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## KNOWLEDGE, ATTITUDE, AND PRACTICE OF COLLEGE OF EDUCATION DEGREE STUDENTS REGARDING REPRODUCTIVE HEALTH IN EIT, ERITREA MARCH-APRIL, 2017

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### ABSTRACT

**Background:** Education about reproductive health should be an integral part of learning process beginning in childhood and continuing into adult life. Education and awareness of reproductive health in youth affects their health status, fertility and sets stage for health beyond reproductive years and affects the health of next generation. Reproductive Health covers a wide range of issues like pregnancy; Contraception and Family Planning; Sexually Transmitted Diseases Prevention. If adolescents can be sensitized about issues of reproductive health, it may contribute to reduction of unwanted pregnancies; reduction in the incidence of S.T.D.s and reduced maternal and infant mortality rates. Hence this study is the first in its type to assess the RH knowledge, attitude and practice of college students that can be used as a stepping stone for national studies. The aim of the study was to assess the knowledge attitude and practice of reproductive health among college of education degree students. **Methodology:** Across-sectional descriptive study design was used to assess the knowledge attitude and practice of reproductive health among college of education degree students in EIT Eritrea. Using Daniel's formula, a sample of 230 students participated in the study and information regarding their Knowledge, Attitude and Practice of reproductive health obtained using a written data collection instrument containing closed ended and some open ended questions were used to collect data. **Results:** a total of 230 students participated in the study. Merely 29.2 % get information from sexual health education (life skill course), while only (3.4%) get from parents and siblings. Thirty six percent did not know the period during the menstrual cycle when pregnancy is most likely to occur. The researchers have found that most of the participants have heard about contraceptive methods even though the majority of the respondents had poor knowledge about the different contraceptive methods. None of the participants mentioned greater than four types of contraceptive methods and 14.8 % could not mention any at all. Majority of them rejected extramarital sexual practice; while on the other hand 35% of them have already started sexual practice. More importantly 83.40% never visited any health facility for services. **Conclusion:** this study revealed that there is a lack of comprehensive knowledge among CE degree students regarding RH-related issues; mismatch between attitudes toward sexual practices and personal sexual practice and a poor utilization of RH services which needs further assessment and intervention.

### KEYWORDS

College Degree Students, Reproductive Health, Knowledge, Attitude and Practice.

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### INTRODUCTION

“Reproductive health is defined as a state of physical, mental, and social well-being in all matters relating to the reproductive system, at all stages of life. Good reproductive health implies that people are able to have a satisfying and safe sex life, the capability to reproduce and the freedom to decide if,

when, and how often to do so. Men and women should be informed about and have access to safe, effective, affordable, and acceptable methods of family planning of their choice, and the right to appropriate health-care services that enable women to safely go through pregnancy and childbirth”<sup>1</sup>.

In a study by Sandana (2002), reproductive health covers all aspects of adolescent health. It is an umbrella concept, consisting of several distinct, yet related issues such as abortion, child birth, sexuality, contraception and maternal mortality. Biological, social, cultural, economic and behavioral factors play an important role in determination of reproductive health<sup>2</sup>.

Overall, the health of young people in developing countries has improved in recent years. Children enter their adolescent years healthier than in the past and with improved expectancy of reaching adulthood. Continued reductions in mortality in this age group are likely in most parts of the developing world – with the major exception of those countries in sub-Saharan Africa which have been hardest hit by the HIV/AIDS epidemic<sup>3</sup>.

In the same study by WHO (2010), behaviors that young people adopt during adolescence have important implications for their future health and mortality. Indeed, the recent National Academies’ report, *Growing up global*, concluded that “unprotected sex is one of the riskiest behaviors that young people can undertake, particularly in settings where HIV/AIDS is widespread”. In sub-Saharan Africa, HIV/AIDS is now the leading cause of death among young people (even more so for young women than young men due to biological and behavioral susceptibility); it is one of the least important causes of death for young people in other regions. At the same time, in all developing-country regions, mortality and morbidity related to pregnancy and childbirth, including unsafe abortion, remain among the most significant risks to young women’s health<sup>3</sup>.

According to MOHE (2010), Adolescent sexual and reproductive health is of great concern to the Eritrean government. The total population of Eritrea is estimated at about 3.6 million. One third of the population, 1,200,000 (33.3%) are between the ages

of 10 and 24 years; 864,000 (24%) with ages between 10 and 19 years. Over one third (33.6%) of adolescents have begun childbearing and (24%) of those who have started childbearing are less than 18 years old. Also linked to adolescent pregnancies are complications of abortion which contribute to 46% of all obstetric deaths and 5% of all deaths. Also of concern is the HIV prevalence among the young people. The prevalence of HIV/AIDS is 2.4 %, with the young, urban and unmarried population having higher rates (2.7% in the 20-24 age groups). It is important to halt the spread and reduce HIV infection among adolescents<sup>4</sup>.

## METHODS

A cross-sectional descriptive study design was used to assess the knowledge attitude and practice of reproductive health among college of education degree students in EIT Eritrea from March to April 2017.

### Sample size estimation

The sample size was calculated using the Daniel’s formula:

$$n_1 = z^2 \cdot P(1-P)/d^2$$

$$n_2 = n_1 / (1 + n_1/N)$$

Where:  $n_1$  = Assumed previous sample size,  $n_2$  = Corrected sample size,  $N$  = Total number of study population,  $z$  = Statistics for level of confidence at 1.96 for 95% confidence level,  $p$  = Expected prevalence or proportion,  $d$  = Precision

So based on this formula the calculated number of sample size was taken and researchers has added 5 % of the calculated sample size for replacing non respondents. Therefore totally 230 samples were taken.

### Sampling design

A multistage sampling method was used. EIT was selected conveniently as a study area. Then, we used simple random sampling and CE was selected from the colleges in EIT. The whole sample was proportionally distributed with respect to their sex and department. Finally, simple random sampling was conducted to select study participants from the departments.

### **Data collection procedure**

The researchers developed the questionnaire in reference to related original research articles, Illustrative Questionnaire for Interview Surveys with Young People. It was reviewed by three Nursing experts and a statistician. Questionnaire contains quantitative data that captures demographic data of students, their family background and the reproductive health knowledge, attitude, practice, and health service use. The stem questions were in English and composed of mainly pre-categorized closed and some open ended questions. A pilot study was conducted at ACHS, freshman students. There was no difficulty in understanding the questionnaire and it was found to be feasible. It was thoroughly revised for its relevance and quality and the relevant comments was incorporated, and it was pretested for its reliability (Pearson's coefficient  $r = 0.8$ ).

Cooperation and permission was obtained from ACHS and CE. After securing permission from both college and gaining consent from study participant's data was collected using self-administered questionnaire. Prior to signing consent purpose of the study was explained to participants and confidentiality secured throughout the study process. Questionnaires were checked for completeness and consistency when receiving it from every participant; and then entered in SPSS software and cleaned. Descriptive and inferential statistics were used to compare results among the study groups. Multiple measures were applied to examine the variables of interest. It was coded, and entered in to SPSS version 20 and was analyzed and compared for any differences using descriptive and inferential statistics t-test, f-test and ANOVA at ( $\alpha .05$ ) 95% confidence interval.

### **Study setting**

The study was conducted at College of Education. It is one of the three Colleges of Eritrean Institute of Technology (EIT) and is located in about 25 km to the southwest of Asmara. It was established in 2004 and it has worked for about 13 years. At this time it had 605 degree students.

### **Ethical clearance**

For ensuring the privacy of respondents and preventing violation of human rights, the proposal

was approved by Ministry of Health Scientific and Research Ethical Committee. After securing permission from MOH and college of education data was collected. Informed consent was obtained from each respondent after a full and thorough explanation of the aim and potential benefits of participating in the study was given. Anonymity and confidentiality was ensured in that the respondents names did not appear on the questionnaire, and information did not shared with people known to participants.

### **RESULTS**

This table represents the knowledge of participants on types of contraceptives, 19.6% knows condom and pills and 14.8% do not mention at all.

In this table only 3 students can able to mention the three conditions for legality of abortion in Eritrea.

This table represents complication of unsafe abortion 37% mentioned death, 0.4% mentioned four complications and 12.8% cannot mention any at all.

The table represents the knowledge difference between female and males about the RH with ( $P=0.042$ ), on this female respondents have scores poor knowledge compared to these male respondents.

The table revealed that, the relationship between years of study to their knowledge about RH but there is no relationship with their years of study. It show that these in year three scores poor knowledge than second and fourth year.

### **Attitude Results**

This table represents the perception of respondents on using contraceptive before marriage, 43% of these study participants they did not agree and 11.7% not sure whether they use or not.

This table shows the perception of study participants to buy condom, 43.5% they do not feel embarrassed to buy condom.

This table shows female respondents have unfavorable attitude compared to male.

### **Practice Results**

The above table reflects majority (83. %) of the study participants never visited health facilities.

## DISCUSSION

Adolescents and young people are generally at an increased risk of sexual and reproductive health (SRH) related problems. Despite these immense problems, they have limited access to quality sexual and reproductive health services. Premarital sexual practice is rampant among students; and they lack reproductive health knowledge and skills to protect themselves. In this section, the researchers aim is to discuss the results of the knowledge, attitude and practice (KAP) of College of Education degree students regarding reproductive health issues.

Overall results of the study reflects the RH knowledge gap of CE students, attitude mismatch of actual sexual practice and attitudes toward extramarital sexual practices. Despite the knowledge gap about reproductive physiology, contraception, and STIs, significant number of students practice sex and majority of them never used available health services.

In this study majority of the respondents have got access to RH information. Most of the participants got information from life skill course, seminar and other short training programs while few number (3.37%) got from parents and siblings. This implicates that the reluctance to talk about such topics with family members due to RH cultural beliefs and social norms, which is deeply rooted in society. While a study conducted in Karachi universities in Pakistan friends were the most common source of reproductive health information<sup>5</sup>.

### Knowledge towards RH

Overall knowledge scores of study participants, cross tabulated with independent variables, showed a significant correlation with gender ( $p=0.042$ ) where males were found to be more knowledgeable, while age, department and year of study didn't have any significant correlation with knowledge of the research participants ( $p=0.951$ ,  $p=0.86$ ,  $p=0.716$  respectively).

The researchers found that, more than one third of the participants did not know the time when a fertile woman is most likely to conceive, if practiced unprotected sex with a male partner. The findings of the present study is inconsistent to results of a study conducted on Madawalabu University's, Ethiopia,

which revealed the majority of the respondents did not know the day of ovulation (mid-time of menstrual cycle)<sup>6</sup>. However a study conducted by Amanuel and Assefa (2014) showed that, majority of the study participants know the day of ovulation<sup>7</sup>.

A study conducted on Madawalabu University's students, Southeast Ethiopia, showed that, most of the respondents knew modern contraceptives, above half of the study participants knew condom as one of the modern contraceptives. Pills, Depo-Provera, Norplant and IUCD were known modern contraceptives in their decreasing order by the respondents. In line with this, the researchers had found that most of the participants had heard about contraceptive methods even though the majority of the respondents had poor knowledge about the different contraceptive methods. Condom was stated by majority of the participants, Pills, and Injection were known in decreasing order by the respondents, other types were merely known and 14.8 % could not mention any at all<sup>7</sup>.

This study showed that, most of the students heard STIs. These results are higher than the findings of a study from Ethiopia by Kasa *et al*<sup>8</sup>. But majority of respondents mentioned only gonorrhea and syphilis while other types of STI were poorly known. This is inconsistent with a study done on College students of Visakhapatnam by Sailaja G.*et al.*, (2015) only few of them mentioned syphilis and Gonorrhea<sup>9</sup>.

### RH Attitude of study participants

When the attitude of the respondents was cross tabulated with gender and year of study, it showed a significant correlation ( $p=0.01$ ,  $p=0.034$  respectively). While age and department have no correlation with attitude ( $p=0.213$ ,  $p=0.183$  respectively).

Though the fact that condom is mentioned as a contraceptive method by most of the participants, considerable amount of them (40.4%) feels embarrassed to buy condom. This could predispose them to unprotected sex.

In this study, males (22.2%) as compared to females (5.3%), reported that, it is fine for a male and female to have sex before marriage, this could be due to more exposure to pornography (53%) as compared to females (41.6%). This finding is consistent (61.2%)

with the study conducted in Karachi universities, Pakistan<sup>5</sup>.

Despite the fact that abortion is stated to be illegal on Eritrean transitional penal code article 528, Substantial amount of the participant (25.7%) were considering abortion as a solution for unwanted pregnancy. Around three fourth of the participants have no idea of the cases that make abortion legal while Eritrean penal code article 534 (exception for termination of pregnancy on medical ground) has stated three exceptions, which are rape, adverse health status of the pregnant woman (e.g. cardiac), and pregnancy from close relative. This indicates the ignorance of the youth towards the law.

**Practice regarding RH**

There is a significant correlation of age with Practice (p=0.036) but gender, year of study, and department didn't have a significant correlation (p=0.07, p=0.947, p=0.38 respectively).

Even though Eritrean Government has a policy that states every youth to get access to protective RH information and skills before they become sexually-active, in order to reduce RH risks they face<sup>4,10,11</sup>, very few of the respondents (17%) visited to health services as indicated in Table No.4.10. The main reason for their visit was for STDs/VCT. Few (7.69%) of respondents utilize the health services for contraceptive uses and pregnancy test. The reason could be due to their unfavorable attitude toward contraceptive use (43%) and lack of awareness of the service available (13.6%).

In spite of their positive attitude towards premarital sexual intercourse (74%), on this study 34.8% had practiced sexual intercourse in their past. Out of them (38.8%) was unplanned sex and 26.5% was unprotected sex. This can expose them to unwanted pregnancy, HIV/AIDS, STDs and unsafe abortion.

**Table No.1: Distribution of study participants to get Source of reproductive health information**

S.No	Where do get most of your information about reproductive sexual health	Sample size	Percentage
1	Sexual health education( life skill)	52	29.21%
2	Pornographic videos/magazine	23	12.92%
3	Friends	49	27.53%
4	Parents/siblings	6	3.37%
5	Television	35	19.66%
6	School/ teacher	13	7.3%

**Table No.2: Types of STDs mentioned by participant**

S.No	Gonorrhoea	Syphilis	Gonorrhoea and syphilis	Others	Not mentioned any
1	7.40%	6.50%	66.10%	4.80%	15.20%

**Table No.3: Types of contraceptive mentioned by participants**

S.No	Types of contraceptives	Percent
1	Condom	17.8%
2	condom and pills	19.6%
3	condom and injection	1.7%
4	condom, pills and injection	18.7%
5	Pills	3.9%
6	IUD	0.4%
7	condom, pills and withdrawal	4.3%
8	Not mention any	14.8%
9	condom and vasectomy	1.7%
10	pills and injection	3.9%
11	Others	10.9%
12	condom, pills and IUD	2.2%
13	Total	100.0

**Table No.4: Conditions for the legality of abortion in Eritrea mentioned by participants**

S.No	Conditions	Percent
1	Rape	7.4%
2	Rape, Health status	7.0%
3	Rape, Health status, Close relative	1.3%
4	Rape, Close relative	3.5%
5	Health status	0.9%
6	Health status, Close relative	0.9%
7	Close relative	0.9%
8	Not mentioned	78.3%

**Table No.5: Complication of unsafe abortion mentioned by study participants**

S.No	Complication of unsafe abortion	Percentage
1	Death only	37%
2	Death and infection	13.5%
3	Death, infection and bleeding	4.7%
4	Death, , infection, bleeding and trauma	0.4%
5	Death, , infection, and trauma	2.2%
6	Death and bleeding	20.4%
7	Death, bleeding and trauma	3.5%
8	Infection only	1.7%
9	Not mention at all	12.8%
10	Bleeding only	1.7%
11	Others	2.1%

**Table No.6: Cross tabulation of gender of the participants Vs. Knowledge about reproductive health**

Sex	Rank of knowledge	Number of respondents	Percentage
Male	Good	6	2.61%
	Moderate	88	38.26%
	Poor	23	10%
Female	Good	6	2.61%
	Moderate	69	30%
	Poor	38	16.5%

**Table No.7: Cross tabulation of year of study Vs. Knowledge about RH**

Year of study	Rank of knowledge	Sample size	Percentage <sup>1</sup>
Second year	Good	2	0.9%
	Moderate	53	23.0%
	Poor	21	9.1%
Third year	Good	2	0.9%
	Moderate	44	19.1%
	Poor	14	6.1%
Fourth year	Good	8	3.5%
	Moderate	60	26.1%
	Poor	26	11.3%

**Table No.8: Perception of using contraceptive before marriage**

S.No		Sample	Percent
1	Yes	104	45.2%
2	No	99	43%
3	Don't know/not sure	27	11.7%

**Table No.9: Participants embarrassment of to buy condom**

S.No		Frequency	Percent
1	Agree	93	40.4
2	Don't know/not sure	37	16.1
3	Disagree	100	43.5
4	Total	230	100.0

**Table No.10: Cross tabulation of gender Vs. attitude regarding reproductive health**

Sex	Rank of attitude	Number of sample	Percentage
Male	Favorable	80	34.78%
	Unfavorable	37	16.09%
Female	Favorable	51	22.17%
	Unfavorable	62	26.96%

**Table No.11: Cross tabulation of year of study Vs. attitude**

Year of study	Rank of attitude	No. of sample	Percentage
Second year	Favorable	39	16.96%
	Unfavorable	37	16.09%
Third year	Favorable	35	15.22%
	Unfavorable	25	10.87%
Fourth year	Favorable	57	24.78%
	Unfavorable	37	16.09%

**Table No.12: Utilization of health services**

S.No	Response	Number of sample	Percentage
1	Yes	39	17.0%
2	No	191	83.0%

**Table No.13: Respondents' practice of sexual intercourse**

Shows distribution of respondents' practice of sexual intercourse in their past life

S.No	Response	No. of sample	Percentage
1	Yes	80	34.78%
2	Planned	49	61.25%
3	Unplanned	31	38.75%
4	No	150	65.22%

## CONCLUSION

In conclusion, the results of the survey have shed light on knowledge, attitude and practice of College of Education students regarding reproductive health issues. This study revealed that, they have lack of knowledge to mention different types of contraceptive, complication of unsafe abortion, and type of STDs. There is absence of open discussion regarding RH among parents and siblings. Most of

the study participants do not know the conditions for an abortion to be legal in Eritrea. There is favorable attitude for premarital sex but practice of premarital sexual intercourse among the study participants is evident. Generally there is a lack of comprehensive knowledge among CE degree students regarding RH-related issues; mismatch between attitudes toward sexual practices and personal sexual practice and a poor utilization of RH services.

## RECOMMENDATIONS

Findings, thus, clearly indicated the need for strategies to increase RH awareness in CE students.

- RH education programs and services that are tailored to the needs of CE students are essential; information, education and communication (IEC) materials prepared for the general population must be prepared taking this group of populations into consideration.
- Action should be taken to increase awareness in families and the community for RH-related issues and increase communication between family and their youth.
- Information should be broadcasted through media about STDs, contraceptives, the conditions of legality of abortion in Eritrea and other RH-aspects.
- There is also a need for further studies in the rest of the colleges in our country in relation to RH-related information and service utilization of college students, to better understand important factors that prevent college students from having comprehensive knowledge, favorable attitude and appropriate practice, and to develop and implement tailored approaches that improve the current situation.

## LIMITATIONS OF THE STUDY

- Lack of access to internet connections.
- There is no any previous study that was conducted on the same topic in Colleges in our country.
- Time constrain for preparation from proposal to final completion of the study, because it was run with the regular classes.

## ABBREVIATIONS

ACHS: Asmara College of Health Sciences; AIDS: Acquired Immune Deficiency Syndrome; HIV: Human Immune Deficiency Syndrome; KAP: Knowledge, Attitude and Practice; MOH: Ministry of Health; MOHE: Ministry of Health Eritrea; RH: Reproductive Health; SPSS: Statistical Package Social Science; SRS: Sexual Reproductive Health;

STDs: Sexual Transmitted Diseases; STIs: Sexual Transmitted Infections; WHO: World Health Organization

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## CONFLICT OF INTEREST

None declared

## AUTHORS' CONTRIBUTIONS

All authors participated in all phases of the study including topic selection, design, data collection, data analysis and interpretation. Samuel and Rustom contribute to write this manuscript.

## AVAILABILITY OF DATA AND MATERIALS

The complete data set supporting the conclusions of this article is available from the corresponding author and can be accessed up on reasonable request.

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