed that health services for adolescents should use health services for various reasons; 98% felt that each young people should be aware of the importance of health services for RH. About 18% of participants believed that adolescents have a harder time getting health services for RH than adults. Only 4% believed that only females should use health services for RH. Nearly 97% of participants said they would use health services for RH in the future.

Table 5 depicts the bivariate relationship between demographic, socio-economic characteristics, knowledge about the type of health services for RH and previous history of utilization and scores on the summary index of attitude. For this index, responses to the six questions in Table 4 were converted to a four scale ranging from 1 (completely agree) to 4 (completely disagree) and then averaged; the mean score of 2.02 (SD=0.29) fell near the midpoint of the index. Almost all the mean index of the variables was near to the mean and midpoint of the attitude average index. However, older adolescents, those having family planning and STI treatment displayed more favorable attitudes toward health services utilization for RH by adolescents ($P<0.05$). On the other hand, newspaper as means of communication among adolescents knowing IEC health services for RH, and previous utilization of health services for RH displayed less favorable with attitude index towards health services for RH ($P<0.05$).

Table 4: **Attitude towards utilization of health services for RH by adolescents, Jimma Town, Southwest Ethiopia, 2004**

Adolescents attitude	***strongly agree No (%)***	***Agree No (%)***	***Disagree No (%)***	***strongly disagree No (%)***
Health service for RH important for adolescents like you	523(48.3)	516(47.7)	34(3.1)	9 (0.8)
Adolescents should use health service for RH for various reasons	486(44.9)	553(51.1)	34(3.1)	9 (0.8)
Each young people should be aware of the importance of health services for RH	529(48.9)	530(49.0)	22(2.0)	1(0.1)
Adolescents have harder time to get health services for RH than adults	77(7.1)	117(10.8)	692(64.0)	196(18.1)
Only females should use health services for RH	23(2.1)	20(1.8)	712(65.8)	327(30.2)
Likely to use health services for RH in the future	915(84.6)	133(12.2)	34(3.1)	0(0)

Table 5: **Mean scores on index attitude regarding reproductive health service use by the selected characteristics, Jimma Town, Southwest Ethiopia 2004.**

Characteristics	***Average attitude score***
Overall mean attitude	**2.98**
Age	
15-17	2.04
18-19	1.99 (P = 0.0073)
Sex	
Female	2.02
Male	2.01 (P = 0. 0.6349)
Marital status	
Single	2.02
Ever married	1.96 (p= 0.1612)
Ethnic group	
Oromo	2.01
Others	2.03 (P = 0.3112)
Religion	
Muslim	2.03
Christian	2.01 (p= 0.3871)
Educational status	
Elementary and less	2.01
Above elementary	2.02 (P = 0.8474)
Schooling	
In school	2.02
Out of school	1.99 (P = 0.1679)
Family size	
Five and less family size	2.01
Above five family size	2.0283 (P = 0.3729)
Radio	
No	2.00
Yes	2.02 (P = 0.3840)
Television	
No	2.02
Yes	2.03 (P = 0.6314)
Telephone	
No	2.03
Yes	2.01 (P = 0.5398)
Newspaper	
No	1.96
Yes	2.07 (P = 0.0000)
Has knowledge about family planning	
No	2.10
Yes	2.02 (P = 0.0494)

Table 5 Continued

Has knowledge about STI services	
No	2.06
Yes	2.01 (p= 0.0272)
Has Knowledge about VCT services	
No	1.96
Yes	2.02 (P = 0.0914)
Has knowledge about IEC services	
No	1.94
Yes	2.05 (P = 0.0000)
Ever utilization of health services for RH	
No	1.99
Yes	2.07 (P = 0.0000)

Discussion

This study included adolescents who were found at home at one of three consecutive visits for interview by data collectors and those who were not found at home were excluded. Since females are generally found at home more often than males, the numbers of female respondents were higher than males. Those who were not at home may have different knowledge and attitudes about health services for reproductive. This is the main limitation of the study and results should be interpreted with due consideration to this limitations.

Advocating increasing awareness is essential to the success of any adolescent RH effort (3, 11, 12). In order to access and use health services, adolescents' level of knowledge on type of health services for RH, health service providers for RH and, attitude towards health services are main determinants. This study indicated that adolescents had a very high level of knowledge about main type of health services for adolescent RH such as family planning, VCT, STI treatment and IEC about RH services. The overall mean score index of knowledge about the type of health services for RH was significantly positively associated with higher educational status, being in school, presence of functional means of communication such as radio, television and telephone (P<0.05).

Ethiopian DHS 2005 indicated that knowledge of family planning is high at 88 percent among currently married women and 93 percent among currently married men, which is slightly lower than the finding of this study (13). Much lower levels of knowledge about family services were found in other studies in Ethiopia where 76.3% of male youth and 68.7% of female youth were knowledgeable about family planning methods (14). The difference perhaps is due to the fact that this study targeted adolescents from urban areas as the former included youth from rural areas where their level of knowledge about health services is expected to be low. This study showed adolescent knowledge about VCT for HIV/AIDS as health service for adolescent RH was 92.4% which is slightly higher than study found in Northwestern Ethiopia where 89.8% have aware about VCT services (15), despite the fact that this study includes only adolescents of 15 to 19 years of age. In another study conducted in Addis Ababa to assess pre-marital HIV testing services, 91.4 % knew of VCT but only about 76.4% knew the centers providing the services (16). Regarding knowledge about STI treatment, high proportion of adolescents knew it as a health service for adolescent RH. Even a recent study from Ethiopia showed only 62.6% and 48.1% of males and females respectively had heard of STIs (14).

IEC is one of the health services to be rendered to adolescents. In this study nearly 73% of adolescents knew that IEC is one component of the health services for RH. Through IEC, adolescent can get more acceptable, affordable and accessible family planning services, voluntary counseling and testing for HIV/AIDS, safe abortion care, consequences of unsafe abortion, prevention and treatment of reproductive tract infections (RTIs) and of sexually transmitted infections (STIs).

The overall mean score index about knowledge of health service providers for RH was moderate (3.78). The mean score index of knowledge about service providers was found to have a significant positive association with higher educational level, being in school, presence of functional means of communication such as radio, television and telephone (P<0.05). Despite the fact that the finding of this study showed the mean index of health service provider knowledge for RH was moderate to high, this might not indicate they accessed youth friendly health services for RH. "Youth-friendly" health services for RH are ones that are developed and provided in a way that recognizes that the challenges, difficulties, and obstacles facing adolescents are very different to those confronted by adults (4, 17, 18). In general adolescents are less informed, less experienced, and less confident about sexual matters and their own abilities than are adults. Specialized approaches are needed to attract, serve, and retain adolescents as RH clients (19, 20, 21). Services should be offered in places where adolescents congregate to learn, socialize, and work and privacy and confidentiality should be ensured (22).

Adolescents often lack basic RH information. Effective programs use multiple approaches to disseminate RH

messages including mass media, interpersonal communication, and community mobilization (25,24). Providing appropriate and relevant information about RH is essential to any program. In this study, the overall mean index of sources of information was 4.68 which is moderate. Mass media were found to be the major source of information as indicated in Ethiopian DHS 2005 where information is largely disseminated through radio, with limited dissemination through television or the print media (13). In this study, 40.3% of adolescents had information about RH health services from their parents or close relatives. This result also contradicts with findings from elsewhere that adolescents seek health-related information most often from their mother or health care professionals. More adolescents express interest in discussing health-related issues than are receiving consultation for these issues. One significant barrier to discussing sensitive topics with their health care provider is youth embarrassment or discomfort (25). Obviously, parents are a key source of information, although they may feel ill-informed or embarrassed to discuss these topics with their children, or simply may disapprove of young people expressing an interest in RH issues. In several other studies, issues such as confidentiality concerns, disappointment with how health care providers ask questions, uncertainty regarding what providers do with information, and being treated disrespectfully by their health care providers are often reported by adolescents as deterring them from divulging personal information (22, 26, 27).

A higher proportion of adolescents mentioned peer groups and school teachers as sources of information for RH services. Printed media (newspaper, posters and pamphlets) were limited sources of information for RH services. In this study, adolescents' attitude toward the use of health services for adolescent RH was moderate. The average attitude scores were found to have a significant positive association with age, knowledge of family planning and STI treatment. However, newspaper as means of communication, knowing IEC as health services for RH, and previous utilization of health services for RH displayed less favorable attitude index towards use of health services for RH ($P<0.05$). Less favorable attitudes toward the use of health services and providers might be because of failure to maintain confidentiality and being judgmental about adolescents' use of various health services for adolescent.

In conclusion, this study has indicated that the level of knowledge about health services for RH, source of information for these services and service provider centers is moderate to high. Moreover, adolescents had favorable attitude towards use of health services for RH issues and problems. However, the role of health professionals and families as sources of information for the adolescents seems to be insignificant or low. Moreover, there is a high discordance rate between knowledge and practice when it comes to the use of health services for RH as it includes sensitive issues such as sexual related health problems. Thus, this should be improved using more integrated approach by involving all stakeholders particularly adolescents' families and health professionals who have a vital role to ensure adequate knowledge and favorable attitudes for utilization of the RH in the locality.

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