

Assessment of knowledge and attitude regarding the use of over the counter drugs during menstrual cramps among the undergraduate students in Selected Colleges, Shillong, Meghalaya

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Abstract

Introduction: Menstrual cramps are a women’s health issue which affects large percentage of students between the age group 18 -24 years. Self- medication for menstrual cramps is common with an incidence of 38-80% due to easy accessibility to over the counter drugs (OTC). Lack of adequate knowledge about OTC medications may directly lead to bad outcomes such as overuse or non compliance to the drugs. The present study aims to assess the knowledge and the attitude regarding the use of over the counter drugs during menstrual cramps and to find out the association of knowledge with selected demographic variables (age, age of menarche and stream of education) among the undergraduate students.

Methodology: A cross-sectional study was conducted among the undergraduate students in selected Colleges Shillong, Meghalaya. A total of 144 undergraduate

students were selected for the study using multi stage sampling technique.

Results: The findings of the study revealed that out of total 144 participants, 132(91.67%) experienced menstrual cramps and out of 132 participants, 34 (25.76%) used self medications to relieve menstrual cramps. It was also found that 93(64.58 %) have adequate knowledge and 140(97.22%) have favorable attitude towards the use of over the counter drugs during menstrual cramps. Moreover, it was also found that out of 34 participants majority 24 (70.59 %) participants use over the counter drugs.

Conclusion: From the present cross-sectional study it is found that most of the respondents have adequate knowledge and favorable attitude regarding the use of over the counter drugs during the menstrual cramps.

Keywords: Knowledge, Attitude, Menstrual Cramps, Over the Counter Drugs, Undergraduate Students.

Introduction

Menstrual cramps or dysmenorrhea is a women's health issue which affects a large percentage of students. Over the counter (OTC) drugs are medicines that may be sold by directly to a consumer without a prescription from pharmacy personnel, as compared to prescription drugs, which are dispensed only to consumers possessing a valid prescription. Self medication with over the counter drugs is common among undergraduate students at age group of 18-21 years, which has been reported in most of the research studies. For safe use of self medication with over the counter drugs, students are expected to have proper knowledge, attitude and 5 practice towards OTC drugs and subsequent adverse drug reactions.

Need of the study: Lack of adequate knowledge about OTC medications may directly lead to bad outcomes such as overuse or non compliance to treatment programs. Since inappropriate self-medication has the potential to cause serious harm, not only to the students themselves but also to those whom they suggest medication, the probable problems of self- medication should be emphasized to the students to minimize this risk. Therefore this study was conducted to assess the knowledge and attitude regarding the use of over the counter drugs during menstrual cramps among undergraduate students in selected colleges, Shillong, Meghalaya.

Objectives

Primary objectives

- a) To assess the knowledge of undergraduate students regarding the use of over the counter drugs during menstrual cramps.
- b) To assess the attitude of undergraduate students towards the use of over the counter drugs during menstrual cramps.

Secondary objectives

- a) To find out association of knowledge with selected demographic variables (age , age of menarche , stream of education).

Research Methodology

Research Approach: In this study, quantitative research approach was finalized to assess the knowledge and attitude regarding the use of over the counter drugs during menstrual cramps.

Research Design: A non - experimental cross sectional study design was adopted to assess the knowledge and attitude regarding the use of over the counter drugs during menstrual cramps among the under graduate students in Selected Colleges, Shillong, Meghalaya.

Variables

- a) **Independent variables:** Socio-demographic variables: Age, Age of menarche, Stream of education.
- b) **Outcome variables:** Knowledge and attitude of undergraduate students regarding the use of over the counter drugs during menstrual cramps.

Study Settings:

The pilot study was conducted in St. Anthony's College, Shillong, Meghalaya.

The final study was conducted in St. Edmund's College and St. Mary's College, Shillong, Meghalaya.

Ethical considerations

In our study, prior permission was obtained from:

1. NEIGRIHMS Scientific Advisory Committee (NSAC).
2. Institutional Ethics Committee (IEC)
3. Principal of selected Colleges, Shillong, Meghalaya.
4. Informed consent from participants.

Study population

The study population is the entire set of individual or objects having some characteristic(s) selected for

research study, sometimes referred to as the universe of the study.

In this study, the population comprises: Female undergraduate students

Sampling technique

In our study, sampling technique is Multi-stage sampling technique

Sample size

Sample size is the number of subjects, events, behavior or situations that were examined in the study.

It was calculated using the following formula^[1]:

$$N = (Z_{1-\alpha/2} + Z_{1-\beta})^2 \frac{\sigma^2}{d^2}$$

Where,

N=Sample size calculation

$Z_{1-\alpha/2}$ =Critical value of the normal distribution at $\alpha/2$

$Z_{1-\beta}$ =Critical value of the normal distribution at β

σ =Population variance

d=Margin of error

The sample size calculation for the pilot study was 30 and for the final study was 139.

Criteria for Sample Selection

Inclusion criteria: Undergraduate female students (Science, Arts, Commerce streams) studying in selected Colleges of Shillong, Meghalaya.

Exclusion criteria: Undergraduate female students who are not willing to participate.

Development of Data Collection Tool

The following steps were adapted prior to the development of the tool:

- An extensive review of literature from books, research journals, online resources, books related to the research subjects.
- Suggestions from experts.
- Personal experience of the investigators, discussion with the colleagues.

Description of Data Collection Tool

The tool used for our research study to collect the data is a self administered questionnaire. It consist of 3 sections

Section 1: 6 questions related to socio-demographic data of the participants.

Section 2: 12 questions related to knowledge regarding the use of over the counter drugs during menstrual cramps.

Section 3: 12 statements related to attitude of undergraduate female students towards the use of over the counter drugs during menstrual cramps.

Validity

The validation of data collection tools for content was done by the experts from different specialists. For content validity, the tool was given to experts from the Department of Obstetrics and Gynaecology, Department of Pharmacology, Department of Midwifery and Obstetrical Nursing, Department of Child Health Nursing, College of Nursing, NEIGRIHMS. The valuable suggestions and opinions have been incorporated in the final version of the tool.

Pilot Study

A pilot study was conducted from the 20 to 25th of February, 2023 in St. Anthony's College, Shillong, Meghalaya. Consent was taken from the participants for participating in the study. The total sample of the study consists of 30 undergraduate female students. The participants took approximately 15-20 minutes to complete the questionnaire. At the end of our pilot study, it was found that the tool was understandable to the participants and provided reliable data, also, the study is feasible to carry out the main study as proposed.

Data Collection Procedure

Prior to data collection, ethical approval was obtained from the Principal of College of Nursing, NEIGRIHMS and ethical permission was obtained from

Principal of St. Edmund’s college, Shillong, Meghalaya and St. Mary’s college, Shillong, Meghalaya. The final data collection was carried out from the 10th April 2023 to 22nd April , 2023 in selected colleges (St. Edmund’s College and St. Mary’s College). Prior to the data collection, informed consent was taken from the participants to explain the procedure and the purpose of the study, which also stated the confidentiality and anonymity of the results. Thereafter, the participants were allowed to proceed with the self administered questionnaire and participants took approximately 15-20 minutes to complete it.

Scoring of the tool

Section A: It consists of socio-demographic characteristics and was not scored.

Section B: It consists of 12 knowledge based questions to assess the level of knowledge regarding the use of over the counter drugs during menstrual cramps, in such a way that for each correct response 1 mark is given. There is no negative mark given for a negative response. The maximum score is 12 and the minimum score is zero.

Section C: It consists of 12 attitude based statement regarding the use of over the counter drugs during menstrual cramps on a five point likertscale .There are 6 positive and 6 negative statements. For positive statement score of 5, 4, 3, 2, 1 is given to strongly agree, agree, neutral, disagree, strongly disagree respectively and for negative statement score of 1, 2, 3, 4, 5 is given to strongly agree, agree, neutral, disagree, strongly disagree respectively.

The maximum score is 60 and the minimum score is 12.

Interpretation of Score

Section B

Each correct answer is assigned a score of “1” and a score of “0” for an incorrect answer. The maximum possible

score is 12, which represents 100% score and is categorized as in two levels as follows:

Category	Score	Percentage (%)
Adequate knowledge	≥ 6	≥ 50 %
Inadequate knowledge	< 6	< 50 %

Section C

Category	Score	Percentage (%)
Favourable attitude	≥36	≥ 60 %
Unfavorable attitude	<36	< 60%

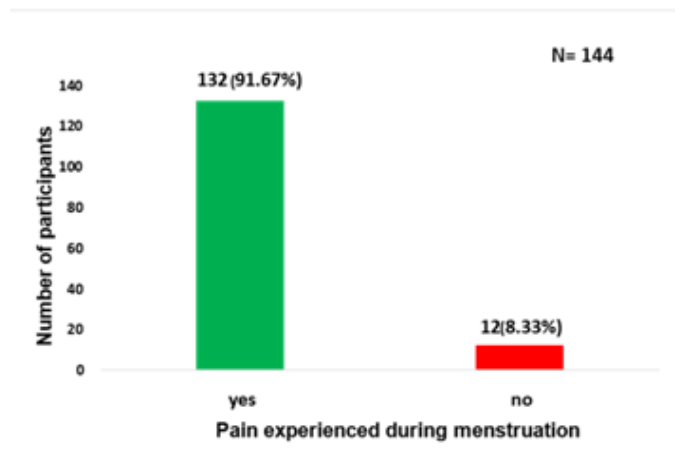
Results

Table 1: Findings related to the socio-demographic data of the participants

Variables	Frequency (f)	Percentage (%)
Age in years		
a) 18-20	62	43.06 %
b) 21-23	82	56.94 %
Age of menarche (in years)		
a) 9 -12	44	30.56 %
b) 13 – 16	100	69.44 %
Stream of education		
a) Science	48	33.33%
b) Commerce	48	33.33%
c) Arts	48	33.33%

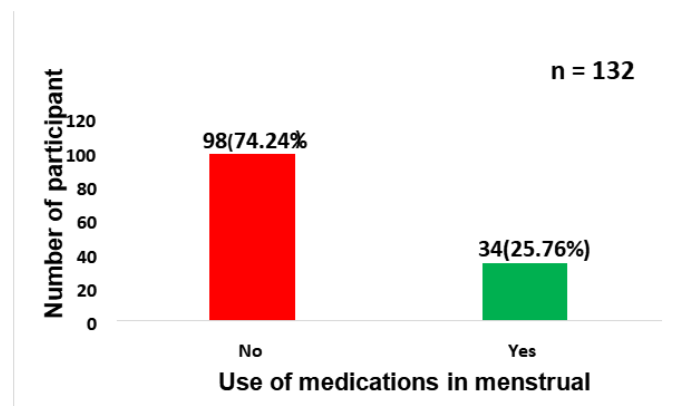
The data presented in Table 1 shows that out of 144 participants majority of the participants with respect to age belongs to the age group of 21-23 years 82(56.94%). Majority of the participants with respect to age of menarche belongs to age 13-16 years 100 (69.44%)

Figure 1: Bar graph showing the distribution of participants experiencing pain experience during menstruation



The data presented in Figure 1 shows that out of 144 participants maximum participants i.e 132 (91.67 %) experienced pain during menstruation and 12 (8.33%) participants do not experience pain during menstruation

Figure 2: Bar graph showing the distribution of participant’s status according to the use of medications to relieve menstrual cramps



The data represented in Figure 2 shows that out of 132 participants maximum i.e 98 (74.24%) participants do not use medication to relieve menstrual cramps and 34 (25.76%) participant’s uses medication to relieve menstrual cramps.

Table 2: Frequency and percentage distribution of the participants based on the use of other remedies to treat menstrual cramps without the use of medications. n = 98

Variables	Frequency (f)	Percentage (%)
Other remedies used to treat menstrual cramps without the use of medications.		
Rest /Sleep	38	38.77%
Hot water bag	31	31.63%
More than one remedy	18	18.36%
Exercise and yoga	7	7.14%
Warm beverages	4	4.08%

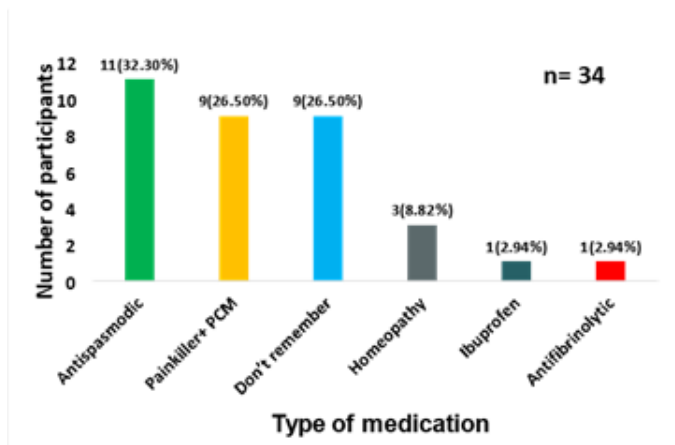
The data represented in Table 2 shows that out of 98 participants majority i.e 38(38.77%) participants uses rest and sleep as other remedies to treat menstrual cramps without use of any medication.

Table 3: Frequency and percentage distribution of the participants based on other remedies used to treat menstrual pain along with the use of medications. n = 34

Variables	Frequency(f)	Percentage (%)
Other remedies used to treat menstrual cramps along with the use of medications.		
Rest / Sleep	11	32.35%
More than one remedy	10	29.41%
Hot water bag	8	23.52%
Warm beverages	3	8.82%
Exercise and yoga	2	5.88%

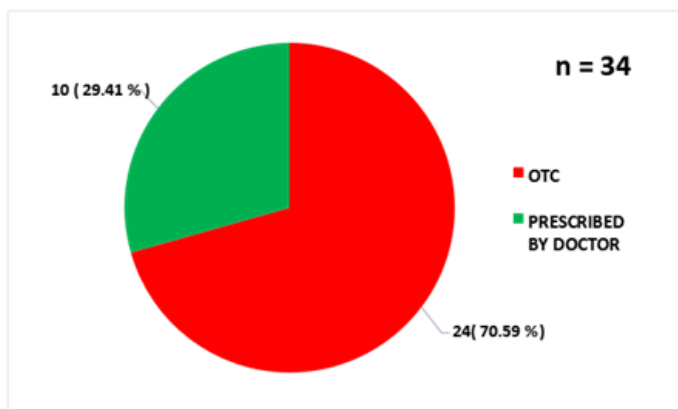
The data represented in Table 3 shows that out of 34 participants, majority i.e 11(32.35%) participants use rest and sleep as other remedies to treat menstrual cramps along with the use of medications.

Figure 3: Bar graph showing the distribution of participants according to types of medication used to relieve menstrual cramps.



The data represented in Figure 3 shows that out of 34 participants maximum i.e 11(32.30%) participants use antispasmodics, 9(26.50%) participants uses painkiller and PCM, 9(26.50%) participants don't remember the medicine name, 3(8.82%) participants uses homeopathy, 1(2.94%) participant uses ibuprofen,1(2.94%) participant uses antifibrinolytic to relieve menstrual cramps.

Figure 4: Pie diagram showing frequency and percentage distribution of the participants according to source of medication



The data represented in Figure 4 shows that out of 34 participants majority i.e 24 (70.59 %) participants use over the counter drugs (OTC) and 10 (29.41%) participants use medication prescribed by doctors to treat menstrual cramps.

Table 4: Frequency and percentage distribution of participants on the basis of consequences of menstrual cramps on daily life. n = 132

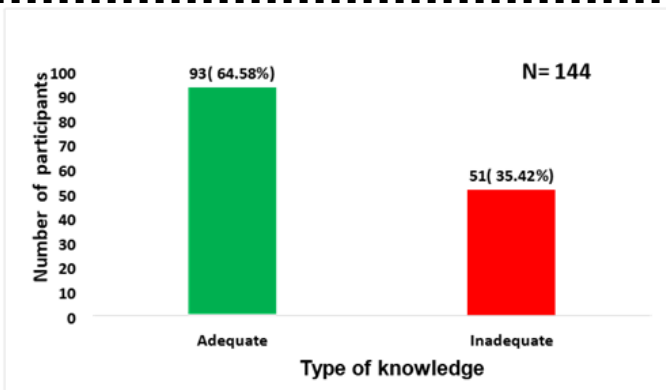
Variables	Frequency (f)	Percentage (%)
Consequences of menstrual cramps on daily life		
Limitation of daily activities	45	34.09%
Sleep disturbance	26	19.70%
Mood Swings	24	18.18%
Absenteeism in classes	21	15.91%
Others (more than one activity)	16	12.12%

The data represented in Table 4 shows that out of 132 participants majority i.e 45(34.09 %) participants have limitation in their daily activities, 26(19.70%) participants have sleep disturbances, 24(18.18%) participants have mood swings,21(15.91%) participants have absenteeism in classes and 16(12.12%) participants more than one activities are affected.

Section 2

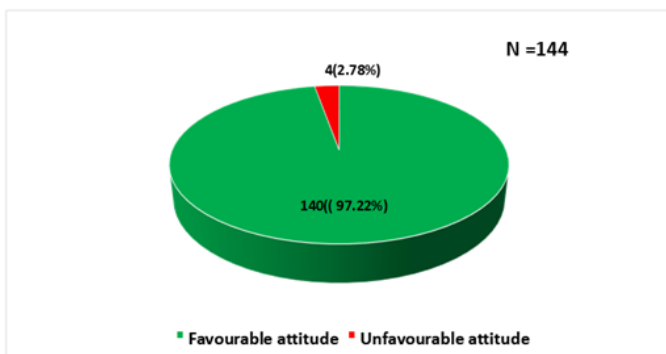
Findings related to the knowledge score and the attitude score of the participants regarding the use of over the counter drugs in menstrual cramps.

Figure 5: Bar graph showing the distribution of participants according to their level of knowledge regarding the use of over the counter drugs to relieve menstrual cramps.



The data represented in Figure 5 shows that out of 144 participants majority i.e 93 (64.58 %) have adequate knowledge , 51(35.42 %) participants have inadequate knowledge regarding the use of over the counter drugs during menstrual cramps

Figure 6: Pie diagram showing frequency and percentage distribution of participants according to their type of attitude regarding the use of over the counter drugs in menstrual cramps.



The data represented in Figure 6 shows that out of 144 participants, majority i.e 140 (97.22%) participants have favourable attitude towards the use of OTC during menstrual cramps and only 4 (2.78 %) participants have unfavourable attitude towards the use of OTC during menstrual cramps.

Section 3

Findings related to association of the knowledge of the participants with the demographic variables

Table 5: Association of knowledge regarding use of over the counter drugs in menstrual cramps with age, age of menarche, stream of education. n=144

Variables	Adequate knowledge	Inadequate knowledge	Degree of freedom (df)	Tabulated value	Calculated value	
Age (in years)-	18-20	43	19	1	3.84	0.70
	21-23	50	32			
Age of menarche	9 - 12	29	15	1	3.84	1.81
	13 – 16	64	36			
Stream of education	Science	28	20	2	5.99	1.64
	Commerce	34	14			
	Arts	31	17			

Level of significance ($p \leq 0.05$)

The data represented in Table 5 shows that there is no significant association between knowledge with the selected socio demographic variables (Age, Age of menarche, Stream of Education)

Discussion

The study reveals that out of 144 students, 132(91.67%) participants experience menstrual cramps and out of 132 participants, 34 (25.76%) use medication to relief menstrual cramps. Out of 34 participants, majority 11(32.30%) uses antispasmodic drugs. A similar study conducted by Jayanthi et.al,(2014) in Bangalore revealed that out of 261 female students, who uses medication for dysmenorrhea , mefenemic acid was used most commonly by the female students^[17]

Conclusion

Findings of the study revealed that majority of the participants have adequate knowledge and favorable attitude regarding the use of over the counter drugs during the menstrual cramps. The most common source of getting the OTC was from “Pharmacist “.

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