



PREVALENCE OF PREMENTRUAL SYNDROME AND COPING STRATEGIES AMONG SCHOOL GIRLS.

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ABSTRACT

Premenstrual Syndrome (PMS), also called premenstrual Tension (PMT), is a psychosomatic reproductive health problem affecting women .It is a significant source of physical and psychological morbidities among school girls . It has been associated with school and lecture absenteeism, poor academic performance, substance abuse, relationship problems and poor quality of life. Some conditions do not kill but they can last long enough to disrupt lifestyle and affect overall general health. The study investigated; the prevalence of PMS and the strategies used to cope with it among secondary school girls in Zaria, Kaduna State , Nigeria. Participants were 187 junior and senior secondary school students selected through stratified random sampling technique from both private and government secondary schools in Zaria. More than 64 percent of the participants were within the age bracket of 15-18years. Questionnaires assessing PMS, coping strategies and socio-demographic characteristics were administered to the participants. Data collected were analyzed using SPSS software. Results indicate that PMS was highly prevalent (69.5 percent) among participants. A total of 35.4 percent of them had moderate to severe P M S while 34.1 percent had very severe symptoms. Data also revealed that the participants majorly used passive coping strategies to deal with their PMS. More active behavioural coping strategies were recommended to reduce distress and improve quality of life.

INTRODUCTION

Premenstrual Syndrome (PMS), also called Premenstrual Tension (PMT), is a psychosomatic reproductive health problem with a group of symptoms associated with female menstrual cycle. The syndrome includes physical, psychological, social, emotional and behavioural symptoms. More than 300 physical, psychological, emotional, behavioral and social symptoms have been shown to be associated with PMS (Ezeh, 2004). Globally over 40 million people are afflicted with the disorder (Samadi, Taghian and Valiani, 2013). P M S affects productivity, performance and relationships negatively at home, school and work place. Generally more than 45 percent of women suffer discomforting symptoms in the days before their period. It has been shown to worsen existing illness, for example, migraine headache and asthma or even epilepsy. The prevalence rates of PMS vary globally. For example studies in Nigeria among university students indicate that it was 85 percent in Calabar (Antai, Udezi, Okon and Umuoiyo, 2004), and 61 percent in Jos (Okeahialam, 2008). In Iran, a study (Bakhsh, Mousavi, and Khodabandel, 2009) indicates that 98.2 percent of university students reported at least mild to severe



premenstrual symptoms and 16 percent met the criteria for DSM-IV diagnosis for PMS . Another study (Moghadam, Kaikhavani, and Sayehmiri; 2013),investigated the world-wide prevalence rates of PMS, using meta-analysis methods indicates the rates of PMS across continents as shown in table 1 below.

Table 1: Pooled- Prevalence Rates of Premenstrual Syndrome (PMS).

CONTINENT	PREVALENCE (Percent)
Africa	85
Asia	46
Europe	40
South America	60

SOURCE: Meta-analysis Study (Moghadam, Kaikhavani and Sayehmiri; 2013).

Table1 indicates that Africa had very high prevalent rate (85 percent) of PMS, followed by South America (60 percent), then Asia (46 percent) and Europe (40 percent).

The PMS is recognized by noting the type of symptoms and when they occur in relation to the periods. The symptoms occur 7-14 days before a woman's monthly period. Coping strategy is defined as 'thoughts' and 'behaviours' an individual uses to manage internal and external demands of situations that are appraised as stressful (Folkman and Maskowitz, 2004). Behavioral coping strategies and physical activities have been shown to reduce the symptoms. Studies (Ezeh, 2004) show that appropriate, effective and adequate coping strategies were related to lower levels of psychological distress, better immune and improved quality of life. Passive coping is associated with poorer health outcomes. Other studies (Tailor, 1998) had distinguished between active and passive coping strategies. Active coping strategies are behavioural or psychological responses designed to change the nature of stressor itself or how one thinks about it. Passive or avoidant coping strategies on the other hand led people into activities such as alcohol/drug use or mental states such as withdrawal, that prevent them from directly addressing stressful events.

Lazarus and Folkman (1984), identified different coping strategies.

- 1) Appraisal –focused coping – this affects the thoughts associated with the stressor.
- 2) Emotion –focused coping –this affects the feelings associated the stressor.
- 3) Problem –focused coping-this affects the stressor itself.

Coping can also be negative or positive; adaptive or maladaptive. Positive or adaptive coping reduces the amount of stress perceived and experienced; negative or maladaptive coping reduces symptoms of stress without addressing the real cause or the root of the problem or disorder. Many psychologists believe that problem- focused coping is healthier and more effective than emotion –focused coping. But emotion coping is well suited for uncontrollable events e.g diagnosis of terminal illness or death of loved one.

The choice of coping strategies varies among people, population groups depending on situational, gender, personal and cultural differences. For example Billings and Moos (1981), reported gender differences in coping styles.

STATEMENT OF PROBLEM



Research indicates that more than 300 symptoms are associated with PMS . And these symptoms include physical, psychological, emotional, cognitive, behavioral and social issues. Research also demonstrates that appropriate, effective and adequate coping strategies may help to reduce symptoms. Psychological intervention reduces psychological stress and other psychological factors associated with P M S and improve quality of life substantially. The present study therefore assesses the prevalence of PMS among secondary school girls in Zaria, Kaduna State, Nigeria and also the coping strategies they employed to cope with it. Assessing prevalence and identifying coping strategies would provide diagnostic information to serve as a starting point to begin a therapy, intervention or coping skills training. Negative or dysfunctional coping skills or self -defeating coping mechanisms, could be relearned, unlearned, modified or adjusted in order to improve outcomes.

METHODS

This research work was a cross-sectional descriptive study, conducted to assess the prevalence of P M S and coping strategies among school girls. The sample frame included Junior Secondary One (JS1) to JS3 and Senior Secondary One (SS1) to SS3 from both government and private secondary schools in Zaria, Kaduna State, Nigeria. Stratified random sampling technique was employed to select participants from each school category. A total of 215 questionnaires were administered, 203 were retrieved, only 187 students were used for the analyses after making up for the attrition rates. Data were analyzed using SPSS software. Participants were mostly Hausa Muslims (51.2 percent). More than 64 percent of the girls were within the age bracket of (15-18 years). Self-administered questionnaires were used which sought information on key research variables including;

- 1) Socio-demographic data,
- 2) Age at Menarche,
- 3) Severity of PMS.

The questionnaire measured severity of P M S on a 4- point Likert scale,

- Little or no symptoms,
- Moderate,
- Severe,
- Very severe.

Items measuring PMS symptoms and severity were adapted from menstrual symptom questionnaire (MSQ, Chesney and Tasto ,1975), with 0.87 test-retest reliability.

- 4) Effects of PMS on daily activities,
- 5) Coping strategies

Items measuring coping strategies were adapted from brief COPE (Carver, 1997). Subjects were asked to rate each of the coping items on a 5-point scale ranging from Doesn't apply to me, to Almost always apply to me. Brief COPE had good psychometric properties with Cronach alpha ranging from .45- .92, test-retest reliability, .46- .86 and strong evidence of discriminant validity.

The subjects were guided on how to complete the questionnaires when necessary. Explanations were given on the purpose of the study, confidentiality and ethical clearance was gotten from the schools.

Table 2: Socio-demographic Characteristics of Participants.

		FREQUENCY	PERCENT
Ethnicity	Hausa	103	51.2
	Yoruba	86	42.8
	Igbo	2	1.0
	Others	10	5.0
Religion	Muslim	173	86.1
	Christian	28	13.9
	Others	0	0
School category	Government school	132	65.7
	Private school	69	34.3
Class	Junior class	23	11.4
	Senior class	178	88.6

SOURCE: Survey Data, 2015

The participants were mainly Hausa Muslims, senior secondary students from private schools as shown in table 2.

Table 3: Distribution of Participants by Age.

Age in Years	Frequency	Percent
11-12	14	7.6
13-14	19	10.4
15-16	45	26.9
17-18	70	37.5
19-20	36	19.1
21-22	2	1.2
23-24	1	0.4

SOURCE: Survey Data, 2015.

Majority (64.4 percent) of participants fell within the age bracket of 15 -18 years as shown in table 3.



RESULTS

Table 4: Age at Menarche

AGE AT MENARCHE (YEARS)	FREQUENCY	PERCENT
9	2	1.1
10	1	0.5
11	4	2.1
12	18	9.6
13	25	13.4
14	16	8.6
15	69	36.9
16	52	27.8

SOURCE: Survey Data, 2015

Most (64.7 percent) of the participants had their menarche / first menstrual period at 15(36.9 percent) and 16(27.8percent) years.

Table 5: Varieties of Premenstrual Symptoms

SYMPTOM	FREQUENCY	PERCENT
Could not sleep	24	18.5
Felt very weak	54	41.5
Felt very anxious and restless	14	10.8
Had increased appetite	13	10.0
Had decreased appetite	17	13.1
Got easily irritated and aggressive by little things	25	19.1
Body swelling	12	9.2

SOURCE: Survey Data, 2015.

The 3 most frequent symptoms complained of by the participants were; 'Could not sleep' (18.5 percent), 'Felt very weak' (41.5 percent) and 'Got easily irritated' (19.2 percent).

Table 6: Prevalence of Premenstrual Syndrome.

PREVALENCE	FREQUENCY	PERCENT
Little or no symptoms	57	30.5
Moderate / Severe symptoms	66	35.4
Very severe symptoms	64	34.1

SOURCE : Survey Data, 2015

The total prevalent rate of PMS among the participants was 69.5 percent; 35.4 percent had severe symptoms, while 34.1 percent very severe cases.

Table 7: Coping strategies used for Premenstrual Syndrome.

COPING STRATEGY	FREQUENCY	PERCENT
Bed rest/ sleeping	38	29.2
Hot tea/coffee/colanuts	11	8.5
Hot drinks/ alcoholic beverages	1	0.8
Drugs and herbs	24	18.5
Prayer	66	50.8
Physical/aerobic exercise	1	0.8
Breathing exercise	1	0.8

SOURCE: Survey Data, 2015

Bed rest/Sleeping (29.2 percent), Drugs/ Herbs (18.5 percent) and Prayer (50.8 percent) were the most frequently endorsed coping strategies among the participants.

SUMMARY OF RESULTS

- i. A meta- analysis study (Moghadam, Kaikhavani and Sayehmiri, 2013) revealed that Africa had the highest prevalence rate(85 percent) of P M S, followed by South America (60 percent), then Asia (46 percent), and Europe (40 percent).
- ii. Majority of the subjects were Hausa Muslims; senior students from Government secondary schools in Zaria, Kaduna State, Nigeria.
- iii. Up to 64.4 percent of the participants were within the age brackets of 15-18 years
- iv. A large number (93 percent) of them had seen their menarche. Majority of them had their menarche at 15 and 16 years. Only 0.5 percent of them had their menarche at 10 years.
- v. Symptoms of P M S reported by the subjects included: Body weakness (41.1 percent), irritation and aggression (19.2 percent), Sleeplessness (18.5 percent), decreased appetite (10 percent), Body swelling (9.2 percent). The most frequent symptoms complained of by the participants were; Body weakness (41.1 percent), Sleeplessness (18.5 percent) and Irritation and Aggression (19.2 percent).
- vi. The P M S total prevalence rate among the participants was found to be 69.5 percent; 35 .4 percent reported severe symptoms while 34 .1 percent reported very severe cases.
- vii. The subjects identified various coping strategies including; Bed rest/sleeping (29.2percent);
Hot tea /Coffee/ Kolanuts (8.5 percent); Hot drinks / alcoholic beverages (0.8 percent);
Drugs and Herbs (18.5 percent); Prayer (50. 8 percent), Physical / aerobic workout/
exercise (0.8); Breathing exercise (0.8 percent) .
- viii. Content analysis showed that the three most frequently identified/used coping strategies were: Prayer (50.8 percent, (Sleep/rest 29.2 percent) and Drugs/ herbs (18.5 percent).

DISCUSSION

Results from this study indicate that P M S was highly prevalent among female secondary school students in Zaria, Nigeria(69.5 percent).This finding supports previous studies that reported high prevalence rates found in Jos (61 percent, Okeahialam , 2008), and Calabar 61 percent (Antai et al. ,2004), Iran 98.2 percent (Bakhsh, Mousavi,and Khodabandel, 2009). Other factors that might have worked in concert to raise these prevalence rates include; age,



poor nutrition, use of substances like coffee, colanuts, alcoholic beverages, over-the-counter medications, lack of aerobic exercise, poor quality of physical and psychosocial environment in schools; inadequate, ineffective and maladaptive coping strategies etc.

This study also found that the school girls used mostly passive coping strategies to cope with PMS.

Content analysis of coping strategies showed that the most frequently identified coping strategies were prayer (50.8 percent); sleep (29.2 percent); and drugs/herbs (18.5 percent). These strategies were mainly passive coping skills. Such strategies may be inadequate and ineffective because they may have ignored the root causes of the problem. This finding supports other reports previous reports. For example, research (Hollaham and Moos, 1987; Taylor, 1998), consistently indicate that behavioural strategies are superior and more adaptive than passive coping. Literature (Billings and Moos, 1981) also reports gender differences in the use of coping strategies. Women tend to use more passive and emotion-focused coping than men. A meta-analysis revealed that emotional/ passive coping was less effective than problem-focused/ active coping. Poor emotional maturity may yet be another reason for the predominant use of passive coping. Emotional maturity has a direct relationship with coping methods that the individual put to use.

CONCLUSION

Overall the findings of this study indicate that PMS was highly prevalent (69.5 percent) among female secondary school students in Zaria, Kaduna state, Nigeria. The three predominant coping strategies used were passive; prayer, sleep, bed rest etc. It may be spirituality played a major role in the life of the participants no wonder more than 50 percent of them employed prayer as a coping method. PMS affects youth population and therefore constitutes a significant public health issue. Therefore there is need for psychological intervention to enhance coping skills.

Since effective and adequate behavioural coping strategies have been demonstrated to improve symptoms, health outcomes; behavioral and active strategies in combination with proper medication were strongly recommended by the researcher to cope effectively with PMS.

RECOMMENDATIONS

- i. Students should be trained in more active behavioural coping strategies. For example regular aerobic exercise, muscle strengthening and slow breathing exercise are active behavioural coping strategies and have been shown to be effective in reducing stress and psycho-emotional symptoms associated with PMS. These exercises have also been shown to release endorphin in the body which elevates mood, reduces psychological distress and improves PMS – related psychosocial symptoms. This would reduce self-medication, the use and abuse of drugs and substances among premenstrual girls. Training in the use of active behavioural coping did actually result in better bio-psycho-social health outcomes- better quality of life, reduced morbidity and medical costs.
- ii. Health information and communication through books, workshops, seminars and media on PMS control, treatment should be part of school health programs. Very effective and adaptive coping strategies can be reassuring.



- iii. Psychological counseling services should be offered to the students especially those who may need lifestyle/behavior modification, in order to stop self- medication and substance use and abuse among the students.
- iv. School health programs should include coping skills training to enhance the coping skills of students.
- v. Quality of relationships between students and teachers and among students themselves should be improved, for example through open-days, social events etc. In some special cases psychological intervention may be used in combination with medication may prove the best option available.
- vi. Emotional support from friends, colleagues, family and school would improve outcome. This is a form of social support, which has been shown to have positive effects on both body and mind.
- vii. Attention should be paid to factors that facilitate the girl's ability to cope with PMS. Effectively e.g. adequate and balanced nutrition, physical fitness, stress-free environment etc.



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