Prevalence and Impact of Menstrual Abnormalities on Lifestyle, Academic, and Social Activities among Nursing Students in Anambra State, Nigeria

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Abstract

Menstrual abnormalities are common among young women and can impact their quality of life, academic performance, and social activities. This study aimed to assess the prevalence of menstrual abnormalities, and associated risk factors among female university students. A cross-sectional study was conducted among 161 female students. Data on sociodemographic characteristics, menstrual parameters, prevalence of menstrual abnormalities, impact on daily activities, and symptomatic relief practices were collected using stratified simple random sampling technique. Data analysis was performed using SPSS version 26. The majority of respondents were aged 21-25 years (64%), mean age of 22.18, predominantly Igbo (97.5%), and in their third year of study (88.2%). Most respondents (72%) reported a regular 28-day menstrual cycle with an average bleeding duration of 4.01 ± 0.58 days. The prevalence of menstrual abnormalities was high, with 82% of respondents reporting issues such as premenstrual syndrome (90.7%) and dysmenorrhea (41%). These abnormalities significantly affected academic and social activities; 46% of respondents missed 1-2 classes due to menstrual issues, and 42.2% had to cancel social events. Symptomatic relief practices included sleep (47.2%), pain medication (35.4%), and dietary changes (15.5%). Significant associations were found between dysmenorrhea and sleep duration ($p = 0.01$), irregular cycles and alcohol consumption ($p = 0.03$), and the impact of menstrual abnormalities with exercise frequency ($p = 0.01$), caffeine consumption ($p < 0.01$), and alcohol intake ($p = 0.03$). Menstrual abnormalities were prevalent among our respondents and have a significant impact on their daily lives. Lifestyle factors such as excessive caffeine and alcohol consumption as well as frequency of exercise are associated with the severity of these abnormalities ($p < 0.05$). These findings highlight the need for improved menstrual health education and support services for young women to manage these conditions effectively.

Keywords: Menstrual Abnormalities, Nursing Student, Menstrual Health, Academic Performance, Lifestyle Factors, Nigeria.

Introduction

Menstruation is a natural and essential aspect of female reproductive health, yet it remains a significant challenge for many female students in Nigerian universities. Despite the biological importance of menstruation, societal stigma, lack of access to sanitary products, and inadequate facilities can hinder young women's academic performance, confidence, and overall well-being.

Menstruation is the process in which a woman discharges blood and other material from the lining of the uterus at intervals of about one lunar month from puberty until the menopause, except during pregnancy. Menstruation is a universal biological phenomenon for any female through which a woman spends a fifth portion of her reproductive life. While some women go through their monthly periods without fears or minor discomfort, others experience huge physical and emotional symptoms, before and during menstruation, and the Fédération Internationale de Gynécologie et d'Obstétrique (FIGO) termed this disturbance as the Menstrual Disorder (Hennegan et. al., 2021; Maybin et.al.,2013). Menstrual abnormalities and their association with lifestyle patterns have garnered increasing attention due to their potential impact on both academic performance and overall well-being. All over the world around 75% of girls are experiencing problems associated with menstruation (Odongo et.al.2023; Samani et.al.,2018; Zafar et. al., 2017). Studies showed that nowadays menstrual disorders are common mostly among adolescents and become less frequent after 3–5 years of menarche (Seidman et.al., 2018; De Sanctis et.al., 2019). These disorders may lead to problems in daily activities such as academic excellence, achievements in sports, and loss of self-confidence (Odongo et.al.2023; Elnagar et.al.,2017; Sivadasan et.al.,2014). Management of menstrual irregularities often vary based on the type of irregularity, such as anovulatory bleeding (absent periods, infrequent periods, and irregular periods), ovulatory bleeding (heavy or prolonged menstrual bleeding), structural or dysmenorrhea (painful periods). Specific management depends on the type of irregularity and includes but not limited to Oral contraceptives, cyclic progestin, counselling and nutritional therapy, insertion of hormone-releasing intrauterine device, non-steroidal anti-inflammatory medications, surgical removal of polyps or uterine fibroids, hysterectomy, applying heating pad to the abdomen (Bahamondes et.al., 2015; Borzutzky et al., 2020; Davies et. al., 2017) .

Several studies have shown that youths with dysmenorrhea reported that it affects their academic performance and social and sports activities, a distressing finding given the availability of effective medications (Zafar et. al., 2017; Oni & Tshitangano , 2015; Iliyasu et. al., 2012). One of the studies reported a high likelihood that stressful menstrual conditions may lead to young women seeking medical attention. Women with menstrual irregularities and discomfort were about 5 times more likely to seek medical attention compared to women with normal menstruation and this observation was statistically significant. The study concluded that university students suffered menstrual disorders and discomfort with

impact on their health status, productivity at homes, and school as well as social functions, and interactions with others in their environment.

Menstrual abnormalities pose significant challenges to the well-being and academic performance of nursing students, yet there remains a notable gap in research addressing this issue in Anambra State. This study aims to bridge this gap by investigating the prevalence of menstrual irregularities and their effects on lifestyle patterns among nursing students in this region.

This study provides valuable insights into the factors influencing menstrual health among nursing students and the implications for their academic and professional lives. Understanding the relationship between menstrual abnormalities and lifestyle patterns is crucial for devising effective interventions and support mechanisms tailored to this specific population.

Methodology

Study Area

This study was carried out in St Joseph Hospital, Adazi-Nnukwu, Anambra State. St. Joseph's Hospital, Adazi-Nnukwu was founded in 1938 by the Catholic Archdiocese of Onitsha. In February, 1963, the School was re-inspected by Nursing and Midwifery board and upgraded the school to Grade I Midwifery training school. The school ran both Basic and Post Basic Midwifery programmes until 2003 when it opted solely for Basic Midwifery Programme. The school is now known as College of Nursing Sciences, St Joseph's Hospital, Adazi-Nnukwu, Anaocha Local Government Area, Anambra State, Nigeria.

Study Design

A descriptive cross-sectional study was employed in the research.

Study Population

Inclusion criteria

All nursing students in the school.

Exclusion criteria

This research excluded nursing students who were not willing to participate in the study, those who were ill and not physically and mentally fit for the study, and students from other institutions who were doing their outside posting in the institution.

Sample Size Determination

The sample size was 161 students calculated using the Taro Yamane method for sample size determination as the total population of nurses in the institution was less than 10,000. Taro Yamane method is given by the formula: n = N / [1 + N (e)2] Where n is the sample size, N is the population size, and e is the level of precision.

Sampling Technique

Stratified simple random sampling technique was used to enrol respondents into the study.

Stage 1: Stratification of the study population - The study population was stratified based on their level of study (100, 200 and 300 levels) into 3 groups

Stage 2: Allocation of sample size to the strata - Proportionate allocation was used to determine the number of respondents needed from each group.

Stage 3: Selection of respondents: Simple random sampling technique by balloting was used to enrol respondents in the various levels into the study until the sample size is attained.

Study Instrument

The research instrument comprised of a pretested, interviewer-administered, semi-structured questionnaire adapted from Igbokwe and Akinola; and Zaka and Mahmood studies (Igbokwe & Akinola. 2023; Zaka & Mahmood. 2012). The questionnaire was reviewed by professionals for reliability and face validity. The questionnaire was pretested in a different institution (School of Nursing, Nnamdi Azikiwe University Teaching hospital) using 10% of the sample size. The study instrument were administered to students who met the inclusion criteria. The questionnaire consists of five sections (A, B, C, D & E).

Section A consisted of questions on the socio-demographic characteristics of the respondents. Section B assessed the knowledge/prevalence of menstrual abnormalities. Section C assesses effects of menstrual abnormalities on lifestyle patterns. Section D assessed the coping mechanism adopted for menstrual abnormalities and section E assessed the common factors that influence the occurrence of menstrual abnormalities and their effect on life-style patterns.

Data Collection Methods and Analysis

Data obtained was cleaned, and sorted, coded, entered, verified and analysed using IBM Statistical Package for Social Sciences (SPSS) version 26.[16] Frequency distribution of all relevant variables was developed. Relevant means and proportions were calculated. The analysed data was presented using tables and charts. Chi-square test was used as appropriate to determine the associations between the dependent and independent variables. The level of statistical significance was set at 5% ($p < 0.05$).

Ethical Considerations

Ethical approval for this study was obtained from Nnamdi Azikiwe University Teaching Hospital Ethics Committee (NAUTHEC), Nnewi. The ethical approval reference number is NAUTH/CS/66/VOL.17/VER.3/162/2024/140. Permission was obtained from head of the nursing department. Students were well oriented on the objectives of the study. Verbal informed consent was obtained freely and without cohesion from all the respondents and only those who consented were included in the study. Confidentiality was ensured by omitting participants' names or any means of identification.

Results

Table 1: Sociodemographic characteristics of respondents

Variable		Frequency	Percent
Age	<=20	42	26.1
	21-25	103	64
	=> 26	16	9.9
	Mean	22.18	
	Range	17-35	
Marital status	Single	155	96.3
	Married	6	3.7
Level	100	42	26.1
	200	50	31.1
	300	69	42.8
Tribe	Igbo	157	97.5
	Hausa	4	2.5

Majority of respondents were aged between 21-25 years (64%), followed by those aged 20 years or younger (26.1%). Only a small proportion were 26 years or older (9.9%). The average age of respondents was 22.18 ±2.81, and ages ranged from 17 to 35 years. The majority of respondents were Igbo (97.5), and were in their third year (300 level) of study (42.8%). The vast majority of respondents were single (96.3%), with only 3.7% being married (see table 1).

Table 2: Menstrual parameters of respondents

		Frequency	Percent
Menstrual cycle duration (days)	<28	13	8.1
	28	116	72
	>28	32	19.9
	Mean duration	28.01	
	Range	21-33	
Duration of bleeding (days)	<=4	140	87
	>5	21	13
	Mean duration	4.01	
	Range	3-7	
Age at first menstruation (years)	<=14	119	73.9
	>14	42	26.1
	Mean age	13.39	
	Range	9-19	
Heard of menstrual abnormalities	Yes	155	96.3
	No	6	3.7
Menstrual abnormality	Any deviation from a normal	150	96.8
	The occurrence of menstrual periods	1	0.6
	The presence of menstrual periods	4	2.6

Menstrual cycle characteristics showed that 72% of respondents had a regular 28-day cycle, with only 8.1% having a cycle shorter than 28 days and 19.9% having a longer cycle. The mean cycle duration was 28.01 ± 1.55 days, with cycles ranging from 21 to 33 days. The duration of menstrual bleeding was typically 4 days or less for 87% of respondents, with an average bleeding duration of 4.01 ± 0.58 days. The age at first menstruation was 14 years or younger for 73.9% of respondents, with an average onset age of 13.39 ± 1.67 years, ranging from 9 to 19 years. A significant majority (96.3%) had heard of menstrual abnormalities, and 96.8% correctly identified menstrual abnormality as any deviation from a normal cycle (see table 2).

Table 3: Prevalence of menstrual abnormalities and it's symptoms

Variable		Frequency	Percent
Experience Menstrual abnormalities	Yes	132	82.0
	No	29	18.0
Days of occurrence before period (days)	<= 4	105	79.5
	>4	27	20.5
	Mean ±STD	3.12 ±2.22	
	Range	1	14
Menstrual abnormalities experienced	Premenstrual syndrome	146	90.7
	Dysmenorrhea	66	41.0
	Menorrhagia	2	1.2
	Irregular menstrual cycles	31	19.3
Premenstrual symptoms	Cramps	126	78.3
	Mood swings	72	44.7
	Fatigue	66	41.0
	Bloating	29	18.0
	Headache	47	29.2
	Breast tenderness	74	46.0
	Insomnia	16	9.9
	Acne	38	23.6
	Appetite changes	73	45.3
	GIT problems	16	9.9
	Irritability	28	17.4
	Depression	21	13.0

The prevalence of menstrual abnormalities was high, with 82% of respondents reporting such issues. Among these, premenstrual syndrome was the most commonly reported abnormality (90.7%), followed by dysmenorrhea (41%), irregular menstrual cycles (19.3%), and menorrhagia (1.2%). Premenstrual symptoms were varied, with the most common being cramps (78.3%), mood swings (44.7%), breast tenderness (46%), and fatigue (41%). Other symptoms included appetite changes (45.3%), acne (23.6%), bloating (18%), headache (29.2%), and depression (13%) (see Table 3).

Table 4: Impact of menstrual abnormalities among respondents

		Frequency	Percent
Classes or rotations missed	None	68	42.2
	1-2 classes	74	46
	3-4 classes	15	9.3
	More than 5 classes	4	2.5
Effect on ability to concentrate on school	Not at all	32	19.9
	A little	73	45.3
	Moderately	34	21.1
	Quite a bit	17	10.6
	Extremely	5	3.1
Effect of menstrual abnormality on motivation	Not at all	40	24.8
	A little	75	46.6
	Moderately	32	19.9
	Quite a bit	9	5.6
	Extremely	5	3.1
Social plan or event cancelled	None	75	46.6
	1-2 events	68	42.2
	3-5 events	9	5.6
	More than 5 events	9	5.6
Effect of abnormality on whole mood and enjoyment	Not at all	34	21.1
	A little	57	35.4
	Moderately	30	18.6
	Quite a bit	23	14.3
	Extremely	17	10.6

Menstrual abnormalities had a notable impact on academic and social life. 46% of respondents missed 1-2 classes due to menstrual issues, while 42.2% did not miss any classes. Only a small fraction missed more than 5 classes (2.5%). These abnormalities also affected concentration, with 45.3% reporting a slight impact, while 21.1% reported moderate, and 3.1% reported an extreme impact on their ability to concentrate. The motivation was also affected, with 46.6% experiencing a slight decrease, and 24.8% not affected at all. Social life was impacted, with 46.6% not cancelling any events, but 42.2% had to cancel 1-2 events. Menstrual abnormalities also influenced mood and enjoyment, with 35.4% experiencing a slight impact and 14.3% reporting a moderate impact.
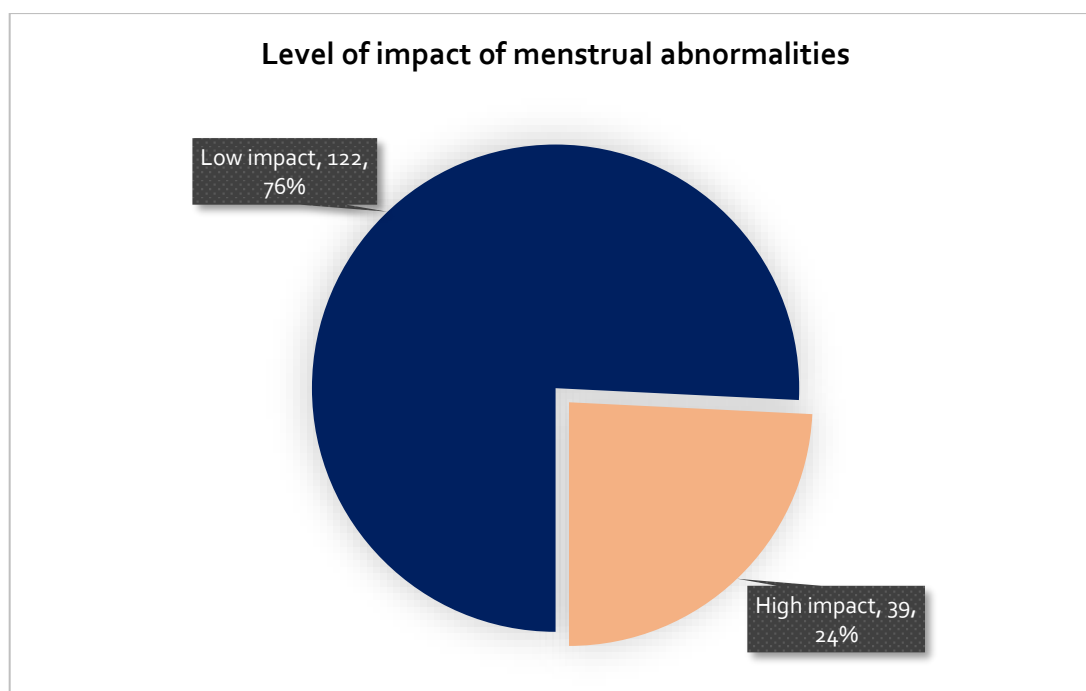
Figure 1: Showing the level of impact of menstrual abnormalities on the respondents

Respondents reported varying effect of menstrual abnormalities on their social lives. About 122(76%) reported low impact and 39(24%) reported high impact.

Table 5: Symptomatic relief practices by the respondents

		Frequency	Percentage
Relief practices	Nothing	29	18.0
	Pain medication	57	35.4
	Exercise	21	13.0
	Relaxation techniques	23	14.3
	Dietary changes	25	15.5
	Sleep	76	47.2
Effective of these coping strategies	Not effective at all	19	11.8
	Somewhat effective	32	19.9
	Moderately effective	51	31.7
	Very effective	41	25.5
	Extremely effective	18	11.2

Respondents employed various methods to manage menstrual symptoms. The most common practices were sleep (47.2%) and the use of pain medication (35.4%). Other strategies included dietary changes (15.5%), exercise (13%), relaxation techniques (14.3%), and doing nothing (18%). The effectiveness of these strategies varied, with 31.7% finding them moderately effective and 25.5% finding them very effective. Only a small percentage

(11.2%) found them extremely effective, while 11.8% found them not effective at all (table 5).

Table 6: Practices that may impact prevalence and severity of menstrual abnormality

		Frequency	Percent
Frequency of exercise per week	Never	56	34.8
	Less than once a week	36	22.4
	1-2 times a week	52	32.3
	3-4 times a week	8	5
	5 or more times a week	9	5.6
Hours of sleep per night	6-7 hours	31	19.3
	8-9 hours	120	74.5
	More than 9 hours	10	6.2
Caffeinated beverages consumed per day	None	93	57.8
	1-2 drinks	61	37.9
	3-4 drinks	6	3.7
	5 or more drinks	1	0.6
Consumption of alcohol per week	Never	136	84.5
	Less than once a week	16	9.9
	1-2 times/week	9	5.6

Lifestyle practices that may influence the prevalence and severity of menstrual abnormalities were examined. A significant portion of respondents (34.8%) reported never exercising, while 32.3% exercised 1-2 times per week. Most respondents (74.5%) reported getting 8-9 hours of sleep per night, with only 19.3% getting 6-7 hours. Caffeine consumption was low, with 57.8% not consuming any caffeinated beverages, and 84.5% reported never consuming alcohol, with only 5.6% consuming alcohol 1-2 times per week.

Table 7: Association between premenstrual syndrome and risk factors

		Premenstrual syndrome			
		Yes	No	χ2	p
Frequency of exercise per week	Never	49(33.6)	7(46.7)	5.25	0.26
	Less than once a week	32(21.9)	4(26.7)		
	1-2 times a week	50(34.2)	2(13.3)		
	3-4 times a week	8(5.5)	0(0)		
	5 or more times a week	7(4.8)	2(13.3)		
Hours of sleep per night	6-7 hours	30(20.5)	1(6.7)	1.69	0.43
	8-9 hours	107(73.3)	13(86.7)		
	More than 9 hours	9(6.2)	1(6.7)		
Caffeinated beverages consumed per day	None	85(58.2)	8(53.3)	1.11	0.77
	1-2 drinks	54(37)	7(46.7)		
	3-4 drinks	6(4.1)	0(0)		
	5 or more drinks	1(0.7)	0(0)		
Consumption of alcohol per week	Never	126(86.3)	10(66.7)	4.08	0.13
	Less than once a week	13(8.9)	3(20)		
	1-2 times/week	7(4.8)	2(13.3)		

χ2 = Chi-square

The analysis found no significant associations between premenstrual syndrome and the frequency of exercise, hours of sleep, caffeine consumption, or alcohol intake. The p-values indicated that these factors did not have a statistically significant impact on the occurrence of premenstrual syndrome among the respondents.

Table 8: Association between dysmenorrhea and risk factors

		Dysmenorrhea			
		Yes	No	χ2	p
Frequency of exercise per week	Never	21(28.8)	35(39.8)	4.06	0.40
	Less than once a week	21(28.8)	15(17)		
	1-2 times a week	24(32.9)	28(31.8)		
	3-4 times a week	3(4.1)	5(5.7)		
	5 or more times a week	4(5.5)	5(5.7)		
Hours of sleep per night	6-7 hours	21(28.8)	10(11.4)	9.52	0.01
	8-9 hours	50(68.5)	70(79.5)		
	More than 9 hours	2(2.7)	8(9.1)		
Caffeinated beverages consumed per day	None	35(47.9)	58(65.9)	6.82	0.08
	1-2 drinks	34(46.6)	27(30.7)		
	3-4 drinks	4(5.5)	2(2.3)		
	5 or more drinks	0(0)	1(1.1)		
Consumption of alcohol per week	Never	63(86.3)	73(83)	0.45	0.80
	Less than once a week	6(8.2)	10(11.4)		
	1-2 times/week	4(5.5)	5(5.7)		

χ2 = Chi-square

A significant association was found between dysmenorrhea and sleep duration (p = 0.01), suggesting that respondents who got fewer hours of sleep were more likely to experience dysmenorrhea. However, no significant associations were found between dysmenorrhea and exercise frequency, caffeine consumption, or alcohol intake.

Table 9: Association between menorrhagia and risk factors

		Menorrhagia			
		Yes	No	χ2	p
Frequency of exercise per week	Never	1(50)	55(34.6)	1.00	0.91
	Less than once a week	0(0)	36(22.6)		
	1-2 times a week	1(50)	51(32.1)		
	3-4 times a week	0(0)	8(5)		
	5 or more times a week	0(0)	9(5.7)		
Hours of sleep per night	6-7 hours	0(0)	31(19.5)	0.69	0.71
	8-9 hours	2(100)	118(74.2)		
	More than 9 hours	0(0)	10(6.3)		
Caffeinated beverages consumed per day	None	2(100)	91(57.2)	1.48	0.69
	1-2 drinks	0(0)	61(38.4)		
	3-4 drinks	0(0)	6(3.8)		
	5 or more drinks	0(0)	1(0.6)		
Consumption of alcohol per week	Never	2(100)	134(84.3)	0.37	0.83
	Less than once a week	0(0)	16(10.1)		
	1-2 times/week	0(0)	9(5.7)		

χ2 = Chi-square

The analysis did not find significant associations between menorrhagia and the examined risk factors, including exercise frequency, sleep duration, caffeine consumption, or alcohol intake. The p-values suggest that these factors were not significantly related to the occurrence of menorrhagia among the respondents

Table 10: Association between level of impact of menstrual abnormalities and risk factors

		Level of impact			
		Low impact	High impact	χ2	p
Frequency of exercise per week	Never	46(37.7)	10(25.6)	13.68	0.01
	Less than once a week	21(17.2)	15(38.5)		
	1-2 times a week	42(34.4)	10(25.6)		
	3-4 times a week	4(3.3)	4(10.3)		
	5 or more times a week	9(7.4)	0(0)		
Hours of sleep per night	6-7 hours	22(18)	9(23.1)	3.63	0.16
	8-9 hours	90(73.8)	30(76.9)		
	More than 9 hours	10(8.2)	0(0)		
Caffeinated beverages consumed per day	None	79(64.8)	14(35.9)	15.83	<0.01
	1-2 drinks	36(29.5)	25(64.1)		
	3-4 drinks	6(4.9)	0(0)		
	5 or more drinks	1(0.8)	0(0)		
Consumption of alcohol per week	Never	108(88.5)	28(71.8)	7.18	0.03
	Less than once a week	8(6.6)	8(20.5)		
	1-2 times/week	6(4.9)	3(7.7)		

χ2 = Chi-square

The analysis revealed significant associations between the level of impact of menstrual abnormalities and several risk factors. Exercise frequency was significantly associated with the level of impact (p = 0.01), with those exercising less frequently experiencing a higher impact. Caffeine consumption also showed a significant association (p < 0.01), with higher consumption correlating with greater impact. Alcohol intake was another significant factor (p = 0.03), with those consuming alcohol more frequently reporting a higher impact of menstrual abnormalities.

A significant association was found between dysmenorrhea and sleep duration (p = 0.01), suggesting that respondents who got fewer hours of sleep were more likely to experience dysmenorrhea. A significant association was found between irregular menstrual cycles and alcohol consumption (p = 0.03), indicating that alcohol intake may influence the regularity of menstrual cycles.

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(p = 0.03), with those consuming alcohol more frequently reporting a higher impact of menstrual abnormalities.

Discussion

Menstrual abnormalities constitute a major source of concern for women of reproductive age. Despite how common it is, the condition remains poorly understood (Ezebialu et. al.2021; Arafa et. al.,2018). The precise cause of PMS is unknown, but research has indicated that changing hormone levels such as those of oestrogen, progesterone, testosterone, prolactin, and serotonin synthesis in the brain also appear to play a major part in PMS (Kwan & Onwude, 2015). Additionally, the conservative treatments are mostly symptomatic and varied. The majority of respondents were aged between 21-25 years, which according to a large study by Tatsumi et al. is a period when the cycle length and other menstrual parameters are outside the influence of menarche and menopause and thus normalized ((Amu & Bamidele, 2014). This age range and the majority of respondents being at 300L establishes a cohort that are likely mature and with good understanding of menstrual health. In keeping, majority of our respondents had a cycle length that is about the global normal cycle length of 28 days, and The bleeding length was also about the normal duration of 4 days(Kwan & Onwude, 2015). The high awareness of menstrual abnormalities and the correct understanding of these as deviations from normal cycles suggest that there is a good level of menstrual health literacy among the respondents, which is critical for managing menstrual health effectively. This high awareness is similar to other studies (Amu & Bamidele, 2014; Bhatiyani & Dhumale ,2017).This is in contrast to the findings from a systematic review by Harlow et al. where the level of awareness of menstrual abnormality was low (Zafar et.al., 2017). This difference in our findings may have been due to difference in our study population. This current research was performed among tertiary institution students who are study health related course. Therefore, they're more likely to be knowledgeable on menstrual abnormalities.

The prevalence of menstrual abnormalities in this cohort was high, but is in keeping with reports from other works where prevalence of menstrual abnormalities was as high as 90% (Abbasi et.al.2022; Bhatiyani & Dhumale ,2017; Rafique & Al-Sheikh,2018). In contrast, lower prevalence was reported by Rajiwade et al.,2018. Premenstrual syndrome (PMS) was the most common, affecting over 90% of our respondents. This is consistent with the literature, which indicates that PMS is prevalent among young women (Dutta & Sharma, 2021; Olowokere et.al. 2014). The most common symptoms in this research were also consistent with those observed in previous research including cramps, mood swings, and breast tenderness (Kocabey et. al., 2024;Kwan & Onwude,2015). Menstrual abnormalities had a considerable impact on both academic performance and social life. Almost half of the respondents missed 1-2 classes due to menstrual issues, highlighting the disruptive nature of these conditions. The impact on concentration was also significant, with 45.3% reporting that their ability to focus was slightly affected, and 21.1% reporting moderate impact. These findings are concerning as they suggest that menstrual health issues could be a

hidden barrier to academic success for many female students. The variety of symptomatic relief practices reported by respondents reflects the multifaceted nature of managing menstrual symptoms. Sleep was the most commonly employed strategy, followed by the use of pain medication. Sleep was also a major reported by (Romans et al., 2015). Other workers had also reported that non-medical remedies were the most commonly employed coping mechanisms (Olowokere et.al. 2014; Rajiwade et al.,2018). A significant number also relied on over the counter pain medications. This reliance on over-the-counter pain relief is typical but underscores the need for better education on non-pharmacological interventions.

A significant proportion of respondents reported never exercising, which is concerning given the well-documented benefits of physical activity in managing menstrual symptoms (Sanchez et.al., 2023). However, the impact of caffeine and alcohol on menstrual health is less clear (Sanchez et.al., 2023) . This study found several significant associations between menstrual abnormalities and lifestyle factors, which could inform future interventions. For instance, dysmenorrhea was significantly associated with sleep duration, indicating that inadequate sleep may exacerbate menstrual pain. This finding aligns with other studies that have highlighted the importance of sleep for managing menstrual health (Jeon et. al. 2023; Jeong et.al. 2023; Meers & Nowakowski, 2020). This is consistent with existing research and meta-analyses that links alcohol consumption to hormonal imbalances and menstrual irregularities Fernández et.al. 2018).

The association between the level of impact of menstrual abnormalities and lifestyle factors such as exercise, caffeine, and alcohol consumption provide further evidence of the importance of healthy lifestyle practices in managing menstrual health

Conclusion

This study underscores the substantial prevalence and multifaceted impact of menstrual abnormalities among young women, particularly within a cohort of tertiary institution students pursuing health-related disciplines. The high level of awareness regarding menstrual abnormalities observed in this study reflects a commendable degree of menstrual health literacy; however, there remains a discernible gap between awareness and in-depth knowledge, as well as between knowledge and effective management practices. The findings reveal that menstrual abnormalities extend beyond physiological discomfort, exerting significant negative effects on academic performance, psychological well-being, and social engagement. The reliance on symptomatic relief strategies, predominantly involving sleep and over-the-counter medications, highlights the need for enhanced educational efforts aimed at promoting evidence-based, non-pharmacological interventions. Educational programs should be implemented within tertiary institutions to bridge the gap between awareness and in-depth knowledge of menstrual abnormalities. Institutions and healthcare providers should advocate for lifestyle modifications that have been shown to alleviate menstrual symptoms; and also increase awareness of alternative

non-pharmacological interventions, such as yoga, meditation, and dietary adjustments, which can offer relief from menstrual symptoms.

Limitations

Limitations encountered were the initial unwillingness of the students to participate in the study due to time factor following the heavy academic load, improper filling of questionnaires and insincerity in filling the questionnaire which were addressed by explaining the importance of the study to them and assuring the participants of confidentiality of the information given.

Future Directions

It is recommended that a more comprehensive research work should be carried out among tertiary students in all geopolitical zones in Nigeria. It should not be limited to only nursing students but involve female students in all field

Conflict of Interest: There is no conflict of interest among the authors

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