**Utilisation of Emergency Contraceptives among Female Undergraduates at the University of Kabianga, Kenya**

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ABSTRACT

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| **Background: Emergency contraception (EC) refers to contraceptive methods for the prevention of pregnancy resulting from unprotected sexual intercourse. They are very effective and can prevent up to 95% of unintended pregnancies if used within five days of sexual intercourse. To lessen complications from an unwanted pregnancy, emergency contraceptives can be an advantage. Africa requires a comprehensive contraceptive program to avert unwanted pregnancies and maternal mortality related to the termination of pregnancy.**  **Objective: This study sought to determine the** **prevalence of emergency contraceptive utilisation among female undergraduate students of the University of Kabianga, Kenya.**  **Methods: A cross-sectional study design was adopted to collect quantitative data. Stratified random sampling was used to select students. The sample size of the study was 154.** **Each year of study formed strata. Self-administered questionnaires were used. Data was analysed to determine the prevalence, where percentages, pie diagrams and bar charts were generated.**  **Results: The majority of the respondents were utilising EC with a prevalence rate of 70%. The majority used oral contraceptive pills (97.4%) and intra-uterine contraceptive device (2.6%). A total of 44.6% of the respondents had used EC more than twice, once at 35.8% and twice at 19.6%. Almost half of the respondents were frequently using EC (40%), followed by those who had never used it (20%), (15%) who mostly frequently used it, (14%) who use it occasionally and (12%) who rarely use the emergency contraceptives.**  **Conclusion: The majority of the respondents utilised emergency contraceptives at 70%. The oral pill (Postinor 2) was the popular form, with 97.4% of intrauterine contraceptive devices at 2.6% being the least used. A large number of female students used oral emergency contraceptives more than three times, meaning they need health education on contraception methods that have dual benefits as emergency contraceptives and long-term, like Intrauterine contraceptive devices.** |

*Keywords: Emergency Contraceptives, Unintended pregnancies, oral contraceptive pills, intrauterine contraceptive devices*

1. INTRODUCTION

“Globally, young women and men suffer a disproportionate share of unplanned pregnancies,

termination of pregnancy, and other grave reproductive health problems. In low-income countries, 44% of all pregnancies in 2014 were said to be unintended, 55% of which ended in abortion”. (1) “Unplanned or unintended pregnancies are associated with unfavourable birth outcomes, including preterm birth and low birthweight and may be associated with pregnancy loss and neonatal mortality” (Enthoven et al., 2022).

“Female students in University or College are susceptible to unplanned pregnancies and illegal termination of pregnancy, resulting in mortality, morbidity and psychosocial issues. Globally, unplanned pregnancy is a health-related problem that affects most girls, their families and the social order. According to the World Health Organisation, approximately 210 million pregnancies occur each year worldwide, of which 87 million are unplanned and 41 million continue to birth” (Maphie, 2023; Sarı et al., 2023). “Nearly 464,000 induced abortions occurred in Kenya in 2012. It was also reported that about 49% of all pregnancies in Kenya were unintended, and 41% of the unintended pregnancies ended up in an abortion”. (2) “Presently, many young people, especially college students, engage in sexual activity before marriage frequently without using contraception, leading to unwanted pregnancies in many countries” (3). “University life for many students signifies a move towards independence and away from parental supervision, new friendships and a chance to practice romantic or sexual relationships”. (4)

“Unintended pregnancy is avoidable up to 99% by use of emergency contraceptives within 72 hours after unprotected sexual intercourse. Emergency contraceptives (EC) are used subsequently to failure of barrier contraceptive methods, sexual assault and missed oral contraceptive pills. EC comprises several methods of contraception that can be used to prevent pregnancy after unprotected sexual intercourse, in case of failure of any used form of contraception or in case of sexual abuse. The dedicated methods of oral EC include a progestin-only pill containing 1.5 mg LNG and a pill containing 30 mg of ulipristal acetate (UA)” (Mierzejewska et al., 2024; Ibrahim et al., 2025). “Effective contraception has deep benefits by reducing maternal mortality and morbidity, empowering women to attain their own choices about fertility, and increasing women’s economic status. To lessen complications from unwanted pregnancy, emergency contraceptives can be an advantage. Africa requires a comprehensive contraceptive program to avert unwanted pregnancies and maternal mortality related to the termination of pregnancy. Three-quarters of unplanned pregnancies can be avoided by using emergency contraceptives”. (1) “There are numerous emergency contraceptive choices this including levonorgestrel (LNG) pills, ulipristal acetate, combined oral contraceptive pills (OCP), and copper-containing intrauterine contraceptive device (IUCD)”. (5) Emergency contraception prevents maternal morbidity and mortality by reducing unwanted pregnancy and helps reduce school dropout among students. This research, therefore, aimed at establishing the prevalence of emergency contraceptive utilisation, in particular among the female university students who are part of the reproductive age group.

**Specific objectives of the study**

To determine the prevalence of emergency contraceptive utilisation among female undergraduate students University of Kabianga, Kenya.

**Research question**

What is the prevalence of emergency contraceptive utilisation among female undergraduate students University Kabianga, Kenya?

2. material and methods

**Study area**

The study was carried out at the University of Kabianga, a public university in Kenya.

**Study design**

Cross-sectional study design was adopted to collect quantitative data

**Study population**

The population of female students from all campuses at the University of Kabianga was 3803 as per 2019 admission office records.

**Exclusion criteria**

The school of Health Sciences students’ campus were excluded from the study because they could have information from their training.

**Sample size determination**

The quantitative sample size was determined using Fischer et al (1998).

n = Z2pq

d2

Where n=Desired sample size

Z =Standard Normal deviation (1.96 for a 95% confidence level)

q = contact usually set at 1-p (0.5)

d=degree of accuracy will be set at 0.05

P = the proportion of the population having the characteristic being measured.

P = 0.119

From previous research, the proportion of undergraduate students utilising emergency contraceptives was 11.9%. (Wangima 2016)

n = Z2pq

d2

n = 1.962 x 0.119(1-0.119)

0.052

n=161.

Since the target population was less than 10000 sample size was adjusted using the formula.

nf = Nn

N+(n-1).

Where

nf=the desired sample size (when the population is less than 10000).

N=the estimate of population size=3553 after excluding 250 female students from school of health sciences.

n=the desired sample size (when the population is more than 10000) =161.

3553\*161/(3553+(161-1) =154

Therefore, 154 was the sample.

**Sampling method**

Stratified random sampling was used to select students from the three campuses. The students were stratified according to the year of study. Each year of study formed strata. Simple random sampling was then applied in each stratum by use of YES and NO folded papers being picked after the end of class lectures. Self-administered questionnaires were then given to one hundred and fifty-four students to elicit the prevalence of utilisation of emergency contraceptives.

**Table 1: Sample frame**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year of study** | **Sample size per strata** | **Kabianga main campus** | **Kericho Town campus** | **Sotik town campus** |
| 1 | 26 | 19 | 6 | 3 |
| 2 | 42 | 37 | 4 | 1 |
| 3 | 47 | 40 | 3 | 2 |
| 4 | 39 | 35 | 3 | 1 |
| **Total** | **154** | **131** | **16** | **7** |

**Data management and analysis**

All the questionnaires were thoroughly checked by the researcher to ensure quality and clarity of responses. Data was then analysed using univariate analysis, where the frequency tables were generated, pie diagrams and bar charts.

3. results and discussion

**Demographic information**

All the questionnaires were collected and their ages were as follows, above 26 years were 5(3.3%), those between the ages of 24 and 25 years were 28 (18.2%), those between 22 and 23 years were 57 (37%) and then those between 20 and 21 years were 51(33.1%). The respondents who were between the ages of 18 and 19 years were 13 (8.4%). The majority of the respondents were of a young age. In terms of religion, Protestants (67.6%), Catholics (28.6%), Muslims, and atheists were at (1.9%) each.

Concerning marital status majority of the respondents were single, 120 (77.9%). Those who were cohabiting were 18 (11.7%), while those who were married were 15 (9.7%) and one who was widowed (0.6%). About a place of residence, about 58% of the respondents resided in private hostels or rentals, and those in university hostels were 59 (38.3%), while a small number (5) stayed at home (3.3%). Of those who stayed with a number of respondents lived with a friend or friends (69) (44.8%), those who stayed alone were 52 (33.8%), and those who lived with a partner were 24 (15.6%). Those who lived with parents/guardians were 5 (3.2%), and those who lived with relative/relatives were 4 (2.6%).

**Prevalence of emergency contraceptive utilisation**

The findings showed that the majority of the respondents were utilising EC with a prevalence rate of 70%. Of the 70% of the respondents who were utilising EC, a majority of them (43) were in their fourth year of study at 40%, third year were at 29%, second years, and the first years were at 10%. This implies that there is an increasing rate of utilisation of emergency contraceptives according to the year of study, as shown below.

**Figure 1: Prevalence of EC utilization**

Figure 2: Prevalence of EC per Study year

**Type of** **Emergency contraception used and number of times used**

A total of 113(73.4%) respondents were sexually active, and a total of 41(26.6%) were not sexually active. The majority of the respondents (105) had used Postinor 2 (97.4%), and very few had used IUCD (2.6%). A total of 44.6% of the respondents reported having used EC more than two times, followed by those who had used it once (35.8%), and lastly those who had used it twice (19.6%) after having unprotected sexual intercourse, as shown in the table below.

**Table 2: Emergency contraception used and number of times used**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Are you sexually active?** | | | | |
| **N** | | | **%** | |
| Yes | 113 | | | 73.4 | |
| No | 41 | | | 26.6 | |
| **Type of Emergency contraception used and number of times used** | | | | | | | | |
| **Form** | | **N** | **%** | | **No. of times** | | **N** | **%** |
| Postinor 2 | | 105 | 97.4 | | Once | | 39 | 36.1 |
| IUCD | | 3 | 2.6 | | Twice | | 21 | 19.4 |
|  | |  | | | More than two times | | 48 | 44.4 |

**Utilisation of EC**

The figure below shows the overall use of EC. The findings showed that almost half of the respondents were frequently using EC (40%), followed by those who had never used it (20%), (15%) who mostly frequently used it, (14%) who use it occasionally and (12%) who rarely use the emergency contraceptives.

**Figure 3: Overall rate of EC utilisation**

**Discussion**

**Emergency Contraceptives Utilisation**

“In this study 70% of the sexually active respondents were found to have utilized emergency contraceptives at a given time of their lifetime, this findings can be comparable to findings of a study done on Emergency contraceptive utilization and associated factors among college students in Dire Dawa City, Eastern Ethiopia: A cross-sectional study where amongst 86 participants who were sexually active (81.4%) had unprotected sex, of whom (69.7%) had used an emergency contraceptive following unprotected sexual exposure” (6). “On the other hand, these study findings are way above studies undertaken in Ethiopia at 34 %, South African university students, 28%, Cameroon, 7.4%, and Hong Kong,12.9%. Federal Polytechnic Kaduna, Nigeria 38%, Ghana 41%” (7). “Similarly, these results are far on the higher side when compared to a study in Uganda on Contraceptive use, knowledge, attitude, perceptions and sexual behaviour among female University students in Uganda: a cross-sectional survey, Uganda, which gave a prevalence rate of 45.1%” (8). “In Kenya Universities studies the finding are high compared to a study in university of Nairobi where of the respondents 53.0% who reported that they were sexually active, (20.2%) had ever used EC”.(2), “still high to a study done at Jomo Kenyatta University of Agriculture and Technology where 11.9% of the respondents had used emergency contraceptives” (9).

4. CONCLUSION

Emergency contraceptive has the advantage of preventing unintended pregnancy and preventing induced abortion after unprotected sexual intercourse. This work reports that the prevalence of ECP use is high among university of Kabianga females who have had sexual intercourse however there is a larger number of female students who have used emergency contraceptive more than three time meaning they need health education on contraception on methods that act as emergency contraceptives and long term like Intrauterine contraceptives devices which in this case is very low in utilization

Consent

As per international standards or university standards, Participants’ written consent has been collected and preserved by the author(s).

Ethical approval (where ever applicable)

Approval was sought from Ethical Review Committee of University of Kabianga and granted on 24th April 2019. **(IERC AN 0008).**

Disclaimer (Artificial intelligence)

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Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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Details of the AI usage are given below:

1.

2.

3.

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Definitions, Acronyms, Abbreviations

Acronyms

**LNG** Levonorgestrel pills,

**OCP**  Combined oral contraceptive pills

**IUCD** Copper containing intrauterine contraceptive device.

**EC** Emergency contraception

**DEFINITIONS OF TERMS**

**Unintended pregnancy:**  The act of becoming pregnant without planning or waiting to become pregnant.

**Abortion:**  Deliberate termination of a pregnancy before term.