Knowledge and Self-Management of Dysmenorrhea Among Female Adolescents in Selected Secondary Schools in Ogun State, Nigeria

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Abstract

Dysmenorhea is an expected and physiological experience in females associated with some inconveniences and distressing experience. The study utilized descriptive and cross sectional design to gather information with the use of adaptive structured questionnaires to collect information from female adolescents in selected secondary schools. Standardized tool of dysmenorhea Knowledge and menstrual attitude scale (MAS) by Brooks- Gunn and Rubble (1980) were adapted to gather information to measure the knowledge from mother, culture and social media. Data were collected and analysed with Pearson's Product Moment Correlation. The duration of bleeding among the participants under study is 53.3 0/0 which is the highest level, regularity of the cycle is 76 0/0 while irregular is 24.3 0/0. Pain intensity 20.9 0/0 mild and severe is 53.3 0/0. Knowledge level of dysmenorhea include 47.5 0/0 below average and 17.1 0/0 above average. Measures taken with pharmacological choice like paracetamol 61.2 0/0 and morphine 5.8 0/0 Non - pharmacological like herbal remedies 38.3 0/0.On pain intensity , result shows that social withdrawal rates 1st with 2.67 mean score, restriction of physical activities 2nd with 2.33 0/0. Lastly Pearson products moment correlation shows the outcome of the hypothesis as there is no significant relationship between Knowledge and self- management was rejected because there is a significant relationship between Knowledge and self- management with r---217, p-.209, this means that knowledge of dysmenorhea is low and negatively related to self- management among the female adolescents students which means that female students had little or

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no knowledge of managing dysmenorhea. It was recommended among others that intensive counselling education should be given to teens on the causes and management of dysmenorrhea.

Keywords: Knowledge, Self-Management, Dysmenorrhea, Female Adolescents,

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Introduction

Menstruation is one of the physiological changes that commence the onset of puberty in adolescent female which can be problematic for many female adolescents and young adults. Menstruation forms an essential land mark in the female adolescent as it's one of the components of development from childhood to adulthood. Menstruation can be frustrating and problematic due to differences in the symptoms it shows such as severe painful cramps called dysmenorrhea. Dysmenorrhea or painful menstrual cramps is a common gynaecological symptom among women of childbearing age. It is the leading reason for school-related absences for teenage/adolescent girls and causes approximately 600 million hours of lost work productivity in adult women every year, which results in an economic loss of about $2 billion annually (Wijesiri & Suresh, 2017). Proper treatment of menstruation and dysmenorrhea is very essential in order to sustain good academic performance, school activities engagement, accomplishing life's success and contributing to family development and the community as a whole (Babarimisa, 2018). However, many young female adolescents in low-income countries lack adequate information about dysmenorrhea management though some information comes from friends in school or peers, parents, religious institutions or social media which may not be adequate to care for them to manage the disorder (Olayinka 2014).

Dysmenorrhea serves as a source of anxiety to adolescents and their parents. Dysmenorrhea leads to a greater worry among other gynaecological complaint with an incidence of 93% of all menstrual disorders which can be described as severe to moderate to mild cramping sensation in the lower abdomen (Shahnaz, & Rahman, 2016). Dawood (2015) defined dysmenorrhea or painful menstruation as a common and often debilitating gynaecological condition. It affects about 45% to 95% of menstruating women. Despite the high prevalence, dysmenorrhea is still poorly managed (Pembe & Ndolele, 2016). Knowledge about dysmenorrhea is limited to adolescents according to a study conducted at Ile- Ife, Nigeria (Wijesiri & Suresh, 2012). Tushager, Nigist and Eskinder (2018), in their study discovered that younger age, early menarche, prolonged menstrual flow, low body mass index, smoking, history of assault, psychological disturbance, and genetic influence can influence the severity of dysmenorrhea. The prevalence of dysmenorrhea among Indian girls was found to be 79.6% but 37.9% suffers regular dysmenorrhea, according to the study conducted in Kano 6-8% in Maiduguri, 62% in Oyo state hence 90% suffers dysmenorrhea in Nigeria, (Akinyotu, 2017). Claire and Janet (2018), in their study observed that dysmenorrhea was not viewed as a legitimate health problem by women, health care providers and the society hence treatment for women with dysmenorrhea differs in acceptability and effectiveness. Previous studies have found that dysmenorrhea has an adverse consequence on school performance, such as limited participation in sports and social activities, low concentration, as well as school absenteeism (Gumanga & Kwame-Aryee 2017). Gumanga and Kwame-Aryee (2017) also stated that dysmenorrhea has both an academic and social affect, with only 3% of their participants with dysmenorrhea consulting a medical doctor.

Dysmenorrhea, especially when it is severe, has been linked with activity restriction and absence from school or work (Rima, 2016). Despite this huge effect on their quality of life and general wellbeing, only few women and adolescents with dysmenorrhea seek assistance as they believe it would not help (Ortiz, Rangel &Carrillo, 2015). Dysmenorrhea has several effect on individual such as school absenteeism, interference with daily activities, limiting socialization and high intake of sedative medication are associated with high prevalence of intensity (Ipaye, 2013). Dysmenorrhea has a debilitating effect on the quality of life among affected female adolescents and young adults and it is linked with misconceptions that could

lead to drastic actions with fatal effects. The impact of dysmenorrhea has been studied by various researchers. The impact of dysmenorrhea has been studied by various researchers. Common effects include poor concentration, absenteeism, social withdrawal, decreased academic performance and regrets (Santina, 2017). Studies conducted by International Association for Pain (2016), estimated that at each menstrual period approximately 15% to 20% of adolescents with dysmenorrhea were unable to attend school and work for one-three days thereby causing annual loss of 140million working hours, 82% practiced self - medication and 62% take inappropriate medication (Mellisa, 2016).

In many parts of the developing countries, a culture of silence surrounds the topic of menstruation and related issues; as a result, many young girls lack appropriate and adequate information regarding menstruation. A previous study conducted in Nigeria revealed that adolescents have little knowledge regarding menstruation and dysmenorrhea, (Rima, 2016).

In view of the above, the researcher intends to assess the level of knowledge and self-management of dysmenorrhea on female adolescents in Ado-Odo Ota local government area in Ogun State.

In view of the above, this study specifically:
1. assessed the level of knowledge of female adolescents with dysmenorrhea among female in Ado-Odo Ota local government area
2. identified measures taken for self- management of dysmenorrhea by the female adolescent in Ado-Odo/Ota local government area and
3. examined the consequences/ effects of dysmenorrhea on the female adolescents.

Research Questions

The following research questions were raised for this study:
1 What is the knowledge level of dysmenorrhea among female adolescents in Ado-Odo Ota local government area?
2 What are the measures taken for self- management of dysmenorrhea among female adolescents in Ado-Odo/Ota local government area?
3 What are the consequences of dysmenorrhea on their academics and social life?

Research Hypotheses

The following hypotheses were postulated for this study:
1. There is no significant relationship between the level of knowledge and self-management of dysmenorrhea among female adolescents in selected government secondary schools in Ado-odo/Ota Local Government area of Ogun state.
2. There is no significant relationship between the self- management and age of the adolescents with dysmenorrhea.

Methodology

A descriptive cross- sectional design was used for this study. Target population comprises female adolescents in two selected government secondary schools. The sample size of 367 respondents was randomly selected using proportionate sampling technique from JSS 1, SSS1 & SSS2 students in Ado-Odo/Ota local government area of Ogun State. A structured questionnaire was used for data collection, after it was subjected to close scrutiny and review by experts in tests and measurements and nursing science. The instrument was subjected to pilot study and subjected to Cochran's test with 0.899 which made the instrument reliable. Two trained research assistants assisted in data collection. The data was subjected to descriptive and inferential statistical analysis. Data was summarized using

frequencies, distribution tables and cross tabulation. The Pearson's Product Moment correlation was used to test the level of significance between the categorical variables.

Results

Research Question 1: What is the knowledge level of dysmenorrhea among female adolescents in Ado-Odo Ota local government area?

Table 1: Knowledge level of dysmenorrhea among female adolescents

The knowledge of dysmenorrhea	Category of scores	Responses	
		Freq.	%
Below average	1-3	164	47.5
Average	4-6	122	35.4
Above average	7-9	59	17.1
Total			
Mean		4.969	
Standard dev.		1.037	

Table 1 shows the knowledge of dysmenorrhea among female adolescents. One hundred and sixty-four (47.5%) respondents had below average score, 122 (35.4%) and 59 (17.1%) had mean scores at average and above average respectively on the knowledge of dysmenorrhea. The overall female adolescents' knowledge mean score of dysmenorrhea was 4.969 which is equivalent to 55.2%. Thus, it could be said that the female adolescents' knowledge of dysmenorrhea was generally on the average.

Research Question 2: What are the measures taken for self- management of dysmenorrhea among female adolescents in Ado-Odo/Ota Local government area?

Table 2: Measures taken for self- management of dysmenorrhea among female adolescents

		Agreed	Percent (%)
Seek periodic treatment from hospital		61	17.7
Seek health counselling from health professionals like Nurses and family doctors		12	3.5
Use self-medication with over-the-counter drugs		211	61.2
Pharmacological choice	Paracetamol	144	41.7
	Morphine	20	5.8
	Diclofenac	181	52.5
	Oral contraceptive	-	-
Non-pharmacological methods	Use home remedies like herbal concoction	132	38.3
	Use hot water bottle or warm drinks	213	61.7
	Perform physical exercise	-	-
Psychological ways of managing dysmenorrhea	I can cope well with rest	202	58.6
	I can cope well with prayers	17	4.9
	I can cope well without using anything	36	10.4
	I can cope well with acupuncture/ exercise	11	3.2
	I can cope well with drugs	79	22.9
	I can cope well with sex	-	-

The measures taken for self- management of dysmenorrhea among female adolescents

was assessed based on the three (3) forms of self- management. These are pharmacological choice, non-pharmacological methods, and psychological ways of managing dysmenorrhea. The results of this study on Table 2 revealed that majority (61.2%) of the respondents use self-medication with over-the-counter drugs, compared to seeking periodic treatment from hospital (17.7%), and health counselling from health professionals like Nurses and family doctors (3. 5%). However, the female adolescents under the pharmacological choice made use of Diclofenac (52.5%) more as compared to Paracetamol (41.7%) and Morphine (5.8%). For the non-pharmacological methods, 213 (61.7%) used hot water bottle or warm drinks, and 132 (38.3%) used home remedies like herbal concoction; while 202 (58.6%) believed they coped well with rest in the psychological way.

Research Question 3: What are the consequences of dysmenorrhea on their academics and social life?

Table 3: Consequences of dysmenorrhea on adolescents' academics and social life

Description	Severe Effect	Moderate Effect	No Effect	Total	Mean	Rank
Social withdrawal	177 (51.3)	135 (39.1)	33 (9.6)	345 (100.0)	2.67	1st
Restriction in physical exercise	141 (40.9)	158 (45.8)	46 (13.3)	345 (100.0)	2.33	2nd
Poor concentration	123 (35.7)	197 (57.1)	25 (7.2)	345 (100.0)	2.21	3rd
Decrease in academic performance	77 (22.3)	138 (40.0)	130 (37.7)	345 (100.0)	1.90	5th
Absent from school/ home activities	111 (32.2)	173 (50.1)	61 (17.7)	345 (100.0)	2.13	4th

Table 3 shows the consequences of dysmenorrhea on adolescents' academics and social life. It was revealed that most female adolescents suffer from social withdrawal (Mean = 2.67 and ranked 1st). This is followed by restriction in physical exercise (Mean = 2.33, 2nd), poor concentration (Mean = 2.21, 3rd), absent from school/ home activities (Mean = 2.13, 4th), and lastly by decrease in academic performance (Mean = 1.90, 5th). It could be said that female adolescents suffer the consequences of dysmenorrhea on their academics and social life.

Test of Hypotheses

Hypothesis 1: There is no significant relationship between the level of knowledge and self-management of dysmenorrhea among female adolescents in selected government secondary schools in Ado-odo/Ota Local Government area of Ogun state.

Table 4: Pearson Product Moment correlation showing the relationship between the knowledge and self- management of dysmenorrhea among female adolescents

		Knowledge	Self- management
Knowledge	Pearson Correlation	1	-.217*
	Sig. (2-tailed)		.029
	N	345	345
Self-management	Pearson Correlation	-.217*	1
	Sig. (2-tailed)	.029	
	N	345	345

*. Correlation is significant at the 0.05 level (2-tailed).

The outcome of the hypothesis that stated that "There is no significant relationship between the knowledge and self- management of dysmenorrhea among female adolescents" was rejected. Table 4 revealed a significant relationship between the knowledge and self-management of dysmenorrhea (r = -.217, p =.029). The result shows that the knowledge of dysmenorrhea is low and negatively related to self- management of dysmenorrhea among the female adolescents. The implication of this is that female adolescents' self- management of dysmenorrhea has little or no relationship with their knowledge of dysmenorrhea

Hypothesis 2: - There is no significant relationship between the self- management and age of the adolescents with dysmenorrhea.

Table 5: Pearson Product Moment correlation showing the relationship between the self- management and age of the female adolescents with dysmenorrhea

		Age	Self- management
Age	Pearson Correlation	1	.456*
	Sig. (2-tailed)		.003
	N	345	345
Self-management	Pearson Correlation	.456*	1
	Sig. (2-tailed)	.003	
	N	345	345

*. Correlation is significant at the 0.05 level (2-tailed).

The outcome of the hypothesis that stated that "There is no significant relationship between the self- management and age of the adolescents with dysmenorrhea " was rejected. Table 5 revealed a significant relationship between the self- management and age of the adolescents with dysmenorrhea (r = .456, p =.003). The result shows that the self-management is positively related to the age of the adolescents with dysmenorrhea. The implication of this is that female adolescents' self- management of dysmenorrhea has a relationship with their age.

Discussion

The knowledge of dysmenorrhea among female adolescents on the average because their knowledge mean score of dysmenorrhea was 4.969(55.2%). This is supported by Charan, et al (2019) that a good number of students 43.3% had average knowledge of dysmenorrhea, 43.9% have moderate knowledge while12.8% had excellent knowledge of dysmenorrhea. Farotimi, et al (2015) in their study in Ogun state, Nigeria revealed that majority- 40.6% of students have adequate knowledge of dysmenorrhea, 36.5% have moderate knowledge while 22.9% have low knowledge.

The outcome of this study revealed that over two-third of the respondents used self-medication with over-the-counter drugs, compared to seeking periodic treatment from hospital and health counselling from health professionals like Nurses and family doctors. Also, they made use of non-pharmacological methods such as the use of hot water bottle or warm drinks, their psychological way of self-management was resting. This result is in tandem with the previous findings of Ling, et al (2018) that adolescent girls self-medicate with non-steroidal anti-inflammatory drugs and analgesic medication for dysmenorrhea. Also, Clevel and Clinic (2020) noted that taking ibuprofen as soon as bleeding or cramping start reduces the output of prostaglandings, also placing heating pads or hot water bottle on lower back or abdomen, rest, avoidance of caffeine drinks smoking and alcohol, massaging lower abdomen and regular exercise can be helpful in self-management of dysmenorrhea.

It could be said that reducing physical activity, dietary modifications, using herbal remedies or medications, massaging, keeping warmth, and drinking warm beverages are key self-management methods that individual adolescent initiate and perform on their own in maintaining life, health and well-being.

The outcome of these findings reveals that female adolescents suffer the consequences of dysmenorrhea on their academics and social life. Most female adolescents suffer from social withdrawal, restriction in physical exercise, poor concentration, and absent from school/ home activities. The implication of this finding is that the pains of dysmenorrhea and its associated discomfort will make the individual concern to have psycho-social challenges which in turn could affect their academics. This is supported by the findings of Agboola, et al (2018) mild and moderate dysmenorrhea suffered by female students leads short term school absenteeism while severe dysmenorrhea suffers frequent school absenteeism, they also stated reduced contact time for their studies which have implication on the quality of education they receive. Recurrent absenteeism can lead to academic under achievement (Gustina & Djannah, 2017).

The findings of this study lend credence from that of Farotimi, et al (2017) in their studies at Babcock University stated that dysmenorrhea has debilitating effect on the quality of life among affected female adolescents and young adults and also associated with misconception that could result in drastic with fatal consequences. Previous studies also found that dysmenorrhea has an adverse effect on school performance, such as low concentration, school absenteeism, as well as limited participation in sports and social activities (Gumanga & Kwame-Aryee, 2017).

The outcome of the first hypothesis reveals that the knowledge of dysmenorrhea is low and negatively related to self- management of dysmenorrhea among the female adolescents. The implication of this is that female adolescents' self- management of dysmenorrhea has little or no relationship with their knowledge of dysmenorrhea. This result corroborates the findings of Araujo et al (2017) that majority of female students have knowledge of dysmenorrhea but majority used inappropriate methods to manage the pain. It also agreed with Ferrant and Sakar (2012) who reported that majority of the girls in their studies did not receive any form of information before menarche, have poor knowledge of dysmenorrhea, and could not self-manage it.

The outcome of the hypothesis shows that the self- management is positively related to the age of the adolescents with dysmenorrhea. The implication of this is that female adolescents' self- management of dysmenorrhea has a relationship with their age. This is line with Min-Hiu, et al (2011) that age, i.e. older women experience less pain while younger age in menarche experience more pain.

Conclusion

Dysmenorrhea is common among female adolescents and their knowledge of dysmenorrhea was generally on the average. Female adolescents made use of pharmacological choice, non-pharmacological methods, and psychological ways of managing dysmenorrhea. Most female adolescents suffer from social withdrawal, were restricted from physical exercise, had poor concentration, and absent from school/ home activities due to dysmenorrhea.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. Female empowerment should include education on the pharmacological and non-pharmacological management of dysmenorrhea.
2. Community health and school health nurses should give motivational counseling for women needs on management of dysmenorrhea.
3. Intensive counselling education should be given to teens on the causes and management of dysmenorrhea.

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