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Perception of Causes and Management of Dysmenorrhoea among Adolescent Girls in Government Secondary School Atu, Calabar South Local Government Area

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Abstract: This study was designated to investigate the perception of causes and management of dysmenorrhoea among adolescent girls in government secondary school, Atu, Calabar South local government area. To facilitate the study, three objectives and one hypothesis were formulated to guide the study. Related literature was reviewed based on the research variable. Survey research design was used for the study. The population of the study was made up of all adolescent girls in Government Secondary School, Atu, numbering about nine hundred and twenty three. A sample size of one hundred and fifty subjects obtained through stratified random sampling techniques formed the sample size for the study. The collection of data was through the questionnaire, the three research questions were analyzed using descriptive statistics of frequencies and percentages while the hypothesis was analyzed using contingency Chi-square analysis. Result of analysis showed that: 27(18%) of the respondents identified fatigue as the clinical manifestation of dysmenorrhoea among adolescent girls, 25(16.7%) identified headache, 12(8%) identified backache as the symptom, 13(8.7%) identified dizziness as the symptom, 15(10%) identified anorexia, 34(22.6%) identified abdominal distention, 14(9.3%) identified diarrhoea, while 10(6.7%) identified vomiting as the clinical manifestation of dysmenorrhoea among adolescent girls. It was recommended among others that parent should also try as much as possible to educate their children especially the girls concerning painful menstruation and the precautionary measures to take as to avoid the causes of dysmenorrhoea. This will go a long way to dispel ignorance and lack of knowledge towards dysmenorrhoea and reproductive health among adolescence.

INTRODUCTION

Background to the study: Globally and in health care system, dysmenorrhoea is the commonest gynaecologic problem that necessitates women to seek medical attention and often associated with severe disturbing social consequence manifesting in frequent absenteeism in school and workplace, cramps and pelvic pain with heavy flow, passing clots, uterine fibroids or endometriosis among young females and women in their active reproductive age, especially among adolescent girls in government secondary school, Atu, Calabar South local government area of cross river state.

Dysmenorrhoea is defined as periodic pelvic pain occurring with or just prior to menses. This involve menstrual period that accompanied by either sharp, intermittent pain, dull, aching pain usually in the pelvic or lower abdomen. Other symptoms include nausea, vomiting, diarrhoea, light headedness and body ache[1].

In Cross river state, dysmenorrhoea is considered the main cause of absence from school among young female students. In addition, to the subject of dysmenorrhoea, puberty hygiene is rarely discussed at home or in schools. In most part of cross river state particularly in Calabar South, this problem is observed particularly in traditional and poorly educated families which could be mainly due to cultural restrictions preventing sufficient information from reaching young girls regarding to puberty hygiene and has often led to superstitious perception and belief about dysmenorrhoea in the Calabar South area.

Observation in Government Secondary School Atu, has shown thatthe main cause of absence from school among them is dysmenorrhoea, some of the students don't know what causes dysmenorrhoea while some are saying that disease or infection, natural phenomenon can cause dysmenorrhoea. Some of the students were clinically presenting with fatigue, headache, backache, dizziness, anorexia, vomiting, and diarrhoea while some had none. Treatment of dysmenorrhoea should be directed at providing relief from the cramping pelvic pain and associated symptoms. Adolescent girl's students uses herbs, analgesics, rest/relaxation, home remedies (including taking a hot bath, drinking warm water, placing a heating pad on their abdomen) and exercise. Furthermore, some parents don't have more knowledge about causes and management of dysmenorrhoea while some parents teaches their children the home remedies, taking of analgesic drugs and exercise regularly. Government has created awareness on the pain relief to use different kinds of exercise and they have introduced health education in level of schools to be included in their curriculum.

In providing remedies on dysmenorrhoea, adolescent girls must be properly educated on the physiologic changes occurring during this period of dysmenorrhea with proper examination. El-Gilany[2] opined that a pelvic examination should be done before initiating treatment for dysmenorrhoea to know the exact cause. Interactions has proven that daughters or women who had suffered dysmenorrhoea are more likely to have dysmenorrhoea but whether this is inherited is unclear. Some believe that dysmenorrhoea stops when the individual conceive at least a pregnancy or has evacuation (abortion) done while some believe it is as a result of not engaging in sexual intercourse.

The consequences of untreated dysmenorrhoea causes personal disrupt, loss of work, absence from education and also affects family social and national economic. Therefore, it needs medical and psychological attention for the better achievement in life. In view of this observation this study was designed to assess the perception of causes and management of dysmenorrhoea among adolescent girls in government secondary school Atu, Calabar South local government area of cross river state.

Literature review

Level of adolescent girls knowledge on causes and management of Dysmenorrhoea: Many adolescent considered dysmenorrhoea to be a normal part of the menstrual cycle and this fail to report their pain to their physicians. In our culture, young girls are not provided with enough knowledge about treatment and consultation with a physician for dysmenorrhoea. However, this condition is often considered as normal part of menstrual cycle which will settle with time or after marriage, so mostly home remedies are timed for relief of pain[2].

In a study carried out by researchers Achema *et al*.[3] to examine the level of knowledge and perception of cause about dysmenorrhoea among adolescent girls in selected secondary schools in Nsukka, only 14.4% knew poor hygiene as a risk factors and 66.9% of the girls considered themselves insufficiently informed on the issues.

According to Mohammed and Farzaneh[4] a study carried out on assessing knowledge, attitude and behaviour of adolescent girls in suburban district of Tehran about dysmenorrhoea and menstrual hygiene, they stated that 77% of the subjects claimed that they do not have enough knowledge about dysmenorrhoea in a population of 205. Many adolescent report limitation on daily activities, during this phase they experienced marked feeling on anxiety and eagerness to know about this natural phenomenon. However, they do not get appropriate knowledge due to lack of proper health educational programmes in school. A study was conducted to assess the level of knowledge on causes and treatment of dysmenorrhoea among 970 adolescent girls in Gwalior. The result revealed that the level of knowledge of dysmenorrhoea in adolescent girls was 77%. Symptoms like tiredness, depression and inability to concentrate also affected their day to day activities. The researcher concluded that there was a need to emphasize

on relevant information on possible treatment options. Thus, the nursing intervention for the management of dysmenorrhoea needs to be taught to the adolescent[1].

A descriptive study was conducted to determine the prevalence of dysmenorrhoea among 140 Hispanic adolescent girls. Its impact on academic performance, school attendance, sports, social activities and its management. Results showed that 85% were suffering from dysmenorrhoea of these, 38% reported missing school due to dysmenorrhoea was a common problem among adolescents. This signifies the importance of teaching remedial measures to adolescent girls for their good reproductive health[5].

According to Sharma *et al*.[6] a study conducted to access the type and frequency of problem related to menstruation and the effect of these problems on daily routine among 198 adolescent girls in New Delhi. Data was collected by personal interviews, result showed that 67% were suffering from dysmenorrhoea and daily routine of 60% of girls was affected due to prolonged bed rest and decreased appetite, 77% don't have knowledge on causes and management, 18% had to miss a class and 25% had to abstain from work. The researcher concluded that there was a need to emphasize on relevant information on possible causes and treatment option.

A descriptive study was carried out on attitude and knowledge of medical student of Isra University about dysmenorrhoea and its management in a population of 197. Data was collected base on questionnaire, result showed that 97% knew the management while 100 girls didn't know about the management of dysmenorrhoea. The researcher concluded that attitudinal changes are necessary to develop educational strategies to empower these young girls regarding health life style and consultation with physician for effective relief of pain[7].

Perception of causes: The aetiology of primary dysmenorrhoea is not precisely understood but most symptoms can be explained by the action of uterine prostaglandins.

According to Govan[8] posited that dysmenorrhoea implies pain during menstruation and most girls experience some degree of pain at least on the first day of the period and this pain may be secondary to organic disease such as endometriosis or infection resulting from poor personal hygiene. According to Harel[9] some girls don't know the cause of dysmenorrhoea while some thinks that it is infection.

Observation has proven that most adolescent's girls who has suffered dysmenorrhoea are more frequently dysmenorrhoea but whether this is inherited is unclear. Some girls claimed that causes of dysmenorrhoea are anxiety, malnutrition, poor hygiene, curses from God/Ancestor, disease related to pains. Causes of dysmenorrhoea are differentiated according to types[10].

Primary dysmenorrhoea: Is thought to be caused by

- Excessive levels of prostaglandin
- Retroverted uterus
- Lack of exercise and
- Psychological or social stress

Secondary dysmenorrhoea: May be caused by a number of conditions including:

- Fibroids-benign tumours that develop within the uterine walls or attached to it
- Adenomyosis-the tissues that lines the uterus begins to grow within its muscular walls
- Sexually transmitted infection
- Endometriosis-fragment of the endometrial lining that are found on other pelvic organs
- Pelvic inflammatory disease-which is primarily an infection of fallopian tubes but can also affect the ovaries, uterus and cervix
- An ovarian cyst or tumour
- The use of an intrauterine device (IUD) a birth control method

Clinical presentation and management: The main symptom of dysmenorrhoea is pain concentration in the lower abdomen in umbilical region or the suprapubic region of the abdomen. It is commonly felt in the right or left abdomen. It may radiate to the thighs and lower back[11]. Symptoms often co-occurring with menstrual pain include:

- Nausea and vomiting
- Diarrhoea or constipation
- Headache
- Dizziness
- Disorientation
- Hypersensitivity to sound, light, smell and touch
- Fainting and fatigue

Symptoms of dysmenorrhoea often begin immediately following ovulation. The use of certain type of birth control pills can prevent the symptoms of dysmenorrhoea because the birth control pills stop ovulation from occurring[7].

Management: The management goals of primarily dysmenorrhoea is directed at providing relief from the cramping pelvic pain and associated signs and symptoms that typically accompany or immediately precede the onset of menstrual flow. The pelvic pain can be distressing and occasionally radiates to the back and thighs, often necessitating prompt intervention[11]. The treatment/management of secondary dysmenorrhoea is

aimed at correction of the primary cause. The primary cause of secondary dysmenorrhoea can vary and so its treatment will vary accordingly. In Nigeria culture, young girls are not provided with enough knowledge about management and consultation with a physician for dysmenorrhoea, however, this condition is often considered as normal part of menstrual cycle which will settle with time or after marriage, so most of these women resort to self-remedies[7].

Intervention: This includes both pharmacological and non-pharmacological management.

Self-help measures: These are home treatment or remedies in receiving painful menstrual periods these include:

- Using a heating pad on your pelvic area or back
- Massing the abdomen
- Taking a warm bath
- Raising your legs or lying with your knees bent
- Taking hot tea or water[12]

Diet: As well as creating a beneficial feeling of well-being. A good diet, reduces the chances of constipation, a constipated bowel increase the symptoms of dysmenorrhoea by pressing against the uterus when it swells before menstruation, eating light and frequent meals is helpful. Increased proportion of whole meal foods, vegetable, salads, fruits, waters and reduced refined carbohydrates, salads, alcohol and caffeine ameliorate dysmenorrhoea. Diets low in fat and meats have been shown to decrease serum sex binding globulin and decrease the duration and intensity of dysmenorrhoea[13].

Regular physical exercise: Exercise seems to reduce menstrual symptoms including pain[14]. Practising relaxation techniques or yogo.

Acupuncture: It has long been indicated in traditional Chinese medicine for gynaecological problems such as amenorrhoea and dysmenorrhoea.

Surgical intervention: It is appropriate in some cases usually as a last resort, for treatment of secondary dysmenorrhoea. However, no surgery has been shown to provide long-term relief of pain. This may be related to re-growth of nerves or pain signals being transferred by alternative route.

Pharmacological treatment: Pharmacological treatment/ pharmacotherapy has been the most reliable and effective treatment for receiving dysmenorrhoea because the pain results from uterine asoconstriction, anorexia and contractions medicated by prostaglandins. Symptomatic relief can often be obtained from use of agents that inhibit prostaglandins synthesis and have anti-inflammatory and analgesic properties. The current approach to the therapy of primary dysmenorrhoea is to inhibit prostaglandins synthesis or to suppress ovulation which in turn inhibits prostaglandins synthesis[12]. The prostaglandins synthetase inhibitors include:

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs): Many women find one NSAIDs to be more effective than others and tend to try various products before settling on a single effective medication and dosage[15]. Between 17 and 95% of women achieve pain relief with an NSAIDs. It is estimated that as many as 10-25% of women do not respond to NSAIDs or choose not to use them because of their related side effects which include gastrointestinal effects nausea, vomiting and/or diarrhoea and these effect are generally tolerable while some are not[15].

NSAIDs are contraindicate in women with a history of gastroduodenal ulcer, gastero intestinal bleeding or gastroduodenal perforation[12]. Treatment is started at the onset of menstruation to avoid inadvertent exposure to these agents, during early and continued for the duration of the dysmenorrhoea. If treatment is i nitiated at the onset of bleeding and symptoms, it could be started with an initial loading dose followed by divided doses over 24 h. Agents such as Ibuprofen, Ketoprofen, Naproxen and Mefenamic acid are effective because of their tendency to achieve peak serum concentrations within 30-60 min with a faster onset of action. Aspirin may not be as effective as other NSAIDs and paracetamol may be a useful adjunct for alleviation only menstrual cramping pain[16].

Oral contraceptive pills: Adolescents and young adults with symptoms that do not respond to treatment with NSAIDs for three menstrual period should be offered combined oral contraceptive pills for three menstrual cycles and those who do not respond to this treatment should be evaluated for secondary causes of dysmenorrhoea[9].

Glyceryl trinitrate patches: Combined oral contraceptive and NSAIDs are not effective in a few women. Transdermal glyceryltrinitrate which relaxes uterine contractions could be used in these women. The advantage of glyceryl trinitrate are that it has a short half-life and disappears rapidly from the circulation and that the patches can be applied and removed as required giving patients control over their symptoms[17].

MATERIALS AND METHODS

Research design: This is a descriptive study designed to elicit on adolescent girls perception of cause and management of dysmenorrhoea.

Research setting: The study area is Government secondary school Atu, Calabar South, cross river state, Nigeria. This setting is chosen for this study because of poor knowledge of causes and management of dysmenorrhoea.

Government secondary school Atu is a secondary school located at Atu, Calabar South, Cross River State with a population of 1800 students (923 females and 887 males). The school was created by the Cross River State Government in 2001.

The school has facilities such as library, school assembly hall and sick bed for students when ill. Students are made up of boys and girls ranging from Junior Secondary One (JS1) through senior secondary three (SS3). The colour of the school uniform is yellow shirt and brown pinafore for girls and yellow shirt and brown trouser/short for boys. The language commonly spoken is Efik with English as the lingual Franca.

Mary Slessor roundabout, St. Bernard Catholic Church, Atu Newspaper Roundabout and other schools are located around the school. The students are mostly Christians few are Muslims while minute numbers still practice African tradition religions. The school have a total of 86 academic staff of which 11 are male and 72 are female. Non-academic staff are total of 14; 3 male and 11 female.

Research population: The population of this study is made up of all adolescent girls in Government secondary school Atu, who have attained menarche with 6 classes ranging from junior secondary one through senior secondary three with the total population of 1,407 (male 887 and female 520) out of the population of the female, the target population is adolescent girls were 150 from 6 classes from the female population.

Sample and sampling technique: The sampling technique adopted for this study was the stratified random sampling technique. Fifteen female students out of six classes in the school was used for the study. Stratified classes in the school was used for the study. Stratified random sampling was done and 15 subjects were selected in each stratum and making it a total of 150 subject from the school.

Validation of instrument: In order to validate the instrument perception of cause and management of dysmenorrhoea questionnaire draft copies were preserved to fellow colleagues and experts in the measurement of vouch safe for face validity which is the extent to which a research instrument appears to deal with relevant content in the desired subtests area, face validity of an instrument is obtained through a superficial examination of content of the research instrument and the establishment of the fact that the content is measuring what it wants to measure.

Reliability of the instrument: In order to determine the reliability of the instrument, a pilot study was conducted with a group of 15 adolescent girls who are not included in the study. The researchers employed two teachers to help in the exercise.

The 15 adolescent girls who took part in the study were captured twice during visitation in different classes. During the second data collection exercise, the employed teachers for the trial test were made to repeat visitation to the area they covered in the first test to ensure that adolescent girls who completed the first questionnaire also completed the same type of questionnaire the second time. The questionnaire response for the 15 respondents were used for a test-retest reliability.

Procedure for data analysis: The data was analysed using descriptive and inferential statistics. Description of the subjects with respect to demographic variable was presented using frequency and percentage. Association between dysmenorrhoea and selected demographic variable was calculated using chi-square test. Analysed data was presented in Table 1.

Ethical consideration: Permission for the study was obtained by making prior to collecting data. This was achieved by contacting and receiving approval from the school principal Atu. Participants completed an informed consent from which they were assured of the

Table 1: Test-retest reliability estimates of variables on the perception of causes and management of dysmenorrhoea among adolescent girls in government secondary school at, Calabar South local government area of cross river state

Independent variables	No. of items	Administration	$\bar{X}$	SD	rs
The level of knowledge on causes and management of dysmenorrhoea among adolescent girls	5	1st	13.4	2.63	0.67
		2nd	12.6	2.81	
Perception of causes about dysmenorrhoea among adolescent girls in government secondary school Atu	9	1st	12.93	2.48	0.77
		2nd	12.86	2.65	
Clinical presentation and management of dysmenorrhoea among adolescent girls in government secondary school Atu	6	1st	12.49	2.84	0.65
		2nd	12.52	2.96	

confidentiality of their responses following which they provided informed verbal consent that participation was voluntary and anonymous and information given will be used only for research purpose. The participants have the option of withdrawing at any point.

RESULTS AND DISCUSSION

Socio-demographic data of respondents: The socio-demographic respondents is presented in Table 2. The demographic data of respondents indicate that 35(23.3%) of the respondents were aged 9-11 years old, 36(24%) were 12-14 years old, 46(30.7%) were 15-17 years old while 33(22%) were 18-19 years old. On their marital status; 12(8%) were married while 138(92%) were unmarried. 142(94.7%) lived in an urban area while 8(5.3%) lived in the rural area. About 35(23.3%) were from the high family social class, 46(30.7%) were from average social class, 41(27.3%) were from low social class while 28(18.7%) were from very poor social class. 132(88%) were Christians, 12(8%) were Muslims while 6(4%) were traditionalists. On the age of menarche, 32(21.3%) were <12 years, 30(20%) were 12 years, 34(22.7%) were 13 years, 28(18.7%) were 14 years while 26(17.3%) were >14years old. Their bleeding duration indicate that 22(14.7%) bled for <4 days, 98(65.3%) 4- 5 days while 30(20%) had it for 6days or more. Their cycle regularity indicate that 114(76%) had regular cycle while 36(24%) had irregular cycle.

Table 2: Socio-demographic data of respondents

Variables	Frequencies	Percentage
Age		
9-11	35	23.3
12-14	36	24.0
15-17	46	30.7
18-19	33	22.0
Total	150	100
Marital status		
Married	12	8.0
Unmarried	138	92.0
Total	150	100
Residence		
Urban	142	94.7
Rural	8	5.3
Total	150	100
Family social class		
High (rich)	35	23.3
Average	46	30.7
Low	41	27.3
Very poor	28	18.7
Total	150	100
Religion		
Christianity	132	88
Muslim	12	8
Traditional	6	4
Total	150	100
Age at menarch (years)		
<12	32	21.3
12	30	20.0
13	34	22.7
14	28	18.7
>14	26	17.3
Total	150	100
Bleeding duration		
<4	22	14.7
4-5	98	65.3
>6	30	20.0
Total	150	100
Cycle regularity		
Regular	114	76
Irregular	36	24
Total	150	100

Research question 1:

- What are the level of knowledge of causes and management of dysmenorrhoea among adolescent girls in government school, Atu?
- This research question is answered using frequencies and percentages as presented in Table 3 and 4

The result of findings as presented in Table 3 indicates that 98(65.3%) of the respondents had heard about causes of dysmenorrhoea while 52(34.7%) had not heard about it. 53(35.3%) knew what causes dysmenorrhoea while 97(64.7%) did not know. 54(36%) had knowledge of dysmenorrhoea while 96(64%) had no knowledge of it. 62(41.3%) knew about the signs and symptoms of dysmenorrhoea while 88(58.7%) did not know about the signs and symptoms of dysmenorrhoea. Results in Tables 4 indicates that 42(28%) of the respondents had the information on causes and management of dysmenorrhoea through peers, 26(17.3%) had it through Journals, 34(22.7%) had it through radio/TV, 20(13.3%) had it through textbooks, 12(8%) had it through other sources while 16(10.7%) had no idea. Based on the results in Table 2 and 3, it is concluded that adolescent girls in government school, Atu do not have knowledge of causes and management of dysmenorrhoea.

Research question 2:

- What are their perceptions of causes and management of dysmenorrhoea among adolescent girls in government school, Atu?
- This research question is answered using frequencies and percentages as presented in Table 5

Results in Table 5 indicate that 45(30%) of the respondent said infection was the cause of dysmenorrhoea, 30(20%) said it was not the cause while 27(818%) Disagreed and 48(32) Strongly disagreed, 64(42.7) of the respondents strongly agreed that poor hygiene is a cause of dysmenorrhoea, 18(12) of the respondents agreed, 8(5.3%) disagreed, 60(40%) of the respondents disagreed. 70(46.7%) said it was from generation, 30(20%) agreed, 10(6.6%) disagreed and 40(26.6%) strongly disagreed. 0(0%) of the respondents attributed it to psychological cause while 100(6.6%)

Table 3: Knowledge of causes and management of dysmenorrhoea among adolescent girls in government school, Atu

Variables	Yes (%)	No (%)
Have you heard about causes of dysmenorrhoea	98 (65.3)	52 (34.7)
Do you know about what causes dysmenorrhoea	53 (35.3)	97 (64.7)
Any knowledge on management of dysmenorrhoea	54 (36)	96 (64)
Knowledge about signs and symptoms of dysmenorrhoea	62 (41.3)	88 (58.7)

Numbers in parentheses are percentages

Table 4: Sources of information on causes and management of dysmenorrhoea

Options	Frequencies	Percentage
Peers	42	28.0
Journal	26	17.3
Radio/TV	34	22.7
Textbook	20	13.3
Others	12	8.0
No idea	16	10.7
Total	150	100

Table 5: Distribution of respondents on the perception of causes of dysmenorrhoea

Options	SA (%)	A (%)	D (%)_	SD (%)
Infection	45 (30)	30 (20)	27 (18)	48 (32)
Poor hygiene	64 (42.7)	18 (12)	8 (5.3)	60(40)
From generation	70 (46.7)	30 (20)	10 (6.6)	40(26.6)
Psychological cause	0 (0)	100 (66.6)	0(0)	50(33.4)
Curses from gods/Ancestors	8 (5.3)	64 (42.7)	60(40)	18 (12)
Malnutrition	40 (26.6)	90 (60)	10(6.7)	10(6.7)
Emotional instability	16 (10.7)	100 (66.7)	2 (1.3)	32(21.3)
Pelvic pathology	56 (37.4)	90 (60)	2 (1.3)	2(1.3)
Others	12 (8)	100 (66.7)	33 (22)	5(3.3)

Numbers in parentheses are percentages

Table 6: Clinical manifestation of dysmenorrhoea among adolescent girls

Signs/symptoms	Frequencies	Percentage
Fatigue	27	18.0
Headache	25	16.7
Background	12	8.0
Dizziness	13	8.7
Anorexia	15	10.0
Abdominal distention	34	22.6
Diarrhoea	14	9.3
Vomiting	10	6.7
Others	0	0.0
Total	150	100

agreed, 0(0%) of the respondents disagreed while 50(33.4%) strongly disagreed. About 8(5.3%) strongly agreed that it was caused by curse gods/ancestors, 64(42.7%) agreed while 60(640%) disagreed, 18(12%) strongly agreed. About 40(26.6%) strongly agreed that it was caused by malnutrition, 90(60%) agreed while 10(6.7%) disagreed and 10(6.7) strongly disagree. About 16(10.7%) strongly agreed that it was caused by emotional instability, 100(66.7%) agreed that it was not while 2(1.3%) disagreed, 32(21.3) strongly disagreed. 56(37.4%) strongly agreed that it was caused by pelvic pathology, 90(60%) agreed while 2(1.3%) disagreed 2(1.3%) strongly disagreed. 12(8%) strongly agreed to other causes, 100(66.7%) agreed, 33(22%) disagreed while 5(3.3%) strongly disagreed. Based on the result of findings, it is concluded that respondents perceived infection and poor hygiene as the main causes of dysmenorrhoea among adolescent girls in government school, Atu.

Research question 3:

- What are the clinical manifestation of dysmenorrhoea on girls and management among adolescent girls in government secondary school, Atu?
- This research question is answered using frequencies and percentages as presented in Table 6 and 7

Results in Table 6 indicate that 27(18%) of the respondents identified fatigue as the clinical manifestation of dysmenorrhoea among adolescent girls, 25(16.7%) identified headache, 12(8%) identified backache as the symptom, 13(8.7%) identified dizziness as the symptom, 15(10%) identified anorexia, 34(22.6%) identified abdominal distention, 14(9.3%) identified diarrhoea while 10(6.7%) identified vomiting as the clinical manifestation of dysmenorrhoea among adolescent girls.

Results in Table 7 indicate that 18(12%) of the respondents suggested rest/relaxation as a management strategy for dysmenorrhoea, 10(6.7%) suggested the use of herbs, 12(8%) suggested taking a hot bath, 15(10%) suggested taking hot tea, 23(15.3%) suggested placing heating pad on abdomen, 36(24%) suggested the use of analgesics, 15(10%) suggested the use of exercise, 14(9.3%) suggested the use of other methods while 7(4.7%) did not suggest any method.

Table 7: Management of dysmenorrhoea among adolescent girls

Management	Frequencies	Percentage
Rest/Relaxation	18	12.0
Herbs	10	6.7
Taking hot bath	12	8.0
Taking hot tea	15	10.0
Placing heating pad on abdomen	23	15.3
Analgesic	36	24.0
Exercise	15	10.0
Others	14	9.3
None	7	4.7
Total	150	100

Table 8: Contingency chi-square analysis of the influence of the knowledge of causes of dysmenorrhoea on its management

	Management									
Knowledge of dysmenorrhoea	Rest/Rel.	Taking Herbs	Taking hot bath	Placing heating hot tea	Analgesic pad on abd.	Exercise	Others	Home	Total	X^2
Respondents who have knowledge	5(6.4)	3(3.5)	6(4.2)	5(5.3)	9(8.1)	11(12.7)	6(5.3)	5(5.0)	3(2.5)	53
Respondents who do not have	13(11.6)	7(6.5)	6(7.8)	10(9.7)	14(14.9)	25(23.3)	9(9.7)	9(9.0)	4(4.5)	2.61 97
Total	18	10	12	15	23	36	15	14	7	150

$p>0.05$, df = 8, critical X^2 = 15.51

Based on the result of findings, it is concluded that most of the respondents have identified abdominal distention, headache and fatigue as the major clinical manifestation of dysmenorrhoea among adolescent girls. They have also suggested the use of analgesics, placing heating pad on abdomen and rest/relaxation as some of the management strategies for dysmenorrhoea.

Hypotheses testing

Hypothesis: There is no significant influence of the knowledge of causes of dysmenorrhoea on its management. This hypothesis is tested using contingency chi-square analysis as presented in Table 8. Here, data on knowledge of causes of dysmenorrhoea was obtained from the second item in Table 2.

Result of analysis as presented in Table 8 indicate that a calculated X^2 value of 15.51 at 0.05 probability level and 8 degrees of freedom was found to be lower. On the basis of this observation, the null hypothesis is retained meaning that there is no significant influence of the knowledge of causes of dysmenorrhoea on its management.

Result of findings on the level of knowledge of causes and management of dysmenorrhoea among adolescent girls in government school, Atu revealed that most of the girls had no knowledge about the causes and management of dysmenorrhoea.

This result supports Achema *et al*.[3] who examined the level of knowledge and perception of causes about dysmenorrhoea among adolescent girls in selected secondary school in Nsukka and found that only 14.4% of the girls knew poor hygiene as a risk factor and 66.9% of the girls considered themselves insufficiently informed on the issues.

The result also support Mohammed and Faraganeh[4] whose study on assessing knowledge, attitude and behaviour of adolescent girls in sub-Urban districts of Tehran about dysmenorrhoea and menstrual hygiene, found that 77% of the subjects claimed that they do not have enough knowledge about dysmenorrhoea in a population of 205.

The result again supports Parveen *et al*.[7] who carried out a study on attitude and knowledge of medical students of Isra University about dysmenorrhoea and its management in a population of 197. Data was collected based on questionnaire result showed that 97 knows the management while 100 girls didn't know about the management of dysmenorrhoea.

The result of findings on the perception of causes and management of dysmenorrhoea among adolescent girls showed most of the respondent perceived infection and poor hygiene as the main causes of dysmenorrhoea among adolescent girls in government school, Atu.

This result supports Achema *et al*.[3] whose study on the level of knowledge and perception of causes of dysmenorrhoea among adolescent girls in selected secondary schools in Nsukka showed that 14.4% of the girls perceived that hygiene was a risk factor that can cause dysmenorrhoea.

The result of findings on the clinical manifestation of dysmenorrhoea on girls and its management showed that most of the respondents identified abdominal distention headache and fatigue as the major clinical manifestation of dysmenorrhoea among adolescent girls. They have also suggested the use of analgesics, placing heating pad on abdomen and rest/relaxation as some of the management strategies for dysmenorrhoea.

This result supports Proctor and Farguhar[12] who observed that the current approach to the therapy of primary dysmenorrhoea is to inhibit prostaglandin synthesis or to suppress ovulation which in turn inhibits

prostaglandin synthesis. That symptom relief can often be obtained from use of agents that inhibit prostaglandin synthesis and have anti-inflammatory and analgesic properties. The result of findings further showed that there was no significant influence of the knowledge of causes of dysmenorrhoea on its management.

CONCLUSION

Based on the findings of the study, it was concluded that; adolescent girls do not have knowledge of causes and management of dysmenorrhoea. Infection and poor hygiene were identified as the main causes of dysmenorrhoea among adolescent girls. Abdominal distention, headache and fatigue were identified among others as the major clinical manifestation of dysmenorrhoea. There was no significant influence of knowledge of causes of dysmenorrhoea on its management.

RECOMMENDATIONS

Based on the result of findings of this study, the following recommendations were made: Government through the Ministry of Health and other related agencies should organize seminars on the causes and management of dysmenorrhoea in both public and private secondary schools as this will help to enlighten adolescent girls on the causes and management of dysmenorrhoea.

Parent should also try as much as possible to educate their children, especially the girls concerning painful menstruation and the precautionary measures to take as to avoid the causes of dysmenorrhoea. This will go a long way to dispel ignorance and lack of knowledge towards dysmenorrhoea and reproductive health.

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