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Qualitative Article

Factors Associated with Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City in 2023

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Abstract

Background: Premenstrual Syndrome (PMS) is a set of physical, emotional, and behavioral symptoms that occur before menstruation and significantly disrupt daily activities. PMS is prevalent among women, with rates as high as 70-90%, particularly in adolescents and young adults. This study explores factors associated with PMS among adolescent girls at SMK Vinama 2 Bekasi City in 2023.

Objective: To determine the relationship between menarche age, parental role, exercise patterns, and diet with the incidence of PMS among adolescent girls.

Design and Methodology: This cross-sectional study included 62 adolescent girls at SMK Vinama 2 Bekasi City, selected using purposive sampling. Data were collected through questionnaires and analyzed using bivariate analysis with the chi-square test to evaluate relationships between independent variables (menarche age, parental role, exercise patterns, diet) and PMS incidence.

Findings: Among the respondents, 64.5% experienced PMS. The results showed no significant relationship between menarche age ($p = 0.129$), parental role ($p = 0.674$), exercise patterns ($p = 0.466$), or diet ($p = 0.118$) with PMS incidence.

Conclusion and Implications: PMS is a prevalent condition among adolescent girls at SMK Vinama 2 Bekasi City, with no significant associations found with menarche age, parental role, exercise patterns, or diet. It is recommended that adolescents maintain healthy dietary and exercise habits, seek parental support, and engage in school-based counseling programs on PMS management. Schools should collaborate with healthcare providers to increase awareness and education about PMS. Future research should explore other potential factors influencing PMS and develop targeted interventions.

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Introduction

An adolescent is someone in the age range of 10-18 years. (KemKes, 2014) Adolescence is the stage where people reach emotional, psychosocial maturity characterized by the functioning of

reproductive organs. A woman is said to be in the reproductive period if she has menstruation. The early years of menstruation are a period that is prone to disruption (Rizka Safitri et al, 2016).

Premenstrual Syndrome (PMS) is a set of symptoms in the form of physical and mental disorders, which usually appear from one week to several days before the arrival of menstruation, and disappear after menstruation comes, although sometimes it lasts until menstruation stops. According to Wiknjastro, 2015, Premenstrual Syndrome (PMS) is a condition consisting of several physical, emotional and behavioral symptoms experienced by a woman before the arrival of the menstrual cycle, which causes her to experience interference in daily functions and activities, these symptoms will disappear when menstruation arrives (Sylvia, 2013).

Meanwhile, according to Tacani (2015), Premenstrual Syndrome (PMS) is a collection of symptoms that include physical, emotional, cognitive, and behavioral changes that usually appear 10-14 days before menstruation and disappear when menstruation begins, which greatly interferes with daily activities. The prevalence of premenstrual syndrome is quite high, around 70-90% of women of reproductive age and more often found in women aged 20-40 years experiences premenstrual symptoms that can interfere with several aspects of their lives. This can disappear once the bleeding starts, but can also continue afterwards. (Saryono, 2015).

According to WHO (World Health Organization), PMS have a higher prevalence in Asian countries compared to Western countries (Mohamadirizi & Kordi, 2013). According to WHO in 2013 mentioned that women's problems are about problems regarding PMS disorders (38.45). According to WHO in 2014 reported 23% of women experience PMS (Damayanti, 2015). In terms of quantity, the teenage population (10-19 years old) is 22.2% of the total population consisting of 50.9% men and 49.1% women. (Damayanti, 2015).

The incidence of premenstrual syndrome was found to be highest in Asia at 98%. The prevalence of PMS in Asia Pacific, it is known that in Japan PMS is experienced by 34% of the adult female population. In Hong Kong PMS is experienced by 17% of the adult female population. In Pakistan, PMS affect 13% of the adult female population. In Australia, it is experienced by 44% of adult women (Sylvia, 2013).

The results of a preliminary study conducted on adolescent girls at SMK Vinama 2 Bekasi City out of 10 adolescent girls 4 people (40%) did not experience premenstrual syndrome and 6 people (60%) experienced premenstrual syndrome. From the above background, the researcher is interested in conducting research on factors related to the incidence of premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City.

The purpose of this study is to determine the factors associated with the incidence of premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City. And the benefits of this

research are expected to provide information for the development of science in the field of midwifery regarding factors related to the incidence of premenstrual syndrome.

Methods

The type of research used in this study is quantitative research with cross-sectional design, a type of research that emphasizes the time of measurement or observation of data on independent and dependent variables only once at a time (Hidayat, 2013). In this study, the type used is correlational analytic which examines the relationship between variables. Researchers can search, explain a relationship, estimate and review based on existing theory. The sample needs to represent the entire range of values available. Correlational research aims to reveal the correlative relationship between variables. Correlative relationships refer to the tendency that variations in a variable are followed by variations in other variables (Nursalam, 2013).

Based on the type of data there are quantitative and qualitative research. The types of research included in quantitative research are descriptive research, developmental research, action research, causal or comparative research, experimental research, while in qualitative research the data collection process can be obtained through stories, pictures, or other documents. Researchers use quantitative data types. (Hidayat, 2015). Based on data sources, research is divided into primary research and secondary research. In primary research, the data is collected by the researcher himself from what did not exist before, the purpose is tailored to the research needs, while secondary research data has been collected by other parties and the data already exists. The data taken by researchers is primary data, which is taken directly from the sample using a questionnaire. (Hidayat, 2015).

Based on how data is collected, there are types of research, namely observational research and surveys. Observational research makes observations of object behavior and is participatory. Meanwhile, survey research is conducted by giving questionnaires, direct or indirect interviews. The data collection method used by researchers is a survey method conducted by giving questionnaires to adolescent girls at SMK Vinama 2 Bekasi City.

Population is the whole of a variable concerning the problem under study in the form of people, behavioral events or something else that researchers will do (Nursalam, 2013). The population in this study were 62 adolescent girls at SMK Vinama 2 Bekasi City. The sample is an affordable part of the population that can be used as a research subject through sampling (Nursalam, 2013). The sample used in this study used purposive sampling technique, namely sampling techniques with certain considerations, namely 62 adolescent girls at SMK Vinama 2 Bekasi City.

Results

The results of univariate data analysis on adolescent girls at SMK Vinama 2 Bekasi City who did not experience premenstrual syndrome were 22 respondents with a percentage (35.5%), and adolescent girls who experienced premenstrual syndrome were 40 respondents with a percentage (64.5%). Adolescent girls who experienced normal menarche age were 30 respondents with a percentage (48.4%). Adolescent girls with a supportive parental role were 33 respondents with a percentage (53.2%). Adolescent girls who have a routine exercise pattern are 15 respondents with a percentage (24.2%). Adolescent girls who have a good diet are 27 respondents with a percentage (43.5%). The results of bivariate analysis there are all variables associated with the incidence of premenstrual syndrome, namely the variable age of menarche with P Value = 0.129, the role of parents with P Value = 0.674, exercise patterns with P Value = 0.466, diet with P Value = 0.118.

Table 1 Results of Bivariate Analysis of the Relationship between Menarche Age and the Incidence of Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City in 2023

Menarche Age	No PMS (n)	No PMS (%)	Yes PMS (n)	Yes PMS (%)	Total (n)	Total (%)
Normal	14	10.6	16	19.4	30	100
Not Normal	8	11.4	24	20.6	32	100
Total	22	22	40	40	62	100

From the results of statistical tests using the *chi-square* test, the p-value = 0.129 was obtained, this means that the p value = 0.129 > $\alpha = 0.05$. So that there is no relationship between age of menarche and the incidence of premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City in 2023 and the results of OR = 0.073 conclusion, thus it can be said that there is no relationship between age of menarche and premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City in 2023. The results of this study are in line with the results of research conducted by Silvia Padmavathi (2013) found that there is no relationship between menarche age and premenstrual syndrome. According to the study, so that in the study the young women generally already experienced PMS and there was no relationship or influence on the age of menarche with premenstrual syndrome.

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The table 2 show Results of Bivariate Analysis of the Relationship between Parental Role and the Incidence of Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City in 2023

Table 2 Results of Bivariate Analysis of the Relationship between Parental Role and the Incidence of Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City in 2023

Parental Support	No PMS (n)	No PMS (%)	PMS (n)	PMS (%)	Total (n)	Total (%)
Support	13	11.7	20	21.3	33	100
No Support	9	10.3	20	18.7	29	100
Total	22	22	40	40	62	100

The results of this study are not in line with the results of research conducted by Wardani and Sari (2018) which found that family communication support (openness, empathy, positive attitude, equality) and school communication (openness, equality) with adolescent girls' knowledge about premenstrual syndrome. According to the researcher's assumption that this study has no influence between the role of parents and the incidence of premenstrual syndrome because the average parent is less supportive about their child's premenstrual development.

Table 3 Results of Bivariate Analysis of the Relationship between Exercise Patterns and the Incidence of Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City 2023

Exercise Pattern	No PMS (n/%)	PMS (n/%)	Total (n/%)	P Value	OR
Routine	7 (46.7%)	8 (53.3%)	15 (100%)	0.304	-
Not Routine	15 (31.9%)	32 (68.1%)	47 (100%)	0.466	-
Total	22 (35.5%)	40 (64.5%)	62 (100%)		

From the results of statistical tests using the *chi-square* test, the p-value = 0.466 was obtained, this means that the p value = 0.466 > $\alpha = 0.05$. So that there is no relationship between exercise patterns and the incidence of premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City in 2023 and the results of OR = 0.304 conclusions, thus it can be said that there is no relationship between exercise patterns and premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City in 2023.

The results of this study are not in line with the results of research conducted by Meidya (2012), namely there is a relationship between sports activity and the incidence of PMS. Therefore, it can be said that if the young women respondents do not exercise, they will easily experience premenstrual syndrome.

Table 4 Results of Bivariate Analysis of the Relationship between Diet and the Incidence of Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City in 2023

Diet	No PMS (n/%)	PMS (n/%)	Total (n/%)	P Value	OR
Good	13 (48.1%)	14 (51.9%)	27 (100%)	0.118	0.067

Not Good	9 (25.7%)	26 (74.3%)	35 (100%)
Total	22 (35.5%)	40 (64.5%)	62 (100%)

From the results of statistical tests using the *chi-square* test, the p-value = 0.118 was obtained, this means that the p value = 0.118 > $\alpha = 0.05$. So that there is no relationship between diet and the incidence of premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City in 2023. the result of OR = 0.067 conclusion, thus it can be said that there is no relationship between diet and premenstrual syndrome in adolescent girls at SMK Vinama 2 Bekasi City in 2023. The results of this study are not in line with the results of research conducted by Joni (2012), it can be said that if there are adolescent girls who are not good at consuming food, it will cause easy PMS. According to the research assumption that in this study there is no effect of diet on the incidence of premenstrual syndrome. This is because based on the results of the answers of respondents who rarely do a good diet > 29 and less good < 2

Conclusions

Based on the research entitled *Factors Associated with the Incidence of Premenstrual Syndrome in Adolescent Girls at SMK Vinama 2 Bekasi City in 2023*, it can be concluded that 22 respondents (35.5%) did not experience premenstrual syndrome, while 40 respondents (64.5%) experienced it. Adolescent girls with normal menarche age totaled 30 respondents (48.4%). Those with a supportive parental role amounted to 33 respondents (53.2%), while only 15 respondents (24.2%) had a routine exercise pattern. Additionally, 27 respondents (43.5%) followed a good diet. The bivariate analysis results indicated that none of the examined variables were significantly associated with the incidence of premenstrual syndrome. Specifically, the variables included the age of menarche (P Value = 0.129), the role of parents (P Value = 0.674), exercise patterns (P Value = 0.466), and diet (P Value = 0.118).

The recommendations drawn from this study are as follows. For researchers, it is hoped that the findings provide new insights and experiences that can be applied to practical conditions in the field. For respondents, the study is expected to enhance awareness and understanding of premenstrual syndrome, enabling them to take preventive measures and maintain daily routines. For educational institutions, the study can serve as a valuable reference for expanding knowledge on premenstrual syndrome and inspire future research with more diverse methods and variables. Lastly, for the research site, SMK Vinama 2 Bekasi City, the findings can be utilized to increase awareness among adolescent girls about premenstrual syndrome by distributing health brochures and promoting further education

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