

CLINICAL RESEARCH

Knowledge, Practice and Barrier Towards Emergence Contraceptive Usage Among Female University Students at Kilimanjaro Region in Tanzania

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ABSTRACT

BACKGROUND

Unplanned pregnancy is major public health concern. Globally unintended pregnancies account for about 40% of all pregnancies annually. The problem is more in developed countries in which nearly half of all pregnancies are unintended. In Tanzania over 20 women die each day due to the complication of unplanned pregnancy and childbirth which contribute to high maternal mortality rate. Though EC can prevent unplanned pregnancies by nearly 95% to 99% but the practice is still very low in Africa as well as in Tanzania despite some of the study shown that there is moderate knowledge. Therefore, the current study aiming of assessing knowledge, practice and barrier or challenges which face female university students in using EC.

METHOD

A cross-sectional study design was conducted among 365 female students at Kilimanjaro Christian Medical University College (KCMUCO), Mwenge Catholic University (MWECAU) and Moshi cooperative University (MOCU) in Kilimanjaro region. A simple random sampling technique was used to select study participants. Self-administered questionnaires were used during data collection.

RESULTS

About (65.7%) of the female university students had ever heard of EC and more than half of them had knowledge on when to use EC (54.4%), where to obtain (58.7%) and time for EC to be taken (41.5%). Moreover about 75.6% of female university students in this study reported never use emergency contraceptives (EC) while 24.4%

reported having ever used emergency contraceptive and among 24.4% EC users reported that 90.2% use EC pills method. On the other hand, common barriers toward EC use reported by female university students were fear of side effects, personal barrier, and religion opposition 39.4%, 31.9% and 12.8% respectively.

CONCLUSIONS

This study found that majority 65.7% of female university students had ever heard of emergency contraceptive (EC) in their lives. Practice of EC is still very low among female students where by only 24.4% reported having ever used emergency contraceptive. Fear of side effect and personal barrier were mostly reported as the common barrier by the female student towards EC usage 39.4%, 31.9% respectively. Thus, there is an urgent need to educate the female university students about EC.

KEYWORD

Knowledge; Barrier; Emergency contraception

ABBREVIATIONS

CI: Confidence Interval; EC: Emergency Contraception; ECPs: Emergency Contraceptive Pills; IPH: Institute of Public Health; IUCD: Intrauterine Contraceptive Device; KCMUCO: Kilimanjaro Christian Medical University College; MDGs: Millennium Development Goals; MOCU: Moshi Co-operative University; MWECAU: Mwenge Catholic University; NFPCIP: National Family Planning Coasted Implementation Program; SMMUCo: Stefano Moshi Memorial University College; SPSS: Statistical Package for the Social Sciences; TDHS: Tanzania Demographic Health Survey; WHO: World Health Organization

BACKGROUND

Emergency contraceptives (EC) is a method of contraception which is mainly used by a person following unprotected sexual intercourse, missing of regular contraceptives methods or non-use of contraceptives methods for the aim of preventing the unintended pregnancy or unplanned pregnancy [1]. Mode of action of emergency contraceptive is working by either preventing the fusion of male sperm and female eggs to occur, to interfere the transportation of male sperms and female eggs through fallopian tube where the fertilization is normally take place, to prevent the implantation of an embryo. But the emergency contraceptive does not have any effect on already established pregnancy [2].

Globally every year there are about 250 million of pregnancies occur and among these one third of them are unintended pregnancy and 20% of these unintended pregnancies they undergo induced abortion. In low-income country there are about 182 pregnancies occurred and more than one third of this pregnancy are unintended. 19% of this unintended will be induced abortion and 11% of this undergoes unsafe abortion [3]. About 25 million insecure abortions take place each year, almost in the developed country and the risk of dying is highest in Africa [4]. The 21.6 million of unintended pregnancy occur in Africa alone likewise in Eastern Africa there were 8.85 million of unintended pregnancy each year compared to the 99.1 million of unintended pregnancy which occurred worldwide per year and 56% of all this unintended pregnancy in Africa ended in unsafe abortion [5].

About 20% of Tanzanian population is between 15 years and 24 years of age [6]. Most youth join universities between this age among them there are sexual active girls which faced some challenges in accessing

contraceptives then married women due to stigma attached to their sexual activities before marriage, and cause them to fall in unwanted and teen pregnancies and unsafe abortions [6].

Despite there is high burden of unplanned pregnancy in Tanzania as WHO estimated that every year 1 million of female face unintended pregnancy. But unplanned pregnancy is highly preventable when there is uptake of EC wherever the need arises. This study however is conducted to assess the knowledge, practice and barrier towards emergence contraceptives usage among female university students since many studies has been conducted shows that the level of knowledge about EC is high, however the practice of EC is still low among female university students despite that their knowledgeable.

MATERIALS AND METHODS

Study Population and Study Areas

Study population was all female student in all course in the selected universities. Study took place in in three universities among four universities which are in Kilimanjaro region this including Kilimanjaro Christian Medical University college (KCMUCO) Moshi cooperative University (MOCU) and Mwenge Catholic University (MWECAU).

Data Collection Method

The data were collected using Self-administered questionnaires and the data collectors distributed questionnaires to each participant. Self-administered questionnaire created a room for a participant to be free answering sensitive questions like those involving reproductive history in which it is very difficult to answer when is directly asked by investigator.

Study Procedure

Ethical approval from the local review board, permission from Kilimanjaro Christian Medical University College (KCMUCO), Moshi cooperative University (MOCU) and Mwenge Catholic University (MWECAU) were obtained before data collection. Researchers/ data collectors visited the selected universities, meet dean of students, introduced themselves, and clearly explained the purpose and duration, as well as who should participate in the study. Then after the researcher obtained the number of female students in each university and planned for data collection. On the day of data collection, the researchers administered informed consent to all eligible participants and addressed all questions before conducting the research. Participation in this study was voluntary; therefore, information's were collected from all consenting female students by using self-administered questionnaire. During the data collection, respondents were free not to respond to any particular question and to drop any time they felt so. After the collection of data, researchers thanked respondents for their time and information they provided. All questionnaires were checked for completeness immediately before respondents left the room.

Data Analysis

The statistical data were analyzed using statistical package for social science (SPSS) version 20. Numerical variable was summarized using measure of central tendency with their corresponding measure of dispersion while categorical variable was summarized using frequency/proportion.

RESULTS

Characteristic of Participant

The median age of 365 female university students participated in this study was 22 (IQR 21-22) years. Most of the participants 92.5% were in the age group 15 years - 25 years and 7.5% belonged to age 26 years - 35 years. The majority of the female students 90.8% were unmarried where 8.6% were married and 0.6% was divorced. Among total participants a half 50.6% were from non-medical colleges and 49.4% were from medical colleges. About 82.6% of the participants were taking degree education level and more than half 52.2% of them were first year students. Most of the respondents 54.3% had urban background and the remaining 45.7% had rural backgrounds (Table 1).

Variables	Frequency	Percentage
Age (years)		
15-25	334	92.5
26-35	27	7.5
Median (IQR)	22	(21.0, 23.0) ^a
Level of Education (n=363)*		
Certificate	6	1.7
Diploma	57	15.7
Degree	300	82.6
Department of Affiliation (n=354)*		
Medical	175	49.4
Non medical	179	50.6
Year of Study (n=364)*		
First year	190	52.2
Second year	123	33.8
Third year	51	14.0
Marital Status (n=347)*		
Unmarried	315	90.8
Married	30	8.6
Divorced	2	0.6
*Variables with missing values. ^a Interquartile range		

Table 1: Participant background characteristics (N=365).

Participants Knowledge of Emergence Contraceptive (EC)

The vast majority 65.7% of female university students who participated in this study had ever heard of emergence contraceptive (EC) in their lives. Among 65.7% participants who knew about EC 51.9% of them mentioned that formal education was their source of information and 14.5% mentioned internet. A majority of the participants 41.5% respond that EC should be taken within 72 hours after unprotected sex, where 14.7% reported that EC should be taken immediately after sex. About 58.7% of the participants mentioned hospital as the place where they can obtain EC and 22.3% of them mentioned pharmacy. More than half of them 68.0% female students didn't know about the correct time interval between the doses of EC practice, while (22.2% and 9.8%) mentioned that the recommended time intervals between the doses for EC use are twelve hours and forty hours respectively (Table 2).

Participant Practice of Emergence Contraceptive

About 75.6% of participants in this study reported never use emergency contraceptives (EC) while 24.4% reported having ever used emergency contraceptive. Among 24.4% EC users reported that 90.2% use EC pills as the method of EC. Out of the total user, 54.8% were recommended by partner to use EC. Among the reasons reported for using EC included timing of menstruation was miscalculated (24.7%), condom broke or slipped (18.8%), withdrawal fail (15.3%) and no use of other contraceptives (14.1%) (Table 3).

Table 1: Knowledge of emergence contraceptive use (N=365).

Variables	Frequency	Percentage
Ever Heard of Emergence Contraceptive (n=364)*		
Yes	239	65.7
No	125	34.3
Source of Information(n=241)*		
Formal education	125	51.9
Media	20	8.3
Magazine	2	0.8
Internet	35	14.5
Health facilities	29	12.0
Partner	4	1.7
Friends	26	10.8
Where to Obtain EC (n=346)*		
Hospital	203	58.7
Social workers	6	1.7
Private clinic	9	2.6
Supermarket	1	0.3
Pharmacy	77	22.3
Don't know	48	13.9
It's impossible to obtain	2	0.6
When to Use EC (n=298)*		
Post rape	162	54.4
Back up on condom break	65	21.8
Forgotten oral contraceptive pills	71	23.8
Time for EC Pills to be Taken (n=342)*		
Immediately after sex	64	18.7
At any time before the first day	17	5.0
Within 48 hours/two days	37	10.8
Within 72 hours / three days	142	41.5
Within one week	2	0.6
I don't know	80	23.4
Recommended Intervals Between Doses (n=338)*		
Twelve hours	75	22.2
Forty hours	33	9.8
I don't know	230	68.0

Notes: *Variables with missing values.

Table 2: Participant Practice of emergence contraceptive (N=365).

Variables	Frequency	Percentage
Ever Use any EC (n=352)*		
Yes	86	24.4
No	226	75.6
Which Method of EC (n=82)*		
Emergence contraceptive pills	74	90.2
Cooper bearing intrauterine device	8	9.8
Who Recommended it for You (n=82)*		
Friends	17	20.2
Partner	46	54.8
Through internet	1	1.2
Health professional	14	16.7
Don't remember	6	7.1
Reason for Using EC (n=85)*		
No use of other contraceptive	12	14.1
Timing miscalculation	21	24.7
Condom broke or slipped	16	18.8
Missed pills	7	8.2
Forced to have sex	2	2.4
The withdrawal fails	13	15.3
I don't remember	14	16.5

Note: Variable with missing values*

Participants Barrier Towards EC Usage

About 39.4% of the participants in this study reported that fear of side effects as common barrier toward EC use, also 31.9% of them reported personal barrier and 12.8% of them mentioned religion opposition as a barrier toward EC use. Worries about embarrassment, opposition from parents, distrust to health workers, no privacy and not friendly 1.6%, 2.5%, 2.2%, 3.1%, and 6.6% respectively were expressed as a minor hindrance toward use EC by the participants (Table 4).

Table 3 : Participants barrier towards EC usage (N =365).

Variables	Frequency	Percentage
Barriers of Not Using Emergency Contraceptive (n= 320)*		
Personal barriers	102	31.9
Religion opposition	41	12.8
Fear of side effects	126	39.4
Embarrassment	5	1.6
Opposition from parents	8	2.5
Distrust to health workers	7	2.2
No privacy	10	3.1
Not friendly	21	6.6
Variables with missing values*		

DISCUSSION

The presented data assess the knowledge, practice and barriers toward emergency contraceptives usage among female university students in Kilimanjaro Region. The results of this study shows that majority (65.7%) of the female university students had ever heard of EC and more than half of them had adequate knowledge on when to use EC (54.4%), where to obtain (58.7%) and time for EC to be taken (41.5%). Moreover about 75.6% of female university students in this study reported never use emergency contraceptives (EC) while 24.4% reported having ever used emergency contraceptive and among 24.4% EC users reported that 90.2% use EC pills method. On the other hand, common barriers toward EC use reported by female university students were fear of side effects, personal barrier, and religion opposition 39.4%, 31.9% and 12.8% respectively.

In this study, the majority of the participant ever heard about emergence contraceptive. This findings are higher compared to those from other studies [3,7,8]. where nearly half of the participants heard about emergence contraceptive. The higher awareness in this study is probably due to wide availability of information about EC in the internet, newspapers, radio, television health programs and also EC methods are widely used by females. The estimate in this study is lower than a study conducted in Ethiopia [9]. This could be explained in fact that in Ethiopia when EC was introduced, sustainable effort were made to educate about EC at any level of providers included pharmacy, hospital and health care providers. This shows a need to strengthen awareness and mass campaigns that may potentially increase the level of awareness about EC.

In this study showed that formal education and internet to be the most source of information concerning emergence contraceptive stated by participants. Different studies identified different sources providing information on emergence contraceptive. Accordingly, the most commonly stated sources of information included mass media, books/magazine and friend/partner [10,11]. These evidences clearly show that method mix (formal education, combination of mass media and internet) has to be used to make emergence contraceptive information as widely disseminated as possible so as to increase awareness of youth and adolescence in universities as well as community at large.

In this study 41.5% of the respondents mentioned the correct time for EC to be taken (maximum 72 hours) and 22.2% mentioned the correct time interval between the doses (12 hours). However this is higher than that 28.3% mentioned correct time for EC to be taken and 14.8% mentioned correct time interval between doses [12] and lower than 51.14% obtained by [13] This difference might be attributed due to the differences in provision of sexual and reproductive health education at schools and higher learning institutions as well better practice of opening and free discussion on sex and sexuality among female students. This finding reveals that comprehensive knowledge about emergency contraceptive is lacking among female university student at Kilimanjaro region.

In this study 24.4% of the respondents reported to have used emergency contraceptive. Similarly in a study done in India among medical students showed that 3.7% of the participants have used emergency contraceptive [14] and 12.5% obtained by Lenjisa et al. [15]. This lower utilization rate of emergency contraceptive suggested by other studies could be due to lack of information, partner disagreement, fear of being seen by others, fear of side effect and becoming infertile. Moreover among 24.4% of EC users in this study, 54.8% reported that they were recommended by their partners and 20.2% reported that they were recommended by their friends to use it. Therefore, this shows a need to introduce reproductive health education and must be implemented for this group in order to increase the uptake of EC methods so as to avoid the high rate of unwanted pregnancy.

CONCLUSION

This study showed that majority 65.7% of female university students had ever heard of emergency contraceptive (EC) in their lives. Practice of EC is still very low among female students where by only 24.4% reported having ever used emergency contraceptive, among those EC users reported that 90.2% of them use EC pills as the methods of emergency contraception. Fear of side effect and personal barrier were mostly reported as the common barrier by the female student towards EC usage 39.4%, 31.9% respectively. Thus, there is an urgent need to educate the female university students about EC. Carefully designed education programs and the promotion of EC in the existing student's health clinic on campuses as well as discussion during orientation programs need to address the issue of unwanted pregnancies.

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AUTHORS CONTRIBUTIONS

TJM (Tonny J Mariki) EJM (Euphrasia J Mbuya) EJM (Erick J Mkojera) made a substantial contribution to design the research concept, data acquisition, data processing, data analysis, reporting writing and manual script drafting revising's, IM (Innocent Mboya) CA (Caroline Amour) and SEM (Sia E. Msuya) played a vital role in supervision and critical revision of the manuscript. Both authors read and approved the manual script.

FUNDING

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

The SPSS datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

ETHICAL CONSIDERATION

Before data collected, Ethical clearance was obtained from Kilimanjaro Christian Medical University College (KCMUCo), ethical review committee, and institute of public health department. Informed consent was obtained from the participants before enrolment in the study. The consent form written in the English language contained a description of study objectives, nature of the participant's involvement, risk and benefit and confidentiality of the study, was provided to the participants. Participants were requested to read the consent form carefully before start to fill questionnaire and the participation in this study was voluntary. Participants were allowed to refuse to answer any question and terminate the interview when they desired. Confidentiality of information was ensured by removing personal identifiers from the questionnaire. Respondents were protected against any possible adverse repercussions from participating in the study.

CONSENT FOR PUBLICATION

Necessary permission for publication was obtained from ethical committee and IPH at Kilimanjaro Christian Medical University College (KCMUCo).

COMPETING INTEREST

The author declare that they have no competing interests.

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