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Original Article

Dysmenorrhoea: Pain relief strategies among a cohort of undergraduates in Nigeria

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ABSTRACT

Background: Most women experience some pain during menstruation. This pain most times affects their normal daily activity and quality of life depending on its duration and severity. There are various strategies used in menstrual pain management which differ with individuals. **Aim:** This study investigates various management options of dysmenorrhoea among female undergraduates in Nigeria. **Methods:** A total of 285 questionnaires were distributed in four faculties using purposive and convenience sampling. The response rate was 86%. The returned 245 questionnaires were analysed using frequency tables and chi-square analysis. **Results:** Findings indicated that the average age of the respondents was 22 years and most (70.6%) of the respondents experienced moderate or severe pain during menstruation. A null hypothesis tested at significant level of 0.05 suggested that relationship between age and pain intensity is not significant. Most (51%) of the respondents reported that dysmenorrhoea limits their activities. **Conclusion:** The various strategies adopted by the females are drugs, relaxation/rest, warm bath, exercise, diet modification and herbal remedies but the most effective are drugs, warm bath, rest and exercise. The most widely used strategies of pain relief were drugs, exercise, warm bath and rest. It was recommended that, both health workers and women should adopt a multidisciplinary approach in managing dysmenorrhoea. This is because respondents combine various methods to achieve results.

Key words: Dysmenorrhoea, relief, female, age, Nigeria, undergraduates

INTRODUCTION

Pain is an unwanted experience that can affect the individual experiencing it negatively depending on its intensity, location, quality and duration.[1] One of the causes of pain among women is dysmenorrhoea.[2] Dysmenorrhoea can be defined as pain during menstruation.[1] A significant population of women experience mild, moderate or severe pain during menstruation.[1]

Fraser and Cooper[3] reported that seventy-five percent (75%) of menstruating women experience dysmenorrhoea, making it the leading cause of incapacitation in adolescents. International association for the study of pain posited that dysmenorrhoea affects forty to ninety percent (40-90%) of women.[4] The figures indicated a high prevalence of the condition and indicate a challenge to care givers. Dysmenorrhoea may be primary without pathology or secondary to pelvic pathology.[3,4] Primary dysmenorrhoea is due to excessive quantities of prostaglandin synthesis during the breakdown of premenstrual endometrium.[2] On the other hand, secondary dysmenorrhoea may occur due to outlet obstruction which may result from a partial imperforate hymen or uterine

malformation.[2] Pain intensity can be measured using a scale. Smeltzer *et al.* suggested that pain intensity can be scaled as "no pain, mild pain, moderate pain, severe pain and worst possible pain".[4] No matter the intensity of pain, women affected by dysmenorrhoea experience discomfort, distress and suffering and will do anything within their reach to eradicate or reduce the pain.[1] For many women, the symptoms of dysmenorrhoea have significant impact on the quality of life at least a portion of each month.[4] Dysmenorrhoea is a symptom-complex which affects quality of life and reduces productivity of women.[6] Fifty percent (50%) of females missed school or work at least once due to pain associated with menstruation.[4] Unrelieved acute pain can affect the pulmonary, cardiovascular, gastrointestinal, endocrine and immune systems.[5] Chronic pain may suppress the immune function, cause depression, disability, anger and fatigue.[5]

A study carried out among seven hundred and six (706) Hispanic female adolescents revealed that 85% reported dysmenorrhoea, 38% missing school and 33% reported missing individual class during three menstrual cycles.[7] Another survey reported that of 664 students who experienced dysmenorrhoea, 55.3% reported mild cramping, 30% moderate and 14.8% reported severe cramping.[8] A similar survey among 1546 dysmenorrhoeal women in Canada showed that that 60% experience severe or moderate pain, 51% had limitation on activities and 17% missed school.[9]

A multidisciplinary approach involving a combination of life style modification and allied health services should be used to limit the impact of dysmenorrhoea on activity of daily living.[10] Some of the strategies used in the management of pain among women in Taiwan include bed rest, paracetamol, heat, exercise, ginger tea, brown sugar and low fat food.[11] Use of non steroidal anti-inflammatory drugs is the most common strategy among many women today.[12] Non steroidal anti-inflammatory drugs (NSAID) have an efficacy of 20 to 25 percent,[12] and they are significantly more effective for pain relief than placebo.[13] This study may communicate the intensity of menstrual pain experienced by women in Nigeria and how this pain affects their health. This may be useful to health care provider in planning health programs that target on women. The study will communicate the various pain relief strategies adopted by women in the Nigeria. This information will give women the various options of pain management for them to test and adopt the most effective for themselves. Pain relief strategies that are harmful may be revealed and discouraged. Dysmenorrhoea affects quality of life and reduces productivity of women, therefore, findings from this study could improve the quality of life and productivity of adolescents since the most effective strategies of pain relief will be identified. This study will stimulate further research in the area of management of pain associated with dysmenorrhoea.

METHODOLOGY

Study design

This is a descriptive study to investigate among female undergraduates, strategies of dysmenorrhoea management.

Place of study

This survey was conducted in University of Jos, Nigeria. The University started in 1971 as a branch of university of Ibadan. It was formally established in 1975. The university is located in north-central Nigeria and has a total of eight faculties' namely Natural science, Medicine, Law, environmental sciences, social sciences, Pharmaceutical sciences, Education and Arts. There are about 18733 students with 7743 of them being female.[17]

Study population and sampling technique

The study population were female undergraduates in Nigeria who were selected by purposive and convenience sampling. Participants were drawn from four faculties namely, Faculties of Medicine, Natural Sciences, Social Sciences and Pharmaceutical Sciences. The inclusion criterion for participation in this study is that, the person must be a female that experiences or has ever experience dysmenorrhoea. This implies that women who do not experience pains during menstruation and has never experience it were excluded from the study.

Sample size

A total of 285 questionnaires were distributed to the respondents. 245 were completed and returned. This represents 10% of the

total population of female students in the selected faculties.

Instrument for data collection

The questionnaire was carefully designed using simple and clear language to elicit precise data required to answer the research questions and achieve the research objectives. The questionnaire was divided into three sections. The first section of the questionnaire collected socio-demographic data of the respondents such as age, marital status, and faculty. The second section collected information about intensity and duration of pain, as well as the effects of pain on the respondents' activities. The third section collected data about pain relief strategies.

Data analysis

Data collected were analyzed using frequency table and percentages and chi-square.

RESULTS

Table 1 shows that 33.1% of respondents are between the ages of 17 and 20 years, 45.3% between 21 and 24 years while 15.5% are between 25 and 28 years. The average age of respondents is 22 years. More so, 93.1% were single while 4.5% were married. The respondents were drawn from the faculties of medicine (46.9%), natural sciences (33.5%), Pharmaceutical sciences (6.5%) and social sciences (9.0%).

Table 1: socio-demographic data of respondents

Age (years)	**No.** (N=245)	**% (100)**
< 16	2	0.8
17- 20	81	33.1
21- 24	111	45.3
25- 28	38	15.5
>28	12	4.9
No response	1	0.4
Marital status		
Single	228	93.1
Married	11	4.5
No response	6	2.4
Faculty		
Medicine	115	46.9
Natural science	82	33.5
Pharmacy	16	6.5
Social science	22	9.0
No response	10	4.1

Table 2 reveals that 26.1% experience mild pain, 39.2% moderate while 31.4% experiences severe pain during menstruation. About the duration of pain, 43.7% reported that they experience pain only on the first day of menstruation, 27.8% experience it in the first two days, 17.9% first three days while 6.9% reported that they experience pain throughout the period of menstruation. Furthermore 51.0% of the respondents reported that menstrual pain affect their activities while 46.5% reported that, their activities were not affected during menstruation.

Table 2: Assessment of pain experienced by respondents

Intensity	**No. (N=245)**	**%(100)**
Mild	64	26.1
Moderate	96	39.2
Severe	77	31.4
No response	8	3.3
Duration		
1st day	107	43.7
1st two days	68	27.8
1st three days	44	17.9
Throughout period	17	6.9
No response	9	3.7
Does pain limit your activity?		
Yes	125	51.0
No	114	46.5
No response	6	2.5

The strategies of pain relief among the study group revealed that 43.3% use drugs, 31.4% relaxation /rest, 25.7% warm birth, 17.6% exercise, 6.1% low fat and low sugar food, while 0.8% use herbal remedies in managing pain (Table 3).

Table 3: Pain relief strategies

Strategy	**No.**	**%**
Drugs	106	43.3
Relaxation/rest	77	31.4
Warm bath	63	25.7
Exercise	43	17.6
Low fat low sugar food	15	6.1
Herbal remedy	2	0.8
No response	23	9.4

Multiple responses were allowed here. Out of the 106 respondents that use drugs in pain management during menstruation, 20% practise self medication, 10.6% reported the medication was prescribed by a doctor, 6.1% by nurses, 3.3% by friends/relations, and 2.4% by pharmacists (Table 4).

Table 5 shows the relationship between age pain intensity during menstruation. Most respondents (41) between 21 and 24 years experiences severe pain. The chi-square analysis indicates that there is no significant relationship between age and pain intensity experienced by respondents because the chi-square is less than the critical value.

Table 4: personnel that prescribe drugs use in managing pain

	No.	%
Response		
Doctor	26	10.6
Nurse	15	6.1
Pharmacist	6	2.4
Self	49	20
Friend/relation	8	3.3
No response	2	0.8
Total	**106**	**100**

Table 5: Cross tabulation of age against pain intensity

Age	MD	MDR	SVR	NR	Total
<16	2	0	0	0	2
17-20	25	33	21	2	81
21-24	22	44	41	4	111
25-28	14	11	12	1	38
>28	1	7	3	1	12
No response	0	1	0	0	1
Total	64	96	77	8	245

Critical value = 24.996, chi-square = 18.441 significant at 0.05, df= 15
MD: mild, MDR: moderate, SVR: severe; NR: no response

DISCUSSION

Table 1 reveal the diversity of the respondents in terms of age marital status and faculty. The average age of respondents was 22 years with most (45.3%) respondents between the ages of 21 and 24 years. Respondents are in their young adulthood which is characterised by agility. Dysmenorrhoea may incapacitate them there by affecting productivity. Furthermore, almost all the respondents were single with majority drawn from the faculty of medicine.

Assessments of pain intensity and duration revealed that female undergraduates experience mild, moderate and severe pain during menstruation. Most females in this survey experienced moderate or severe pain. This finding is consistent with the report Burnett *et al.*[10] but inconsistent with the assertion of El-Gilany *et al.*[8] that reported that most women experience mild cramping. Some women experienced pain in the first day of menstruation only, majority in this study reported that they experienced pain on the second, third or throughout the period of menstruation. This indicates that most students may be incapacitated in one way or the other as a result of dysmenorrhoea. To confirm this, majority reported that dysmenorrhoea has limitation on their activities. This agrees with the studies of Burnett *et al.*,[9] Banikarim *et al.*[7] and Tu[4] that posited that symptoms of dysmenorrhoea have significant impact on the quality of life and limitation on activities.

Strategies used by female undergraduates in pain relief are drugs, relaxation/rest, warm bath, exercise, diet modification and herbal remedies. Drugs, warm bath, rest and exercise were the most used strategies adopted in managing menstrual pain among female undergraduates. The identified strategies did not show any harmful practice in managing pain among the study group but a significant number practice self medication which could be harmful if not regulated and controlled.

CONCLUSION

Female undergraduates in Nigeria that experience dysmenorrhoea like any other female in the world experience mild, moderate and severe pain. Most of them experience moderate and severe pain which last in most cases for more than a day. Few of them experience pain throughout menstruation period. There was no significant relationship between age and pain intensity.

Dysmenorrhoea incapacitates most of the females. The various strategies adopted by the females are drugs, relaxation/rest, warm bath, exercise, diet modification and herbal remedies but the most widely used are

drugs, warm bath, rest and exercise. Female undergraduates do not engage in any harmful practice in managing dysmenorrhoea but a significant number among those that use drugs practice self medication. This could be harmful if not regulated and controlled. It is therefore recommended that health professionals should adopt a multidisciplinary approach in the management of dysmenorrhoea such as use of drugs in combination with exercise, warm bath and rest. This recommendation was made because most of the respondents adopted more one strategy in pain management. The calculated chi-square from Table 5 shows that, the critical value is greater than the calculated chi-square. This is suggesting that the null hypothesis be accepted. This infers that the relationship between pain intensity and age is not significant. Since there was no obvious harmful practice from the various strategies identified, the null hypothesis stands. This means that, female undergraduates do not engage in any harmful practice in the management of dysmenorrhoea.

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