**Knowledge, Attitude and Practices regarding Emergency Contraceptive Methods amongst Female University Students of the University of Dschang Main Campus**

Abstract

**Background**: Unintended pregnancy is a major public health problem and emergency contraceptives can be an effective way of fighting against them**.** 75% of unintended pregnancy occur in adolescents. University students are in the sexually active age group and are at higher risks of having unintended pregnancy and hence probably abortion. The objective of this study was to determine the knowledge, attitude and practices of female university of Dschang students regarding emergency contraception (EC).

**Methods**: A cross-sectional study was conducted at the University of Dschang's (UDs) main campus between March and April 2022. A structured questionnaire was administered to female students aged 18-49 years from the UDs main campus, selected through a three-stage quota sampling method. Data were collected on their awareness, attitudes, and use of EC, and analyzed using descriptive and inferential statistics.

**Results**: Of the 395 female participants selected, 71.1% of pregnancies were unintended and 24.4% of pregnancies ended in abortion. Overall, 88.1% had heard of emergency contraception but only 34.7% had good knowledge and 78% had a positive attitude. 42.8% of the participants had ever used an emergency contraceptive and the most reported was the emergency pill (98.6%). Good knowledge of emergency contraceptives was associated with positive attitude (p=0.001) and living in family settings (p=0.011). Late onset of sexual intercourse (p=0.019), good knowledge (p<0.001) and positive attitude (p=0.031) were also significantly associated with Emergency contraceptive use.

**Conclusion**: Despite high awareness of emergency contraception, knowledge levels remain low among university students, leading to moderate usage. Positive attitudes suggest a receptive environment for intervention. There is a need for targeted awareness programs within university settings to enhance knowledge and ensure informed decision-making regarding EC. Strengthening reproductive health education can contribute to reducing unintended pregnancies and unsafe abortions among young women.

**Keywords:** Emergency contraception, Knowledge, Attitude, Practice, family planning, University of Dschang.

**Introduction**

Unintended pregnancies remain a major public health issue worldwide, despite the availability of emergency contraceptives (EC), leading to increased rates of abortion and maternal morbidity. Women in low-resource settings, are disproportionately affected due to limited access to sexual and reproductive health services[1]. Between 2015 and 2019, 61% of unintended pregnancies end in abortion corresponding to a global rate of 39 per 1,000 women aged 15–49[1], highlighting an urgent need for effective contraceptive measures.

The vast majority of unintended pregnancies are due to inconsistent use or non-use of contraception [2]. Emergency contraception (EC) plays a crucial role in preventing unintended pregnancies, as it is the only method that remains effective after unprotected intercourse. University students, who are predominantly young and sexually active, are at heightened risk of unintended pregnancies due to sporadic sexual activity and inconsistent contraceptive use. Therefore, preventing unintended pregnancy among them is an important concern [3,4].

In Cameroon, early sexual initiation is common, with the Cameroon Demographic Health Survey (2018) data indicating that 24% of adolescent girls aged 15-19 have already begun childbearing. Furthermore, 83% of young women report having engaged in sexual activity before the age of 20[5]. Despite these statistics, knowledge and utilization of EC among university students remain underexplored. In Cameroon, from 2012 -2017, 22% of pregnancies were undesired [5]. A study revealed in 2019 that the prevalence of induced abortion was 21% and it accounted for about 25% of maternal deaths in Cameroon in 2015[6, 7].

Students in higher education institutions often live away from parental supervision, increasing their vulnerability to unprotected and accidental sexual encounters. These unintended pregnancies can have profound consequences, including unsafe abortion, educational disruptions, and social stigma. While EC has the potential to mitigate these risks, a lack of awareness and misconceptions surrounding its use hinder its effectiveness.

Limited access to accurate information and services often cause major reproductive health problems to young women due to unwanted pregnancy or unsafe/illegal abortions[8]. In Cameroonian universities, research on EC awareness and utilization among university students is scarce, leaving a gap in understanding the factors influencing their contraceptive choices. This study aims to assess the knowledge, attitudes, and practices of female university students at the University of Dschang regarding emergency contraception.

**Methodology**

**Study design, setting and period**

It was a cross-sectional study design. This study was conducted in the main campus of the University of Dschang (UDs) which is found in the west region of Cameroon. and was founded in 1993. This school is one of the eight governmental universities which counts the country. Established in 1993, the university is one of the eight government universities in the country, with a student population of approximately 28,613 as of 2020. The study was carried out between November 2021 (protocol conception) and July 2022 (result interpretation).

**Study population and sampling**

Our study population were students attending lectures at the main campus of the University of Dschang. Female students attending lectures in the UDs Main Campus were eligible for this study. The study had a three-stage sampling method by quota: **Primary sampling unit (first stage):** All six faculties of the UDs were included through exhaustive sampling. **Secondary sampling unit (second stage)**: Three departments per faculty were randomly selected. **Tertiary sampling methods (third stage):** At the level of departments, the participants were selected by convenience in all the 3 departments until the required number of students per faculty was attained. The method by convenience was used because it was difficult to reach some students which could have dropped school and due to financial restrictions. The sample size was distributed depending on the quotas that the faculty represented in the total number of students in the university. A minimum sample size of 356 was calculated using the formula: n = z2 p q/d. Where p is the proportion of respondents who were aware of EC from a study carried out in the University of Buea (63.0%). The final sample size became 392 after adding 10% for non-response.

**Data collection procedure**

A semi-structured questionnaire was used to collect data. The questionnaire was developed after reviewing relevant literature and was available in both English and French to suit the bilingual local context. The questionnaire was made up of 5 parts. To ensure quality of data, the data collection tools were pretested on 5% of the sample before the actual data collection was conducted and necessary corrections were done after the pre-test. The students of the university were approached and were informed about the objectives of the study and assured that the information collected would be kept confidential. The students who gave their consent were given a self-administered anonymous questionnaire.

**Data management and analysis**

The collected data were entered into Kobo Toolbox and then exported to Microsoft Excel for cleaning before final analysis in SPSS 25. Descriptive statistics, including frequencies, proportions, means, and standard deviations, were used for analysis. Logistic regression was performed to identify associations between key variables. The questions for knowledge were scored one mark for each correct answer, while incorrect or 'don't know' responses were scored zero. Scores equal to and above the mean were regarded as “good knowledge”, while those below the mean were regarded as “poor knowledge”. For attitude towards EC, a five-point Likert scale was used with responses from strongly disagree to strongly agree. Each question on attitude had a score that ranged from 1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly agree. Each question had scores ranging from 0 through to 4 i.e. from least favourable to most favourable attitude score. There were 10 questions and so the maximum possible attitude score was 40. Those who scored ≥ 21 were classified as positive attitude and those who scored <21 were classified as negative attitude.

**Ethical Considerations**

Ethical approval was obtained from the West Regional Ethics Committee. Administrative authorization was sought from university authorities. Before data collection, participants were provided with detailed study information, and their anonymity and confidentiality were assured. Written informed consent was obtained from all respondents before participation.

**Results**

**Characteristics of the study population**

A total of 411 questionnaires were distributed but only 395 were correctly filled giving a response rate of 91.1%. The mean age of the respondents was 21.94±2.56years. 64.6% of respondents were between the age group of 18-22. The faculty of sciences (FS) was the most represented faculty in the university and about three quarters (70.9%) of the respondents were undergraduate students. 97.7% were single, most of the respondents (74.2%) came from urban areas and the vast majority (87.6%) of the respondents were Christians. About 59.7% were living alone. These results are shown in the table 01 below.

**Table 01:** socio-demographic characteristics of the students

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Frequency (n)** | **Percent (%)** | **95% CI** |
| **Age** |  |  |  |
| 18–22  23–27  28–32  >32 | 255  122  17  1 | 64.6  30.9  4.3  0.3 | 59.7 – 69.2  26.5 – 35.6  2.6 – 6.6  0.0 – 1.2 |
| **Study level** |  |  |  |
| Undergraduate  Master  Doctorate | 280  103  12 | 70.9  26.1  3.0 | 66.3 – 75.2  21.9 – 30.6  1.7 – 5.1 |
| **Faculty\*** |  |  |  |
| FASA  FLSH  FMSP  FS  FSEG  FSJP | 22  80  23  113  85  72 | 5,6  20,3  5,8  28,6  21,5  18,2 | 3.6 – 8.2  16.5 – 24.4  3.8 – 8.5  24.3 – 33.2  17.7 – 25.8  14.7 – 22.3 |
| **Marital status** |  |  |  |
| Single  Married | 386  9 | 97.7  2.3 | 95.6 – 98.7  1.1 – 4.1 |
| **Living arrangement** |  |  |  |
| Alone  cohabitation  Family | 236  28  131 | 59.7  7.1  33.2 | 54.9 – 64.5  4.9 – 9.9  28.7 – 37.9 |
| **Place of origin** |  |  |  |
| Urban  Rural | 293  102 | 74.2  25.8 | 69.7 – 78.3  21.7 – 30.3 |
| **Religion** |  |  |  |
| Christian  Muslim  Atheist | 346  32  17 | 87.6  8.1  4.3 | 84.1 – 90.6  5.7 – 11.1   * 1. – 6.6 |

\*faculties: FASA: Faculty of Agronomy and Agricultural Sciences, FLSH: Faculty of Arts and Social Sciences, FMSP: Faculty of Medicine and Pharmaceutical Sciences, FS: Faculty of Science, FSEG: Faculty of Economics and Management, FSJP: Faculty of law and Political Sciences

Sexual and pregnancy history of respondents

Concerning the sexual history of the respondents, 72.2% were sexually active, with 62.4% having first sexual intercourse between the ages of 18-21 years. Most respondents (85.9 %) had unprotected sex with 59.9% having it intentionally. Of those who reported unprotected sex, 18.7% had a history of pregnancy and 71.1% of them were unwanted. 24.4% of the pregnancies resulted in abortion and 36.4% of the abortions were done out of health facilities. These results can be seen in table 02 below.

**Table 02:** Sexual behaviour and pregnancy history

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | **Frequency (n)** | **Percentage (%)** | | **95%CI** |
| **Ever had sex?** |  |  |  | |
| Yes  No  **Total** | 285  110  395 | 72.2  27.8  100 | 67.53 – 76.34  23.66 – 32.47 | |
| **Age at first sexual contact** |  |  |  | |
| <15  15-17  18-21  >21  **Total** | 10  58  178  39  285 | 3.5  20.4  62.4  13.7  100 | 1.70 – 6.36  15.83 – 25.50  56.20 – 67.76  9.92 – 18.23 | |
| **Ever had unprotected sex?** |  |  |  | |
| Yes  No  **Total** | 245  40  285 | 85.9  14.1  100 | 81.38 – 89.78  10.22 – 18.62 | |
| **Reason for unprotected sex** |  |  |  | |
| Condom rupture  Rape  Because I wanted  Wanted to be pregnant  Alcohol abuse  Was using a contraceptive method  Partner’s wish  **Total** | 23  1  172  15  5  25  44  285 | 8.0  0.3  70.2  6.1  1.7  10.2  17.96  100 | 6.04 – 13.75  0.01– 2.25  64.05 – 75.86  3.47 – 9.90  1.16 – 5.80  6.71 – 14.69  13.36 – 23.35 | |
| **Ever been pregnant** |  |  |  | |
| Yes  No  **Total** | 45  200  245 | 18.4  81.6  100 | 11.88 – 80.76  79.24 – 88.12 | |
| **pregnancy planned** |  |  |  | |
| Yes  No  **Total** | 13  32  45 | 28.9  71.1  100 | 16.37 – 83.63  55.69 – 83.63 | |
| **Pregnancy outcome** |  |  |  | |
| Actually pregnant  Birth  Abortion  Miscarriage  **Total** | 6  25  11  3  45 | 13.3  55.6  24.4  6.7  100 | 5.05 – 26.79  40.00 – 70.36  12.88 – 39.54  1.40 – 18.27 | |
| **site of abortion** |  |  |  | |
| Health facility  Out of health facility  **Total** | 7  4  11 | 63.6  36.4  100 | 30.79 – 89.07  10.93 – 69.21 | |

Knowledge of respondents on Emergency contraception

With regards to knowledge, 88.1% of the respondents were aware of EC with school (70.4%) being the most reported source of information. Amongst the reported ECs, levonorgestrel (74.5%) followed by oral contraceptive pills (42.2%) were the most reported type of EC. Few respondents knew that IUDs and ulipristal acetate11 were ECs. About 42.8% of the respondents were aware of the best time limit for ECPs whereas only 5.5% of the respondents knew the recommended maximum time limit to take IUDs. Only 20.1% knew when it is recommended to use EC. About 43.7% of the respondents knew the efficiency of EC and 64.4% knew the secondary effects of EC. Overall, 34.7% of the respondents had good knowledge of EC. This is illustrated in table 03 below.

**Table 03:** Knowledge on emergency contraceptives

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables** | **Frequency (n)** | **Percent (%)** | **95% IC** |
| **Aware of EC** |  |  |  |
| Yes  No | 348  47 | 88.1  11.9 | 84.54 – 90.93  9.07 –15.46 |
| **Source of information** |  |  |  |
| School  Mass media  Web pages  Health personnel  Friend/Relatives | 245  122  87  108  150 | 70.4  35.06  25.0  31.0  43.1 | 65.40 – 74.95  30.23 – 40.21  20.74 – 29.81  26.40 – 36.08  38.00 – 48.35 |
| **Types of EC** |  |  |  |
| Levonorgestrel  Condom  IUD  Injectable  Oral pill  Ulipristal acetate (Ella)  Antibiotics  whisky and/or honey  aspirin + tonic  contraceptive ring  Don’t know | 186  89  63  20  147  11  8  53  6  19  14 | 53.4  25.6  18.1  5.7  42.2  3.2  2.3  15.2  1.7  5.5  4.0 | 48.20 – 51.80  21.27 – 30.41  14.41 – 22.49  3.75 – 8.71  37.16 – 47.49  1.77 – 5.57  1.17 – 4.47  11.84 – 19.38  0.79 – 3.71  3.52 – 8.37  2.42 – 6.66 |
| **best time limit for EC pill** |  |  |  |
| 72 hrs  others | 149  199 | 42.8  57.2 | 37.72 – 48.07  53.23 – 64.23 |
| **Best time limit for IUD** |  |  |  |
| 120 hrs  others | 19  329 | 5.5  94.5 | 3.52 – 8.37  91.7 – 98.6 |
| **Efficiency of EC pills** |  |  |  |
| Efficient  Always efficient  Not efficient  Not at all efficient  I don’t know | 152  21  54  8  113 | 43.7  6.0  15.5  2.3  35.5 | 38.56 – 48.93  3.98 – 9.05  12.09 – 19.70  1.17 – 4.47  27.77 – 37.56 |
| **When recommended to use EC** |  |  |  |
| after each sexual act  after each unprotected act during the fertile period only  after every unprotected act in the cycle when necessary | 22  256  70 | 6.3  73.6  20.1 | 4.21 – 9.39  68.69 – 77.92  15.32 – 26.65 |
| **Knowledge of secondary effects** |  |  |  |
| Yes  No | 224  124 | 64.4  35.6 | 59.20 – 69.22  30.78 – 4.80 |

Attitude of respondents towards Emergency contraception

Three positive and seven negative items were included. A score of 21 and above was considered as a **‘positive attitude’** whereas those scoring 20 and below were thought of as having a ‘**negative attitude’**. Overall, out of 348 participants who were aware of EC, 78.0% of the respondents had positive attitude towards EC (Table 04).

**Table 04:** Attitude of respondents towards emergency contraception

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **attitude** | | | | |
| **Variable** | **Strongly agree**  **n (%)** | **Agree**  **n (%)** | **Neutral**  **n (%)** | **Disagree**  **n (%)** | **Strongly disagree**  **n (%)** |
| If there is a high risk of unintended pregnancy after sexual intercourse, I will use EC. | 138(39,7) | 112(32,2) | 69(19,8) | 11(3,2) | 18(5,2) |
| I will recommend EC methods to a friend if she is at risk of unintended pregnancy. | 87(25,0) | 126(36,2) | 80(23,0) | 36(10,3) | 19(5,5) |
| Provision of EC after an episode of unprotected sex can prevent unplanned pregnancy. | 75(21,6) | 151(43,4) | 84(24,1) | 27(7,8) | 11(3,2) |
| EC pills can cause harm if conception have already occurred | 89(25,6) | 107(30,7) | 102(29,3) | 39(11,2) | 11(3,2) |
| EC are methods of abortion | 25(7,2) | 41(11,8) | 66(19,0) | 139(39,9) | 77(22,1) |
| EC will promote infertility in women. | 35(10,1) | 86(24,7) | 143(41,1) | 61(17,5) | 23(6,6) |
| EC is more efficient than other contraceptive methods. | 6(1,7) | 44(12,6) | 194(55,7) | 81(23,3) | 23(6,6) |
| EC promotes promiscuity | 42(12,1) | 54(15,5) | 152(43,7) | 63(18,1) | 37(10,6) |
| EC can prevent against STI/HIV. | 14(4,0) | 16(4,6) | 46(13,2) | 101(29,0) | 171(49,1) |
| EC is only for young females. | 16(4,6) | 26(7,5) | 70(20,1) | 130(37,4) | 106(30,5) |

STI/HIV= Sexually Transmissible Disease/Human Immune Deficiency Syndrome,

Practice of respondents on emergency contraception

Table 05 describes the practice of respondents on emergency contraception. Of those 78.2 % who had had sexual intercourse, only 42.8% had used EC. 46.3% took it by self-initiative while 25.5% took it under the recommendation of a health personnel. Concerning the frequency of utilisation, 6.7% reported usage more than 5 times in the last 12 months. The most frequent reason (73.8%) for using EC pills was due to unprotected sex. Of those who reported to have never used EC, 37.7% said it was because they were afraid of side effects.

**Table 05:** Practice of respondents on emergency contraception

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Frequency (n) | Percent (%) | 95% CI |
| **Ever used EC?** |  |  |  |
| Yes  No | 149  199 | 42.8  57.2 | 37.72 – 48.07  51.93 – 62.28 |
| **Which EC did you use?** |  |  |  |
| Emergency pills  IUD  Honey | 147  0  2 | 98.6  0.0  0.4 | 94.23 – 99.58  -  0.16 – 4.76 |
| **Source of the EC?** |  |  |  |
| Health facility  Shop/market  Pharmacy  Friend  Don’t remember | 9  34  120  4  3 | 6.0  22.8  80.5  2.7  2.0 | 2.80 – 11.16  16.35 – 30.40  73.26 – 86.56  0.74 – 6.73  0.42 – 5.77 |
| **Who recommended it to you?** |  |  |  |
| Health personnel  Friend  Myself  Don’t remember | 38  36  69  6 | 25.5  24.2  46.3  4.0 | 18.72 – 33.28  17.53 – 31.85  38.11 – 54.65  1.49 – 8.56 |
| **Number of times did you use EC pills in the 12 last months?** |  |  |  |
| 0 times  1 time  2-3 times  4-5 times  >5 times | 2  71  52  14  10 | 1.4  47.6  34.9  9.4  6.7 | 0.16 – 4.76  39.41 – 55.98  27.28 – 43.13  5.23 – 15.26  3.27 – 12.00 |
| **Reason for using EC** |  |  |  |
| Condom rupture  Unprotected sex  Forgotten usual contraceptive | 44  110  10 | 29.5  73.8  6.7 | 22.35 – 37.55  66.00 – 80.68  3.27 – 12.00 |
| **Reason for not using EC** |  |  |  |
| Fear of side effects  Against my religion  Have no knowledge  Never needed it  Wanted to be pregnant | 75  19  42  68  6 | 37.7  9.5  21.1  34.2  3.0 | 31.26 – 45.24  5.91– 14.65  15.82– 27.71  27.9– 41.61  1.13 – 6.51 |

Factors associated to knowledge and use on emergency contraception.

Table 06 shows the potential factors that are associated with the knowledge on EC in terms of both the unadjusted and unadjusted odds ratios. After taking each variable individually in the univariate model (model I), those which were significant at a threshold of 5% were included in the multivariate model (model II). It appears that living in a family setting (aOR: 0.51; 95%CI: 0.31-0.86; p=0.011) and attitude (aOR: 2.77; 95%CI: 1.46-5.25; p=0.017) were significantly associated to knowledge.

**Table 06:** Factors associated to good knowledge of EC

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Model I** | | **Model II** | |
| **Characteristics** | **Unadjusted OR (CI 95%)** | ***p-* value** | **Adjusted OR (CI 95%)** | ***p-* value** |
| **Age** |  |  |  |  |
| 18-22  23-27  28-32  >32 | 1  1.25 (0.78,2.01)  0.61 (0.19,1.95)  2.14 (0.00,>1.01) | 0.341  0.410  0.970 | **–** | **–** |
| **Religion** |  |  |  |  |
| Christian  Muslim  Atheist | 1  0.86 (0.37,1.98)  0.73 (0.22,2.39) | 0.738  0.607 | **–** | **–** |
| **Living origin** |  |  |  |  |
| Rural  urban | 1  0.72 (0.44,1.18) | 0.201 | **–** | **–** |
| **Study level** |  |  |  |  |
| Undergraduate  Masters  Doctorate | 1  1.0 (0.60,1.66)  2.72 (0.83,8.84) | 0.978  0.095 | **–** | **–** |
| **Living arrangement** |  |  |  |  |
| Alone  Cohabiting  Family | 1  1.12 (0.47,2.64)  0.54 (0.32,0.89) | 0.789  **0.017** | 1  **–**  0.51 (0.31,0.86) | **–**  **0.011** |
| **Age at first sexual act** |  |  |  |  |
| <15  15-17  18-21  >21 | 1  0.61 (0.15,2.44)  0.34 (0.09,1.29)  0.348 (0.08,1.47) | 0.493  0.115  0.15 | – | – |
| **Attitude** |  |  |  |  |
| Poor  Good | 1  2.68 (1.42,5.04) | **0.002** | 1  2.77 (1.46,5.25) | **0.0017** |

OR= Odds Ratio, CI= Confidence Interval

Table 07 shows the factors associated to the use of EC, starting sexual activity late (aOR: 0.04; 95%CI: 0.003-0.50; p<0.019), attitude (aOR: 2.38; 95%CI:1.08-5.26; p<0.031) and knowledge (aOR: 4.00; 95%CI: 2.12-7.5; p<0.001) were found to be statically associated to the use of EC

**Table 07:** Factors associated to the use of emergency contraceptives.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Model I** | | **Model II** | |
| **Characteristics** | **Unadjusted OR (95%CI)** | **p- value** | **Adjusted OR (95%CI)** | **p- value** |
| **Age** |  |  |  |  |
| 18-22  23-27  28-32  >32 | 1  1.78 (1.12,2.80)  1.48 (0.54,3.99)  1.38 (0.00,>1.010) | **0.013**  0.437  0.967 | 1  1.07 (0.53,2.15)  **–**  **–** | 0.844  **–**  **–** |
| **Religion** |  |  |  |  |
| Christian  Muslim  Atheist | 1  0.406 (0.16,0.98)  0.48 (0.14,1.58) | **0.045**  0.232 | 1  0.437 (0.14,1.27)  **–** | 0.129  **–** |
| **Living origin** |  |  |  |  |
| Rural  urban | 1  1.15 (0.71,1.87) | 0.557 | **–** | **–** |
| **Study level** |  |  |  |  |
| Undergraduate  Masters  Doctorate | 1  1.75 (1.08,2.84)  0.77 (0.22,2.64) | **0.02**  0.682 | 1  1.1 (0.56,2.16)  **–** | 0.76  **–** |
| **Living arrangement** |  |  |  |  |
| Alone  Cohabiting  Family | 1  0.59 (0.24,1.45)  0.79 (0.49,1.26) | 0.259  0.32 | –  **–** | –  **–** |
| **Age at first act** |  |  |  |  |
| <15  15-17  18-21  >21 | 1  0.30 (0.03,2.60)  0.14 (0.017,1.14)  0.06 (0.007,0.57) | 0.276  0.067  **0.014** | 1  **–**  **–**  0.044 (0.003,0.5) | **–**  **–**  **0.019** |
| **Attitude** |  |  |  |  |
| Poor  Good | 1  4.06 (2.16,7.62) | **<0.001** | 1  2.38 (1.08,5.26) | **0.031** |
| **Knowledge** |  |  |  |  |
| Poor  Good | 1  3.19 (2.01,5.04) | **<0.001** | 1  4.0 (2.12,7.5) | **<0.001** |

**Discussion**

This study assessed the knowledge, attitudes, and practices (KAP) regarding emergency contraception (EC) among female students at the University of Dschang. The findings revealed that although awareness of EC was high, in-depth knowledge remained insufficient, potentially affecting informed decision-making. The study also highlighted significant associations between EC usage and factors such as knowledge, attitude, and social environment.

The mean age of participants in our study was 21.94 slightly higher than in studies conducted in Nigeria and Botswana [9, 10] is a little bit higher likely due to the inclusion of higher-level students. In our study, 72.2% of respondents were sexually active, a rate higher than those found in studies from Nigeria and Ethiopia [9, 11]. Possible reasons for such a difference may be due to the high age of respondents or high levels of study from our participants.

Most had their first sexual experience between 18 and 21 years, later than what was reported in an Ethiopian study, where majority of the respondents had their first sexual experience between 15 and 19 years old[12]. This difference can be explained by the study setting where ours took place in a university compared to a secondary school. Almost all (85.9%) the sexually active respondents practiced unprotected sex, similar to a study in Nigeria in 2021 [9]. This underscores the urgent need for interventions to prevent unintended pregnancies and STIs. The study also found that 18.4% of respondents had a history of pregnancy, with 71.1% of these pregnancies being unplanned. This prevalence is greater than the one found in Botswana (38.2%) [10] but less than the 92% in Ethiopia (92%) [13]. The prevalence of abortion was 24.4%, lower than reported rates in Nigeria (59%) but still concerning [9]. This result can be explained by the high proportion of students in our study who reported being sexually active and who practice unprotected sex. The awareness level of EC (88.1%) was higher than studies conducted in Cameroon (61.1%) and Ghana (76.7%) [14, 15] but lower than in Tanzania (93.9%)[16]. We also found that the primary source of information on EC was school, resembling the one done in Ghana [15] contrasting with other studies in Cameroon and South Africa where friends and relatives were the main sources [14, 17]. Reliable sources such as medical professionals are crucial in bridging misinformation gaps.

Levonorgestrel was the most recognized EC method (53.8%) in our study as in a study in Nigeria [9] yet misconceptions about EC persist, with 42.2% of respondents believing only oral pills qualify as EC. Furthermore, 42.8% knew that EC should be taken within 72 hours, but knowledge on its effectiveness remains varied. These results are higher than findings obtained by some studies [9–11, 18]. About one fifth of the respondents reported that EC should be used after every unprotected act in the cycle when necessary. According to the ICEC, in practice, determining whether a specific act occurred on a fertile or non-fertile cycle day is often not possible, so women should not refrain from using ECPs because of the assumption that a particular episode of unprotected intercourse occurred on a non-fertile day[19].

Two-thirds of respondents were willing to use and recommend EC, indicating a supportive environment for awareness campaigns which is similar to what was found in 2019 in Ethiopia[11]. However, concerns persist, with 25% believing EC induces abortion, 33% associating it with infertility, and 9% mistakenly thinking it prevents STI/HIV transmission. About 75% expressed a positive attitude towards EC, aligning with findings from Ethiopia [11] but higher than reports from Ghana [15] and Nigeria [9]. About three quarter of the respondents in our study showed a positive attitude towards EC, which is similar to studies carried out in Ethiopia (77.4% and 84.4% respectively) [11, 18] and higher than the findings of 50.9%, and 54% in Nigeria and in Ghana respectively.[9, 15]. This can be an indication of a favourable environment for actions. EC usage in this study (42.8%) was moderate compared to other studies [9, 11, 14, 15]. This moderate level of utilisation could be due to the positive attitude level which respondents had towards emergency contraceptives. ECPs (98.6%) were the most commonly used method, just like in Tanzania (87.4%)[16]. This could probably be because of their ease of use and availability as EC pills which are easily obtained from pharmacies.

No significant associations were found between good knowledge and factors such as age, religion, or level of education, contrasting with findings from Ghana [15] and Ethiopia [11] where age and the level of education were associated with good knowledge. However, significant associations were noted between good knowledge and living in a family setting (p=0.011) as well as positive attitudes (p=0.0017). This could be due to the fact that when being in a family setting, respondents are more prone to good information received from parents and also good information will lead to have favourable attitudes. EC use was significantly associated with positive attitudes (p=0.031), good knowledge (p<0.001), and first sexual activity between 18-21 years (p=0.019) mirroring findings from Nigeria [9] and Botswana [10]. These findings underscore the need for targeted educational programs within universities to bridge EC knowledge gaps and improve utilization rates.

**Limitations of the study**

This study provides valuable insights into the knowledge, attitudes, and practices (KAP) regarding emergency contraception (EC) among university students, an important yet understudied population. By highlighting gaps in EC awareness and usage, the study provides a basis for future interventions aimed at improving reproductive health education among young adults. Nevertheless, our study is subjected to some limitations. The study is limited to a single university and only focuses on female students, which may restrict the generalizability of the findings to broader populations or different educational institutions. Self-reported data may be subject to recall bias or social desirability bias, potentially affecting the accuracy of responses. Finally, the cross-sectional design does not allow for causal inferences between knowledge, attitudes, and EC usage.

Conclusion

This study highlights a critical gap between awareness and comprehensive knowledge of emergency contraception (EC) among university students. While 88.1% of respondents had heard about EC, only 34.7% possessed accurate knowledge regarding its use, mechanisms, and effectiveness. Despite this, a strong positive attitude was observed, with 78% expressing favorable perceptions toward EC. However, actual usage remained moderate, with only 42.8% of participants reporting prior use, primarily in the form of emergency contraceptive pills (98.6%). Addressing barriers such as misinformation, limited accessibility, and concerns about side effects is essential in enhancing EC uptake. Universities should integrate reproductive health education into their curricula and establish accessible contraceptive services to empower young women with accurate information and autonomy over their reproductive choices. Strengthening health policies and collaboration between academic institutions and healthcare providers will be instrumental in improving EC awareness, accessibility, and utilization rates, ultimately reducing unintended pregnancies among university students.

**Declaration of interest**

The authors declare no conflict of interest

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