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Premenstrual Dysphoric Disorder Among Female Students at Assosa Techinical Premenstrual & Vocational Education Training School,Assosa, Ethiopia

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Abstract

Background: Premenstrual dysphoric disorder (PMDD) is the most prevalent, but largely neglected psychiatric disorder. Somatic symptoms in women with premenstrual dysphoric disorder are severe enough to markedly affect usual daily activities. The factors such as age, educational status, income, and residence are the most frequently associated with it. There are few studies conducted on prevalence of PMDD and its associated factors in Ethiopia.

Objective: To assess the prevalence and associated factors of premenstrual dysphoric disorder among Asossa Technical and vocational education Training School students at Asossa from May 12 up to June 12, 2015.

Methods: Institutional based cross–sectional study was conducted. Data was collected by self-administered questionnaire on sociodemographic, obstetrical and gynecological, substance and PMDD symptoms using structured questionnaire and Screening tool which is used to get total number of 520 samples among students from TVET School by using simple Random sampling technique. Data was examined using descriptive statistics and logistic regression, odds ratios (OR) and 95% confidence intervals (95% CI).

Results: The mean age of the respondents was 20.5 (± 2.6). The magnitude of premenstrual dysphoric disorder was 26.8%. When we adjusted for the effect of potential confounding variables, those having irregular menstrual cycle (AOR=1.36,95% CI,(1.82,2.25)), menstrual pain (AOR=1.41,95% CI (1.09,1.83)) and those did not use family planning methods (AOR=1.92,95% CI, (1.08,3.42)) were more likely to have premenstrual dysphoric disorder as compared to their counter parts.

Conclusion: The magnitude of premenstrual dysphoric disorder was high (26.8%). Menstrual pain, menstrual irregularity and not using family planning methods had significant association. It needs early screening and intervention at primary health care settings.

Keywords: Magnitude; Premenstrual dysphoric disorder; Premenstrual syndrome

Introduction

Premenstrual dysphoric disorder (PMDD) is a severe form of premenstrual syndrome (PMS) with key features includes depressed mood, anxiety, affective liability and persistent irritability. Its somatic symptoms include change in appetite or sleep, edema, weight gain, breast pain, syncope, paresthesias and symptoms are severe enough to markedly affect usual daily activities and more than 80% of women of reproductive age may experience some emotional and/or physical premenstrual symptoms [1-3].

Studies showed that up to 70-90% of women of reproductive age have one or more signs of physical discomfort or emotional symptoms in the premenstrual, i.e., luteal phase of their menstrual cycle [4]. Lifetime incidence of psychiatric conditions in women diagnosed with PMDD is 50% to 75% [5]. About 57% women with PMDD have risk of developing major depressive disorder (MDD) [6]. Most women with current and past MDD have premenstrual changes, including an increasing in the severity of the illness [7].

Women with age of 20-30 are at high risk of developing PMDD [7]. Alcohol use and cigarette smoking leading to an worsen premenstrual symptoms by inducing imbalance in B vitamins, electrolytes [8,9]. About 20-40% of menstruating women have premenstrual dysphoric disorder and experience luteal phase symptoms that are bothersome [10]. Approximately six million reproductive-age American women suffer from Premenstrual Dysphoric Disorder (PMDD) with its symptoms are severe enough to impair a woman's functioning, warranting a psychiatric diagnosis [11].

Expert review of country-specific data suggests that the prevalence of PMDD, North American or European countries is lower than lower income countries like Latin American, Africans [12], PMDD and moderate/severe PMS are associated with significant Impairment as measured by a number of scales [13].

Approximately 3–8% of women experience PMDD, which has been estimated as resulting in 14.5 million disability adjusted life years annually in the United States [1,14,15].

About 3% to 8% in developed 16% to 36.1% in developing, sub Saharan countries of menstruating women have symptoms that are severe enough to meet the specific diagnostic criteria for PMDD [16,17].

Prevalence of PMDD in among Ethiopia Students 27% [18]. Effects of PMDD is decreasing interest in the usual activities i.e. education, Ethiopia and Egyptian Students is (28.9%) and 56.2 respectively [18,19].

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Premenstrual dysphoric disorder is managed by antidepressants, anti-inflammatory drugs, birth control pills, and other hormonal therapies. There are a number of non-drug approaches that can help to ease symptoms. These include: exercise, cognitive behavioral therapy, nutrition, acupuncture, and. Supplements/Herbs [20,21]. The objective of this study was to assesses the magnitude and describing associated factors of premenstrual dysphoric disorder and to help policy makers for decision on the opportunities of integration of mental health services.

Methods

Study setting and population

The study was institution based cross sectional design, conducted from April to May 2015 in Assosa technical and vocational college, Ethiopia. All females (age ≥ 18) and those who were given their written consent to participate in the study were included in the sample. Females who were critically ill during the study were excluded from the study. Study participants were included using systematic random sampling technique.

Data collection

Data were collected by clinical nurses using pretested self-administered questionnaire. The data collection instrument had different components. The first part includes socio-demographic characteristics (age, education, occupation, marital status and others). An outcome variable was assessed by "WHO PSST tools" which were translated from English in to Amharic by experts.

Data processing and analyses

Data were analyzed using SPSS version 20. Bivariate analysis was done to see the association of each independent variable with the outcome variable. Potential confounders (important) variables were entered into binary logistic regression model to identify the effect of each independent variable with the outcome variables. A p-value of less than 0.05 was considered statistically significant, and adjusted odds ratio with 95% CI was calculated to determine association.

Ethical consideration

Ethical clearance was obtained from the Research and Ethics Review Committee of the Institute of Public Health (University of Gondar) and Amanuel Mental Specialized Hospital. Official letter was submitted to Regional health bureau. Written informed consent was obtained from each study participant and they were informed about their rights to interrupt the interview at any time. Confidentiality was maintained at all levels of the study.

Results

Socio-economic and demographic characteristics

A total of 519 participants were recruited for the study which makes the response rate 99.8%. The mean (± SD) age of the respondents was 20.5 (± 2.6) years. Among the respondents, 154 (29.7%) were Amhara ethinic background, 239 (46.1%) were orthodox religion followers 478 (92.1%) were single (unmarried) and 393 (37.2%) were first year students (Table 1).

Obstetrics and gynecological factors

All students had experience of menstruating at mean age of 13.66 (± 1.5) years (10-23). The majority 326 (72.8%) had regular menstrual cycle while 193 (37.2%) had irregular menstrual cycles. About 304 (58.6%) were suffered from menstrual pain as well as 188 (36.2%) have used family planning methods during the last six months (Table 2).

Sociodemographic variables	Variables	Frequency	Percent (%)
Age category in years	17-19	162	31.2
	20-22	135	26
	23-25	169	32.6
	26 and above	53	10.2
Ethnicity	Amhara	154	29.7
	Oromo	117	22.6
	Berta	72	13.9
	Gumze	67	12.9
	Shinasha	89	17.1
	Others	20	3.8
Religion	Orthodox	239	46.1
	Muslim	154	29.7
	Protestant	78	15
	Catholic	37	7.1
	Others	11	2.1
Marital status	Single	478	92.1
	Married	38	7.3
	Divorced	2	0.4
	Widowed	1	0.2
Year of class	First year	193	37.2
	Second year	118	22.7
	Third year	111	21.4
	Fourth year	97	18.7

Table 1: Distribution of socio-demographic variables among study participants at Asossa TVET College, Asossa, Ethiopia 2015.

Magnitude of premenstrual dysphoric disorder

The magnitude of premenstrual dysphoric disorder among female college students was 26.8% (Figure 1).

Factors associated with premenstrual dysphoric disorder

Binary logistic regression analysis revealed that age (20-22 years), having menstrual irregularities, menstrual pain and family planning methods were statistically significant association with PMDD (Table 3).

Discussion

Magnitude of premenstrual dysphoric disorder

Institutional based cross-sectional study was conducted to assess the magnitude and associated factors of PMDD at Assosa technical and vocational college. In the present study the prevalence of PMDD among students in year of 2015 was 26.8% which was similar with the study conducted in Ethiopia, Jimma [18]. But it is higher than other studies conducted in Saudi Arabia 22.4% [22], Iran 16.9% [23], Germany 5.8% [24] and Pakistan 5.8% [25]. However, the finding of the present study was lower than from other studies such as Iran 59% [26], Japanese 43% [27] Nigeria 36.1% [28,29]. Perhaps this discrepancy may be due to the difference of screening tool, sample size, population difference and socio-economic variations.

Regarding age, females whose age is between 20 and 22 were 2.93 times more likely to developed PMDD (AOR=2.93, 95% CI (1.13, 7.61)) as compared to those age groups of 26 and above years. This was consistent with findings from study Jimma, Ethiopia [19].

Assosa TVTE College, Assosa, Ethiopia 2015 Variables	Variables	Frequency (n)	Percent (%)
Menarche Age category in years	Less than13 years	129	24.9
	13-15 years	377	72.6
	16 years and above	13	2.5
Menstrual regularity	Regular	326	62.8
	Irregular	193	37.2
Menstrual pain	Yes	306	59
	No	213	41
Menstrual flow in days	Less than 8 days	436	84
	8 days and above	83	16
Gravida	No	462	89
	1and above	57	11
Para	No	462	89
	1and above	57	11
Family planning method use	Yes	159	30.7
	No	360	69.3

Table 2: Distribution of obstetrics and Gynecological variable among study participants.

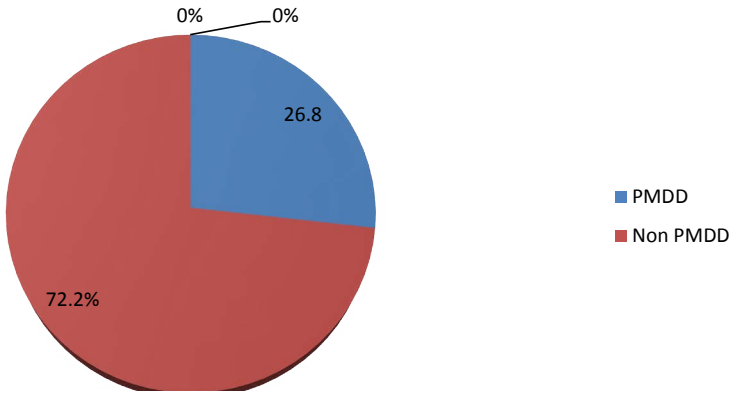

Figure 1: Magnitude of PMDD among Asossa Technical and vocational college female students, 2015.

Variables	PMDD		COR (95%)	AOR (95%)
	Yes	No		
Age category in years				
17-19	37	125	1.66(0.72, 3.84) 2.2(1.22, 6.46)*2.07(1.57, 2.73)*	1.53(0.59, 3.98)
20-22	45	90	1	2.93(1.13,7.61)**
23-25	49	120		1.33(0.52, 3.42)
26&above	8	45		1
Menstrual Regularity				
Regular	33	293	1	1
Irregular	106	87	10.8(6.84, 17.10)*	1.36(1.82, 2.25)**
Menstrual pain				
Yes	86	135	0.84(0.72, 0.92)**	1.41(1.09, 3.83)**
No	220	245	1	1 .00
Family planning Methods use				
Yes	53	23	1	1.00 1.9(1.087, 3.42)**
No	160	357	2.261(1.42, 3.59)*	
Hormonal Family planning use				
Yes	28	47	1	1
No	111	92	0.126(0.073, 0.218)*	2.79(1.33, 5.88)**

Table 3: Factors associated with PMDD among female students at Asossa TVET College, Asossa, Ethiopia, 2016.

The result of current study also showed that the PMDD is significantly associated with menstrual irregularity (AOR=1.36, 95% CI, (1.82,2.25)) which explained study subjects those see their monthly menses irregularly were 1.36 times likely to develop PMDD as compared to those see their menses regularly. This finding is congruent with the study of Saudi Arabia [23].

According to the study females those not taking family planning methods for the last six months were 1.92 times more likely develop PMDD (AOR=1.929, 95% CI (1.0873,3.421)). This is in contrast with study of Jimma, it might be due to variation of tool, sample size and population difference [19].

Study subjects those suffered from monthly menstrual pain were 1.4 times more likely to develop PMDD as compared with those not suffered menstrual pain (AOR=1.41,CI 95% (1.09, 3.83)) which was similar with study of Nigeria [28,29].

Conclusion

Magnitude of premenstrual dysphoric disorder was high (26.8%). In this study PMDD was significantly associated with age, menstrual pain, menstrual irregularity, and not using family planning. This needs early screening and intervention in at primary health care settings.

Limitation of the Study

The PSST tool that used in this study was not validated in Ethiopia.

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Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

DJ conceived the study and was involved in the study design, reviewed the article, analysis and report writing. BD and GM were involved in the study design, analysis and report writing. All authors read and approved the final manuscript.

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