

## Original Article

### Primary dysmenorrhea among the adolescents in Kwara state, Nigeria: The prevalence, knowledge and management

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#### ABSTRACT

**Background & Aim:** Dysmenorrhea refers to the symptom of painful menstruation, which may be primary (occurring in the absence of pelvic pathology) or secondary (resulting from identifiable organic diseases). It is common gynaecological conditions that affect women of reproductive age group. The effect may be mild or severe on daily routine activities of women for one to three days of each menstrual cycle. It also has a significant effect on quality of life and personal health. This study aims to determine the burden and management of primary dysmenorrhea among the adolescent.

**Materials and Methods:** The study was a descriptive cross-sectional study conducted among 400 randomly selected adolescent girls attending secondary schools. A semi-structured questionnaire was used to obtain data which was analysis using (SPSS) version 16.0. Data presentation was done through the use of tables and charts. Appropriate statistics test such as chi-square was used to analysis the association between the variables. The level of significance was determined at  $p < 0.05$ .

**Results:** The mean age of respondents was  $15.2 \pm 0.14$ , and the prevalence of dysmenorrhea was found to be 287(71.8%). About 215(53.8%) had poor knowledge while others believed it to be a disease 10(2.5%), a curse from God 69 (17.2%) and 47(11.8%) do not know the meaning. Significant number 174(43.5%) of the participants exhibited negative attitude towards menstrual pain, as 122(42.5%) resorted to self-treatment and medication, only 97(33.8%) ever consulted healthcare worker. Paracetamol 54(32%) was the most used drug for self-treatment while others include Feldene 33 (19.3, Diclofenac 27(15.8) and Gelucee 25(14.6), About 103(61.7%) of subjects do not know the side effects of the drugs they used.

**Conclusions:** The burden of primary dysmenorrhea was high, the knowledge and attitude exhibited was poor and most of the adolescent girls used a different kind of drugs whose side effects are not known. The need for in school awareness creation on the causes and it is management was emphasized.

#### Introduction

Dysmenorrhea refers to a menstrual disorder that is associated with cramping of the lower abdominal pain, which may be accompanied with other symptoms such as nausea, vomiting, diarrhoea and rarely syncopal episodes). It is common gynaecological conditions that affect women

and may be severe to render them incapacitated for one to three days of each menstrual cycle. There are two types of dysmenorrhea, Primary (occurring in the absence of pelvic pathology) or secondary (resulting from identifiable organic diseases. Such as endometriosis. It mostly occurs in older women (1). It has a significant effect on quality of life and personal health. The prevalence of dysmenorrhea differs largely worldwide, ranging from 8.8% to 94%. Latthe et al., in a systematic review study, indicated that the lowest reported prevalence

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of dysmenorrhea was in Bulgaria (8.8%) and the highest in Finland (94%) (2). In Asian studies, there are different dysmenorrhea prevalence reports from 56.0% for Jordan (West Asia) (3) and 80% for Hong Kong (East Asia) (4). Other researcher reported a range of 14% to 93% (5), some of the adolescent girls suffered reproductive systems complications, (6) and often manage themselves with or without support from health professionals (7). Primary dysmenorrhea is one of the causes of school absenteeism of 1-7 days per year among 15% of adolescent girls in Tehran (8).

Adolescence is a transitional stage from childhood to adulthood and is characterized by a spurt in physical, endocrinal, emotional and mental growth with a change from complete dependence to relative independence. One of the major physiological changes that take place in adolescent girls is the onset of menarche which marks the commencement of the reproductive phase of a woman's life(9) Nearly half of the global population is less than 25years old (10). Adolescents are a large growing segment of the world population. Literature attests that 43% of the Nigerian population comprises of this age group (11). Adolescence in girls has been recognized by many girls as a turbulent period which signifies the transition from girlhood to womanhood and is considered as a landmark of female puberty (12).

There are uncertainties on the knowledge level, the attitude and common practices of adolescent's girls towards dysmenorrhea. There is also uncertainty on traditional or cultural effect on the health seeking behaviour of the adolescent on dysmenorrhea. Many girls with severe painful cramps suffer for years before seeking treatment, as it is perceived that pain is a natural part of the menstrual cycle.

The aim of this study is, therefore, to assess the knowledge and attitude of adolescents to dysmenorrhea. It will also examine the prevalence and the various methods that the adolescent girls employed to manage of dysmenorrhea. Studies on this

group will, therefore, help to know the level of awareness, knowledge, and their attitude with a disposition towards menstrual challenge which may affect general health and active life of adolescents.

## **Methods**

The study was a descriptive cross-sectional study conducted among 400 randomly selected adolescent girls that had started menstruation and attending secondary schools in Ilorin West Local Government Area (LGA) of Kwara State, Nigeria. Also included are all female students in selected secondary schools in Ilorin west local government area who were present on the day of the study. The study excluded all non-menstruating female students in selected senior secondary schools in Ilorin west local government area and all absent female students in the selected senior secondary schools at the time of the study.

The multistage sampling method was used for the study. In the first stage the list and population of students in public and private secondary schools was obtained from the state ministry of education. In second stage, three public schools were selected from the lists of public senior secondary schools while one private school was selected from the list of private schools using simple random sampling (by balloting). The number of respondents taken from each of the selected schools (both private and public respectively) was then determined using proportional allocation formula, to get 100, 119 and 140 eligible female students that were randomly selected by ballot from public senior secondary schools while 42 eligible female students were randomly selected by ballot from private senior secondary school.

The last stage was selection of eligible female students which was done after the eligible students that are menstruating and willing to participate were arranged in a row, the first student was selected by ballot then other eligible students were randomly selected at interval number of one and five. For instance, number two female eligible

student was picked by ballot on the row, and then the next participants were selected at every interval of five till calculated sample size achieved. The same method was repeated for senior secondary school II and senior secondary school III and in each of the schools accordingly. A semi-structured close ended standardized questionnaire was used to obtain data from the respondents. The pre-tested self-administered standardized questionnaire was structured into five (5) sections; socio-demographic variables, knowledge on dysmenorrhea, attitude and practices towards dysmenorrhea. Further questions were asked to know the effect of dysmenorrhea on performance at school and extracurricular activities. A good rapport was created between the respondents and the researchers to ensure that the respondents follow the instruction in the questionnaire religiously.

Completed and returned questionnaires from the field were sorted out manually to detect omission and error. The analysis was done using the statistical package for social sciences (SPSS) version 16.0 while data presentation was done through the use of tables, graph and charts. The Chi-Square statistic was used for the cross-tabulation and test of association between the socio-demographic variable with knowledge and practice variables, the level of significance was determined at  $p < 0.05$ . The researcher obtained consent from each principal of the selected secondary schools within Ilorin west local government area. Rights, anonymity and confidentiality of the respondents were respected in all phases of the study. Informed verbal and written consent with the respective schools' principals and subjects were taken before data collection. The process, the type and purpose of the survey, voluntary participation of the subjects and absence of any known risk or benefits for participating in the study was explained to the participants beforehand.

**Results**

The age of participants in the study ranged from 12 to 19 years. However, the majority of the respondents are between the ages of 14-15 years with mean age of  $15.2 \pm 0.14$ . Respondents include girls in senior secondary school (SSS) I, SSS II, and SSS III attending co-educational 180 (45.0%) and girls only 220 (55%) school systems (Table 1).

**Table 1.** Socio-demographic characteristics of respondents

Variables	Frequency	Percentage
<b>Age group (years)</b>		
12-13	43	10.7
14-15	208	52.0
16-17	119	29.8
18-19	30	7.5
<b>Total</b>	400	100.0
<b>Class</b>		
Class 1	259	64.8
Class 2	105	26.2
Class 3	36	9.0
<b>Total</b>	400	100.0
<b>School system</b>		
Co-educational	180	45.0
Girls only	220	55.0
<b>Total</b>	400	100.0
<b>Educational level of the mother</b>		
None	56	14.0
Primary	31	7.8
Secondary	124	31.0
Tertiary	189	47.2
<b>Total</b>	400	100.0

The total number of participants who experienced menstrual pain was 287 (71.8%) while those who do not have pain during menstruation are 113 (28.2%) (Table 2).

**Table 2.** Prevalence of dysmenorrhea

Prevalence	N	%
Yes	287	71.8
No	113	28.2
<b>Total</b>	400	100

On the definition of menstruation, 274 (68.5%) indicated it as a normal physiological process while others believed it to be a disease 10 (2.5%), a curse from God 69 (17.2%) and 47 (11.8%) admitted that they do not know about menstruation. Source of information was basically from their

mothers. Only 95 (23.8%) admitted knowing a lot about dysmenorrhea, about 209 (52.2%) knew little, and the remaining 96 (24%) said they knew nothing about dysmenorrhea.

Concerning the degree of pain, 144 (50.2%) of the participants in this study had mild menstrual pain while 143(49.8%) experienced severe menstrual pain during their menstrual flow.

About 188 (47.0%) said dysmenorrhea could be treated while 93 (23.2%) said it could not be treated. Also, 201(50.2%) of the participants agreed that dysmenorrhea could be caused by other disease conditions in the body while 199 (49.8%) did not agree (Table 3).

**Table 3.** Knowledge of menstrual pain

<b>Definition of Menstruation</b>	<b>N</b>	<b>%</b>
<b>Normal physiological process</b>	274	68.5
<b>A disease</b>	10	2.5
<b>Curse</b>	69	17.2
<b>I do not know</b>	47	11.8
<b>Sources of info</b>		
<b>Mother</b>	284	71.0
<b>Sister</b>	41	10.2
<b>Other family members</b>	10	2.5
<b>Friends</b>	17	4.2
<b>Teacher</b>	36	9.0
<b>Books</b>	8	2.0
<b>Others</b>	4	1.0
<b>How much do you know</b>		
<b>A lot</b>	95	23.8
<b>Little</b>	209	52.2
<b>Don't know</b>	96	24.0
<b>Dysmenorrhea is a menstrual disorder</b>		
<b>Yes</b>	290	72.5
<b>No</b>	85	21.2
<b>Don't know</b>	25	6.2
<b>Type /Category of menstrual pain</b>		
<b>Very Serious Pain</b>	143	49.8
<b>Mild</b>	144	50.2
<b>Is dysmenorrhea treatable?</b>		
<b>Yes</b>	188	47.0
<b>No</b>	93	23.2
<b>Duration of menstrual flow</b>		
<b>2-4days</b>	235	58.8
<b>5-7days</b>	152	38.0
<b>8 and above</b>	13	3.2
<b>Caused by another disease</b>		
<b>Agree</b>	201	50.2
<b>Disagree</b>	199	49.8

A significant number of the participants exhibited a negative attitude towards menstrual pain. About 174(43.5%) agreed on dysmenorrhea to be an embarrassing issue to be discussed openly; 129(32.2%) did not agree that taking a warm bath can help in pain relieve; 138(34.2%) did not agree that sports and exercise helps menstrual pain and 137(34.5%) of the participants disagreed that diets and food

they take have effects on menstrual pain (Table 4).

On how they manage primary dysmenorrhea, 122(42.5%) resorted to self-treatment and medication, only 97(33.8%) ever consulted healthcare worker (doctor/nurse), about 18 (6.3%) resorted to prayer while the remaining 50 (17.4%) endured their pain. Paracetamol was the most used drug for self-treatment by the students 54(32%) while others include

Diclofenac, Buscopan, Gelucee, Feldene, etc. About 103(61.7%) of subjects do not know the side effects of the drugs they used.

Although most of the girls show good diet pattern, there was a significantly low intake of water in about 166(57.8%) of the subjects. A high proportion of the subjects

with menstrual pain 176(61.3%) do not participate in sports and exercise during their menstrual period while 57(19.6%) admitted not taking a shower at the commencement (first day) of menstrual flow (Table 5).

**Table 4.** Attitude of respondents towards dysmenorrhea

Variables	Agree (%)	Disagree (%)
Discussing dysmenorrheal is embarrassing	174 (43.5)	226 (56.6)
Taking a warm bath can help	271(67.8)	129(32.2)
Can diet affect the degree of pain?	262 (65.5)	138 (34.5)
Participation in sports and exercise helps pain?	263(65.8)	137(34.2)

**Table 5.** Management of primary dysmenorrhea by the adolescent

How do you manage your menstrual pain	N	%
Self-medication	122	42.5
See a doctor/nurse	97	33.8
Prayer	18	6.3
Endure	50	17.4
Drugs are taken to relieve pain		
Diclofenac	27	15.8
Paracetamol	54	31.6
Feldene	33	19.3
Gelucee	25	14.6
Native drugs	16	9.4
Others	12	7.0
No drug/treatment	4	2.3
Total	168	100

**Discussion:**

The high prevalence (71.8%) of dysmenorrhea among adolescents found in this study was similar to the previous including Chigbu B, where the prevalence of students having dysmenorrhea was 70% (13); Agarwal A with a prevalence of 71.96% (9); Johnson J. with the prevalence of 72.7% (14). Owonikoko KM with a higher prevalence of 7.3% (15) and Titilayo A with a prevalence of 64% (16). These findings imply that dysmenorrhea is a very common gynecological problem among adolescent girls. Almost all the participants in this study claimed to have received information before menstruation, although

this claim might have been exaggerated when considering the poor knowledge outcome of this research. Some of the respondents’ believed that dysmenorrhea is a curse from womanhood other agreed that it is from the creator (God) while some participants believed that the menstrual cycle is a disease. This is similar to the study conducted by Abioye-Kuyeti E.A where 10% of the participants were ignorant about dysmenorrhea (17).

Previous studies were done in South-west Nigeria by Ogunfowokan A, and Owonokoko K showed that the knowledge on primary dysmenorrhea was 3% and 5% respectively (7, 16).

Negative attitude exhibited by the adolescent towards dysmenorrhea may be due to cultural, ethnic, and religious backgrounds of the respondents.

This finding is similar to another study which documented the traditional and cultural belief influence on dysmenorrhea and sexuality.<sup>18</sup> Besides; previous study admitted that adolescent do not seek medical treatment, as they felt embarrassed to discuss their menstruation with anybody (19). This may contribute to reasons why some adolescents refrain from seeking help from medical doctor and preference for self-treatment when having menstrual pain. Use of warm bath and the heated pad has however been reported to help in the relief of menstrual cramp. Heat therapy works by relaxing the muscles of the uterus, increasing blood flow, easing pain and dysmenorrhea symptoms (20). Although a good number of respondents in this study believed diet taken influence menstrual pain, this is also comparable to the findings of Poureslami M. where a higher number of the adolescents in the study did not have any idea on the effect of diet while 35% did not believe that some diet have an influence on menstrual cramp (8). However, reports have shown that a low-fat diet combined with high-fibre vegetables, beans, fruits, and whole grains do help the body eliminate estrogens and thereby bringing about a reduction in menstrual cramps as a lower hormone level will have less effect on the uterine cells (21). Just as foods can help reduce the symptoms of menstrual cramping and bleeding, foods can also aggravate menstrual symptoms. This includes eating excessive amounts of fats, Caffeine-containing beverages like tea and sugar such as cakes, cookies and pies. These are known to contribute to water retention, which causes bloating and menstrual discomfort (22).

Also, less than half 34.2% of the participants in this study did not agree that participation in sports and exercise helps in pain relief. However, a report on the effect of stretching exercise on primary

dysmenorrhea in adolescent girls by Shahnaz S has shown that stretching exercise is effective in reducing pain intensity, pain duration and the number of painkillers used by girls with primary dysmenorrhea (23).

What respondents resorted to self-medication is in line with the findings of Busari AO and Kuman W. where 40% of the respondents were on self-medication but in contrast to other research findings that reported 7%, 10% (18) and 16.3% (24) of adolescents girls consulted a medical doctor for treatment.

The findings are not differ from Owonikoko KM and Al-kindi R in which 44% 1(15) and 21% (25) of the subjects respectively reported obtaining over the counter medications to relieve their pain. Since more than half of the adolescent believed that dysmenorrhea is untreatable, may be a reason why many did not seek medical help, the erroneous beliefs also influence their attitude and practices toward dysmenorrhea. Paracetamol was the drug of choice by many of the adolescents in this study because the drug is readily available, accessible and affordable with the belief that it produces minimal side effects (26).

The results of a previous study by Tourza ZM indicated that participation in physical activity program is likely an approach to reduce the detrimental effects of primary dysmenorrhea symptoms in females. The study found that performing regular physical activity reduced the intensity and duration of menstrual pain (27). This shows that participation in physical activities has positive impacts on the management of primary dysmenorrhea.

Other studies report has also shown that quite a much higher number of adolescent girls had not taken a shower at the beginning and even few days following commencement of menstruation (5, 6, 7) Hot fermentation has been reported to be used in the management of menstrual pain<sup>22</sup>. Taking warm shower has not only been reported to help in relieving menstrual cramp, but adequate bathing in itself plays a significant role in preventing

infections of the reproductive tract which may lead to secondary dysmenorrhea. In this study, it was found that primary dysmenorrhea is a common problem most of the adolescent girls do not have sufficient knowledge, exhibited a high level of negative attitude and poor practices in the management. Also substantial number were on self-medication, consumption of drugs that side effect is not known. There is a need for awareness creation among adolescents girls in order to improve their knowledge and influence their beliefs to create positive attitudes towards effective management of dysmenorrhea.

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