Original Research Article

Prevalence of Dysmenorrhoea, associated symptoms, impact and treatment modalities among female undergraduates in University of Nigeria

ABSTRACT

Introduction

Dysmenorrhea is pain during menstruation in women. It has a negative impact on the quality of life of the affected females. Though a common menstrual disorder, it remains poorly understood and often overlooked when assessing health and life experiences even when the burden is greater than any other gynaecological complaint. This study aimed to ascertain the prevalence of dysmenorrhea among undergraduate students in Enugu, South-East Nigeria and its effect on their academic performance.

Methods

This was a cross-sectional study conducted among 390 female undergraduate students of University of Nigeria Enugu Campus (UNEC), a tertiary institution in Enugu, South East Nigeria. Multistage sampling technique was used. Data was collected using the pretested self-administered questionnaire. Data was analyzed using IBM Statistical Package for Social Sciences version 22 and summarized using percentages and presented in tables and figure. Ethical issues were addressed.

Result

Findings show that 319(82%) that experience of menstrual pains out of which 232(72.7%) had it with the onset of menses and 87 (27.3%) before onset of menses. Duration of pain spans from 1 to 3 days. Also 81(25.4%) reported severe pain during menstruation. The key physical symptoms experienced was abdominal pain and backache 266(68.2%) and Acne (pimples 207(53.1%) while psychological symptoms were mood change 266 (68.2%) and irritability 175(44.9%). Also 222 (69.9%) of them reported that this pain affects their daily activities including reduction of reading hours 148 (66.7%) lack of concentration in class 142 (64.0%2), reduced class participation 140 (63.1%) and absenteeism from class 103(46.4%). The treatment modalities employed include rest/relaxation 187(58.6%), hot water bottles/warm bath 111(34.8%), low fat/ low sugar foods 99(31.0%), and Analgesic/NSAIDS 99(31.0%).

Conclusion

Prevalence of dysmenorrhoea was high. The discomfort associated with it affects their academic performance. There is need for coping strategies to relief these pains in order to improve the quality of life and output during this period.
Keywords: Dysmenorrhoea, Prevalence, academic performance, female students, Nigeria

INTRODUCTION

Menstruation is an important aspect of the reproductive life of women. It is a normal physiological process that occurs approximately once a month in women of the reproductive age as a result of breakdown of endometrial tissue.[1] It usually starts with menarche which marks a woman's transition from childhood to adulthood. Following this, menstruation becomes a regular monthly event that culminates into social, sexual and reproductive life ultimately terminating with menopause.[2] However, Menstruation is associated with some disorders such as dysmenorrhea, irregular frequency of menstruation, premenstrual syndrome, irregular duration of flow, Amenorrhoea, Polymenorrhoea and Oligomenorrhoea.[1,2]

Dysmenorrhea is defined as pain during menstruation in women with normal pelvic anatomy usually due to uterine cramps. It usually begins during adolescence.[3,4] It has a negative impact on the quality of life of the affected females by negatively affecting relationships, academic and professional performance as well as social and recreational activities.[4] Dysmenorrhea can either be primary or secondary. Primary dysmenorrhea usually occurs in adolescence shortly after menarche, usually with no pathological conditions of the pelvic organs.[4,5] Overproduction of uterine prostaglandins is implicated in the pathogenesis for primary dysmenorrhea.[4] Secondary dysmenorrhea, on the other hand, is associated with pathological conditions of the pelvic organs such as endometriosis, uterine fibroids, pelvic inflammatory disease, ovarian cysts, polyps, intra-uterine adhesions, or cervical stenosis.[2,4.5-7] Intra-uterine contraceptive devices have also

been identified as a cause of dysmennorrhoea. The onset of secondary dysmenorrhea usually occurs after several years of menarche. Some risk factors for secondary dysmenorrhea may include earlier age at menarche, longer menstrual periods, heavier menstrual flow, and family history of dysmenorrhea.[4]

Symptoms associated with Dysmenorrhea include tiredness, nausea, diarrhoea, constipation, dizziness, vomiting, headache, fainting, heavy flow, abdominal pain radiating to the back and lower limbs, noncyclical pelvic pain, dyspareunia, swollen abdomen, painful and tender breast, gastrointestinal disturbances, swollen legs, disorientation, lack of concentration, emotional instability, irritability, depression.[8,9]

Though a common menstrual disorder, it remains poorly understood and is rarely taken into consideration when assessing health and life experiences.[10] It's burden is greater than any other gynaecological complaint, and it's associated with significant impact on personal and public health problems.[5] Being a debilitating condition for many women, it has a major impact on health- related quality of life, work productivity, and health- care utilization.[4,11] Little attention has been paid to menstrual disorders and the prevalence of dysmenorrhea reported in literature varies substantially.

The effects of dysmenorrhea on school performance ranges from school absenteeism, adverse effects on academic performance, lack of attention in class and decreased school performance. Dysmenorrhea is one of the most common causes of regular absenteeism of young women from schools and work places and inability to meet up with social functions.[12] The reduction in working hours as well as school days among young women as a result of dysmenorrhea has been repeatedly reported to be of national and economic significance.[2,4]

This study aimed to ascertain the prevalence of dysmenorrhea among undergraduate students in Enugu, South-East Nigeria and its effect on their academic performance. It also determined their care practices.

METHODS

This was a cross-sectional study conducted among female undergraduate students of University of Nigeria Enugu Campus (UNEC), a tertiary institution in Enugu, South East Nigeria. Calculated sample size was 320 and it was proportionately spread across the different faculties. The study involved the use of a multistage sampling technique. At ***Stage 1***; out of 6 Faculties in UNEC, 4 Faculties were selected (Faculty of Business Studies, Basic Medical sciences and law were selected) using simple random sampling method, **At Stage 2** a department each was selected using simple random sampling method. At **Stage 3**. Respondents who met the inclusion criteria were selected consecutively until number of students proportionally allocated to faculties, was attained. Data was collected using the pretested self-administered questionnaire. Information was obtained on the respondents' socio-demographic characteristics, their experience of pain during menstruation, characteristics of the pain including the duration and severity as well as

other symptoms associated with the pain. The questionnaire also elicited information on the perceived effects on their daily activities, school attendance and academic performance in addition to modalities of relief they employed. Data was analyzed using IBM Statistical Package for Social Sciences version 22. Data were summarized using percentages and presented in tables and figure. Ethical clearance was obtained from the Research Ethics and Standards Committee of the University of Nigeria Teaching Hospital Enugu. Informed written consent were obtained from each respondent. Confidentiality and voluntary participation was ensured.

RESULT

Table 1 shows socio-demographic characteristics of respondents. A total of 390 females took part in this study. The mean age of the respondent is 21years ±Standard Deviation of 3.07 years. Higher proportion of them 195 (50%) were aged 16-20 years and single 384(98.5%). Christianity was the prominent religion 387 (99.2%). Of their ethnicity 361(92.6%) were Igbos, 24 (6.2%) were other ethnic groups, 2(0.5%) were Hausas and 3(0.8%) were Yorubas.

Table 2 shows characteristics of menstrual pain amongst respondents. Out of the 319(82%) that experienced menstrual pains, 232(72.7%) had it with the onset of menses, 87 (27.3%) before onset of menses. Duration of pain spans from 1 to 3 days, 147 (46.1%) had only for one day, 122(38.2%) had it for two days, 36(11.3%) for three days where 14(4.4%) had it all the period of their menstrual flow. The graded severity of pain showed that 114(45.1%) had moderate pain, 94(29.5%) had mild pain while 81(25.4%) reported severe pain during menstruation.

Table 3 shows symptoms experienced by respondents. The key physical symptoms experienced by the respondents during their menstrual period include abdominal pain and backache 266(68.2%), Acne (pimples 207(53.1%), change in appetite 184(47.2%), fatigue and dizziness 159(40.8%), diarrhea 131(33.5%), menorrhagia (heavy bleeding 91(23.3%), bloating 83 (21.3%), and general body ache 81(20.8%). Also the psychological symptoms experienced were; Mood change 266 (68.2%), irritability 175(44.9%), difficulty in concentrating 136934.9%), anxiety 64(16.4%), Insomnia (loss of night sleep 35 (9.0%), Tension 31 (7.9%) and forgetfulness 14(3.6%).

Table 4 shows effects of dysmenorrhea on the daily and academic activities of respondents. Out of the 319 respondents who experienced pain during their menstruation, 222 (69.9%) of them reported that this pain affects their daily activities. These are reduction of reading hours 148 (66.7%) lack of concentration in class 142 (64.0%2), reduced class participation 140 (63.1%), absenteeism from class 103(46.4%), going out of the hostel/house 89 (40.1%), decreased socialization 88(39.6%), daily home chores 83(37.4%), decreased participation in sports 76 (34.2%), sleeping during lecture hours 54(24.3%), lack of focus in examination 51(23.0%), homework tests 20 (9.0%).

Table 5 shows treatment modalities carried out by respondents for menstrual pain. The 319 respondents who experienced pain associated with their menstrual cycle indicated that they employed various treatment modalities in order to relieve pain. The treatment modalities employed by the respondents; rest/relaxation 187(58.6%), hot water bottles/warm bath 111(34.8%), low fat/ low sugar foods 99(31.0%), Analgesic/NSAIDS 99(31.0%), lie on the back

59(18.5%), diversion activity 31(9.7%), use of oral contraceptives 18(5.6%), herbs/home remedy 17(5.3%). However, 73(22.9%) of the respondents did not employ any treatment modality.

Figure 1 showed prevalence of menstrual pain amongst respondents. Overall, 319(82%) that experience of menstrual pains while only 71(18%) did not experience any pain.

DISCUSSION

Dysmenorrhoea is a common gynaecological problem all over the world. It is associated with various symptoms and depending on the severity, tends to affect individual performance in various activities. The prevalence of dysmenorrhea among female undergraduates in Enugu Campus in this study was as high as 82% which is similar though slightly higher to similar studies conducted states among undergraduates in other parts of the country; Abia 70%,[13] Abuja[14] and Ibadan, South west Nigeria was 53.3%.[15] Studies in other countries had high prevalence equally[16] Turkey 72.7%[17] and Palestine 80.34%.[4] The high prevalence may be due to the young age of most of the respondents as 50% of our respondents were within the age range of 16-20 years. These are majorly adolescents who are transiting to adult age and do not want any discomfort. Age plays a major role in dysmenorrhea as it is commoner amongst the younger age group.[18]

On the severity of pain, in this study 66.5% of the respondents reported moderate to severe menstrual pain. This is slightly lower than that reported amongst the Palestinian female undergraduates which is 85.1%.[4] This could be due to the free purchase of pain relievers off the

counter which might not be applicable in the Palestine's as most of the girls get ready with these medicines before their menstrual cycle starts. This masks the anticipated pain.

The physical symptoms elicited in current study included abdominal pain and backache, acne, change in appetite, fatigue and dizziness, diarrhea, with a few reporting nausea and vomiting. Psychological symptoms, on the other hand included mood change, irritability, difficulty in concentrating, anxiety, insomnia, tension and forgetfulness. This corresponds with most of the studies done in several places which show abdominal pain and back ache as the most common symptoms.[9,19] This is expected and normal following the physiological nature of the occurrence of menstrual cycle and anatomical location of the organ. The uterus which site of origin of the pain is located closest to sites of pain.

This study also reported that greater proportion of students had their activities affected as seen in over two thirds of the respondents, while only about a third went about their normal activities despite the pain. The affected activities included reduction of reading hours, lack of concentration in class, reduced class participation, absenteeism, ability to go out, ability to perform chores, decreased participation in sports, sleeping during lecture hours, lack of focus in examination and in carrying out their assignments. This is similar to studies carried out in Mansoura, Egypt which showed 47.4% of participants had similar experiences.[20] This shows that it is a worldwide problem that could be addressed. There is need for more awareness and advocacy towards helping the girls and ladies to appreciate their plight early in life to make them develop coping strategies.

Findings from this study show that a greater percentage of students who had dysmenorrhea sought various modes of relief for the pain. It has been demonstrated that commonly used modalities for relief dysmenorrhea included pharmacotherapy and non-pharmacologic methods.[18,20,21] These include: relaxation, use of hot water bottle, warm bath and intake of low fat / sugary foods, lying on their backs and diversion of activities. Less than 40% used pharmacological method such as analgesics/NSAIDS, oral contraceptives, herbs and home remedy.[18,20,21] Most of these non-pharmacological methods does not have evidence based effectiveness ascertained. However, some of those who can attest to these methods being effective can share their experiences and have it documented as this can motivate others and serve as locally appropriate technology for persons with Dysmenorrhea to get relief from the pains.

CONCLUSION

Prevalence of Dysmenorrhoea is high and constitutes a significant public health problem among young students that demands attention from policy makers. The persons involved silently suffer the pain of dysmenorrhoea and the discomfort associated with it affects their academic performance and other output. There is need for awareness on coping strategies to relief these pains in order to improve the quality of life during this period..

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TABLES AND FIGURE

Table 1: Socio-demographic characteristics of the respondents.

Socio-demographic characteristics	**Frequency (n = 390)**	**Percentage (%)**
Age (years)		
16-20	195	50.0
21-25	178	45.6
26-30	13	3.3
31-35	4	1.0
Mean (SD)	***21.60 (3.07)***	
Marital status		
Single	384	98.5
Married	6	1.5
Religion		
Christian	387	99.2
Muslim	3	0.8
Ethnicity		
Igbo	361	92.6
Hausa	2	0.5
Yoruba	3	0.8
Others	24	6.2

Figure 1: Prevalence of Dysmenorrheoa among the respondents.

Table 2: Characteristics of Menstrual Pain amongst Respondents

Characteristics of Menstrual Pain	Frequency (n = 319)	Percentage (%)
Onset of pain		
Before Menses	87	27.3
With Onset of Menses	232	72.7
Duration of pain		
First Day	147	46.1
First 2 Days	122	38.2
First 3 Days	36	11.3
Throughout the Period	14	4.4
Severity of pain		
Mild	94	29.5
Moderate	144	45.1
Severe	81	25.4

Table 3: Symptoms respondents experience during their menstrual period

Symptoms experienced	Frequency (n = 390)	Percentage (%)
Physical Symptoms		
Abdominal Pain And Backache	266	68.2
Acne (Pimples)	207	53.1
Change In Appetite	184	47.2
Fatigue And Dizziness	159	40.8
Diarrhea	131	33.6
Heavy Bleeding (Menorrhagia)	91	23.3
Bloating	83	21.3
General Body Ache	81	20.8
Headaches	73	18.7
Nausea And Vomiting	69	17.7
Psychological Symptoms		
Mood Change	266	68.2
Irritability	175	44.9
Difficulty In Concentrating	136	34.9
Anxiety	64	16.4
Insomnia	35	9.0
Tension	31	7.9
Forgetfulness	14	3.6

Table 4: Effects of dysmenorrhea on the daily activities (multiple choice)

Effects on the daily activities	Frequency (n = 390)	Percentage (%)

Reduction of reading hours	148	66.7
Lack of concentration in class	142	64.0
Reduced class participation	140	63.1
Absenteeism from class	103	46.4
Going out of the house/ hostel	89	40.1
Decreased socialization	88	39.6
Decreased daily home chores	83	37.4
Decreased participation in sports	76	34.2
Sleeping during lecture hours	54	24.3
Lack of focus in examination	51	23.0
Inability to do Homework assignments	20	9.0

Table 5: Treatment modalities of respondents for menstrual pain

Treatment modalities	**Frequency (n = 319)**	**Percentage (%)**
Rest/ relaxation	187	58.6
Hot water bottles/ warm bath	111	34.8
Analgesic/ NSAIDS	99	31.0
Low fat/ low sugar foods	99	31.0
No treatment	73	22.9
Lie on back	59	18.5
Diversion activity	31	9.7
Use of Oral contraceptives	18	5.6
Herbs/ Home remedy	17	5.3