

ANALYSIS OF FACTORS AFFECTING PREMENSTRUAL SYNDROME IN GIRLS ADOLESCENT

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ABSTRACT

Introduction: Premenstrual syndrome in adolescent girls is very disturbing daily activities. Changes such as feeling sensitive or irritable, lack of confidence, difficulty concentrating, crying easily, restlessness and anxiety. Premenstrual syndrome in adolescents causes anxiety so that it can result in decreased interest in activities. The purpose of this study is to explain the factors that influence premenstrual syndrome in adolescent girls based on empirical studies in the last five years.

Method: The literature review article search was conducted in five databases (Scopus, Proquest, Pubmed, Science Direct and Google Scholar), the search was conducted from July to August 2020. A prism checklist was used to guide this review. Analyzed and tabulated data on articles. Title, abstract, full text and methodology were assessed to determine the feasibility of the study.

Results: There were 10 studies that matched the research inclusion criteria, the studies were divided into two themes, namely the influencing factors of premenstrual syndrome (n= 8) and the impact of premenstrual syndrome (n= 2).

Conclusion: Factors that affect premenstrual syndrome include: physiological factors include (age, education, length of menstruation, menstrual cycle, menstrual history, physical activity), nutritional factors include (diet, coffee consumption), psychological factors include (stress, feeling uncomfortable), feelings of insecurity) and the external factor is the use of the internet. Premenstrual syndrome can physically show in the form of headache, breast tenderness, swelling of the extremities, abdominal and heartburn pain and psychologically shows anxiety, withdrawal, confusion, depression and irritability.

Keywords: health; women; teens; premenstruation.

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INTRODUCTION

Adolescence is a period of growth and development after childhood and before entering adulthood which is characterized by biological and psychological development (Bariyyah Hidayati & ., 2016). Biologically characterized by the growth and development of primary sex and secondary sex and psychologically characterized by unstable or erratic attitudes and feelings, desires and emotions (Bariyyah Hidayati & ., 2016). Adolescence ranges from the age of 10 to 19 years, this period is marked

by several changes, both physical and psychological, one of which is puberty (Yen et al., 2020). Puberty in adolescent girls is marked by the occurrence of menstruation (menarche) accompanied by hormonal changes (Buddhabunyan et al., 2017). Menstruation is a physiological event for women that begins in adolescence.

Before or during menstruation, there are several complaints that are commonly experienced, including stiffness or cramps or abdominal cramps, breast pain, moodiness and irritability, these complaints are commonly called Premenstrual Syndrome (Hou et al.,

2020). Premenstrual syndrome in adolescent girls greatly interferes with daily activities (Pratiwi Putri & Margawati, 2013). Psychological changes such as feelings of sensitivity or irritability, lack of confidence, difficulty concentrating, crying easily, and anxiety (Puspitaningrum, 2018).

According to WHO data, premenstrual syndrome have a higher prevalence in Asian countries compared to Western countries. The prevalence of Premenstrual Syndrome is quite high, which occurs in about 70-90% of women of childbearing age (Nashruna et al., 2012).

Factors causing Premenstrual Syndrome are symptoms that arise due to hormonal changes (Helmi et al., 2017). Symptoms that are behavioral changes include depression, stress, feeling anxious, crying quickly, and difficulty concentrating. Other physical symptoms also include swelling around the abdomen and fatigue. Premenstrual syndrome are sometimes mild and undetectable, but sometimes there are severe and very obvious symptoms that interfere with daily activities. Physical activity can increase endorphins, decrease estrogen, and female reproductive hormones, regular physical activity can increase oxygen transport in muscles and reduce cortisol levels. Cortisol is a hormone that can trigger tension in the period before menstruation. Changes in psychological conditions also often occur in adolescents who experience Premenstrual syndrome (Kilmer, 2010). Lack of physical activity in adolescents can lead to deficiency of endorphins in the body which can lead to premenstrual syndrome. However, physical activity in the form of exercise can stimulate the release of endorphins and create a feeling of calm during premenstrual syndrome (Anggraeni, 2018).

Premenstrual syndrome symptoms in adolescents both biologically and psychologically can affect adolescent behavior, for example the emergence of anxiety so that it can result in decreased appetite and decreased interest in activities (Novaria et al., 2017). Premenstrual syndrome is a common medical condition that affects women's relationships, social activities, work productivity, and quality of life. The most common emotional symptoms experienced by women during premenstrual syndrome include feeling irritable as much as 48% and an anxiety arises when dealing with Premenstrual syndrome, lack of energy or weakness 45%, and irritability 39%. The most common physical symptoms experienced by women include cramps or abdominal pain 51%, joint, muscle or back pain 49%, breast pain 46%, and flatulence 43% (Siswi & Negeri, 2010). Symptoms of postmenstrual syndrome are very symptomatic of the physical and mental health of adolescent girls, so a more in-depth study is needed. Therefore, this is the

background for conducting a literature review "Analysis of factors that influence premenstrual syndrome in girls adolescent".

METHOD

This study uses a literature study model. The literature search was carried out in July-August 2020 using secondary data. The question formulation uses the PICOS framework (Patient or Problem; Interests; Comparison or Exposure; Results; Study Design). Search articles using Medical Subject Heading (MeSH) keywords, namely "behavior", "adolescents", "premenstruation syndrome", "teenagers", "PMS", "female". And the inclusion criteria used were English and Indonesian journals with a coverage of 2016 - 2020, related to adolescent girls, interests: premenstruation syndrome, results: factors that affect premenstrual syndrome in adolescents, and the research design is an experimental study, survey study, cross sectional study, case control, cohort study.

This literature review article search uses five databases with high and medium quality criteria, namely Scopus, ProQuest, PubMed, Scient Direct, and Google Scholar with journal coverage of the last five years, which can be accessed in full text in pdf and scientific formats (reviewed journals).

The research strategy used was literature review, using the protocols of The Center for Review and Dissemination and The Joanna Briggs Institute as a guideline for assessing the quality of the research to be summarized. The purpose of this study was to discuss the factors that influence premenstrual syndrome in adolescent girls.

There are 391 research articles or journals found, 220 irrelevant screenings were performed. There are 118 duplicates selected. After that, identification of titles from 50 journals was obtained. Elimination was carried out for articles that did not meet the inclusion criteria, where thirty articles did not focus on risk factors and ten articles did not focus on the research objectives. The final results obtained are 10 journals. Data analysis and tabulation were carried out on articles or journals to determine the feasibility of articles or journals in the preparation of this literature study. The Joanna Briggs Institute (JBI) is a reference for evaluating the quality of articles or journals. The results of the assessment that has been carried out using The Joanna Briggs Institute Guidelines, all articles are of high quality.

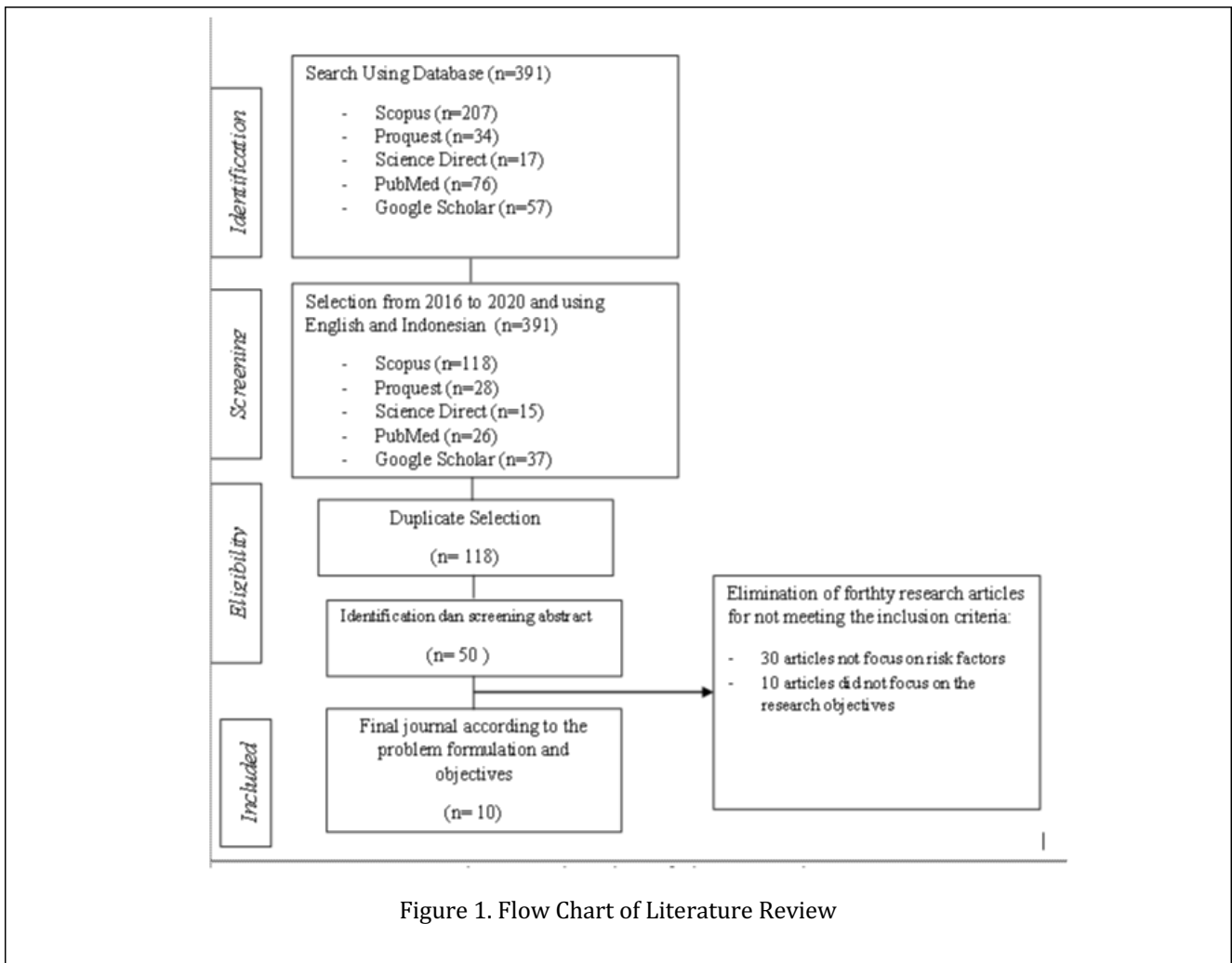


Figure 1. Flow Chart of Literature Review

RESULTS

After searching through several databases, factors that influence premenstrual syndrome in adolescent girls based on study results include physical (age, education and BMI), nutrition, and history of premenstrual syndrome (Farrokh-Eslamlou et al., 2018); Nutrition (Farasati et al., 2019); Nutrition, rest, psychological and physical activity (Yoshimi et al., 2019); nutrition and psychology (del Mar Fernández et al., 2019); Menstrual Cycle (Kleinstäuber et al., 2016); nutrition, physical (age), physical activity and internet use (Sei et al., 2020); and Nutrition (Nurhanifah et al., 2020).

Factors related to premenstrual syndrome are divided into 4 major groups, namely: psychological, physiological, nutritional and external factors (Link, 2018). Based on psychological factors, stress and feelings of insecurity have an effect on PMS in adolescent girls. Based on educational physiological factors, length of menstruation, menstrual cycle, menstrual history, and physical activity affect premenstrual syndrome in adolescent girls. Based on nutritional factors, diet and coffee consumption affect premenstrual syndrome in adolescents. Based on external factors, internet use and sleep rest are

associated with premenstrual syndrome in adolescents.

Studies that discuss the symptoms caused by premenstrual syndrome in adolescent girls are grouped into two symptoms, psychologically and physically. Psychological symptoms caused by premenstrual syndrome withdrawal, feelings of anger, and anxiety (Buddhabunayakan et al., 2017); anxiety, withdrawal, depression, anger, and confusion (Abeje & Berhanu, 2019). While the physical symptoms are headache (Buddhabunayakan et al., 2017); headache, breast tenderness, swelling of the extremities (Abeje & Berhanu, 2019).

Hormonal changes that occur in women who experience premenstrual syndrome result in various symptoms both physically and psychologically. Premenstrual syndrome has physical and psychological symptoms. Physically, premenstrual syndrome causes symptoms, such as headache, breast tenderness, heartburn, abdominal pain, and extremity pain. Psychological symptoms caused by anxiety, withdrawal, depression, irritability and confusion.

DISCUSSION

Psychological Factor

Psychological is still the main factor that affects PMS in adolescent girls, this is because when adolescent girls experience menstruation, there are also symptomatic hormonal changes in one's mood or feelings. A good psychological condition will have positive symptoms for premenstrual syndrome. Based on the results of the article review conducted by the author found factors related to premenstrual syndrome, among others; stress and self-confidence (Kleinstäuber et al., 2016). Stress that occurs during menstruation affects PMS where coping at level 3 affects 2.53 times on PMS while coping level 4 affects 8.05 times on PMS (del Mar Fernández et al., 2019). The best coping to reduce PMS psychologically is positive thinking, acceptance, happiness, and getting closer to God (Takayama et al., 2020).

Psychological factors that affect PMS are caused by brain endorphins levels. Endorphin levels in the brain play a role in giving pleasure to the body. In addition, the increase in estrogen levels is symptomatic of the concentration of aldosterone concentration, this hormone plays a role in water and sodium retention. In other studies, estrogen has been shown to be effective in reducing depression. Decreased estrogen exposure is associated with mood disorders. In addition, PMS can causing of changes in perceptions of menstruation and changes in the perception of symptomatic menstruation towards the perceived severity of PMS.

Psychological factors are the most influential factors in PMS. In adolescent girls who experience premenstrual syndrome significant hormonal changes occur. This triggers psychological changes. Good psychological coping will reduce the symptoms experienced by adolescents.

Physiological Factors

The physiological condition of adolescents has an important role in the occurrence of PMS cases in adolescents. Physiological factors such as early age of menses, cycle of menses and BMI also influence the severity of PMS that occur in adolescents. Age is believed to be the most dominant factor in the incidence of PMS. Age of first menstruation which is quite young will be symptomatic of severe PMS conditions.

Based on the results of the article review conducted by the author found factors related to premenstrual syndrome, such as; age, menstrual cycle and duration of menstruation (Abeje & Berhanu, 2019). In another study, physiological factors that

influence PMS are age, education, BMI and menstrual history (Farrokh-Eslamlou et al., 2018). Research conducted by Yoshimi et al., 2019 stated that physiological factors that affect PMS (Premenstrual syndrome) are age, hypogonadism and physical activity. The severity of PMS depends on a person's physiological condition. The age of a person when first experiences menstruation gives 1.27 times the symptoms on the severity of PMS, while physical activity has an effect of 2.73 times on the severity of PMS in adolescents (Abeje & Berhanu, 2019).

Nutritional Factor

Nutrition is an important part of the incidence of PMS. Consumption of inadequate nutrition will exacerbate PMS conditions. Based on the results of research that has been published, there is a relationship between nutrition and PMS. Coffee consumption of more than 5 cups has been shown to have an effect of 10.8 times on the severity of PMS (del Mar Fernández et al., 2019). In addition, diet affects PMS (Nurhanifah et al., 2020). In another study it was stated that premenstruation can be influenced by eating habits (Rodiani & Rusfiana, 2016). Foods that contain relatively high fat, protein, carbohydrate, and salt substances tend to be favored by teenagers (Rodiani & Rusfiana, 2016). Magnesium is one of the micronutrients that shows an influence in decreasing premenstrual syndrome (Rodiani & Rusfiana, 2016). In women who have problems with excess nutrition or obesity, they will tend to experience PMS (Rodiani & Rusfiana, 2016). This is because obesity can increase estrogen levels in the body causing an imbalance between the hormones estrogen and progesterone. The imbalance of estrogen and progesterone levels where high estrogen levels while low progesterone levels cause premenstrual syndrome (Estiani & Nindya, 2018). In a study conducted (Rodiani & Rusfiana, 2016) women who are obese have a 3.4 times risk of experiencing postmenstrual syndrome.

External Factors

Factors outside of adolescent girls also play a role in PMS. External factors that influence the incidence of PMS are environmental factors and habitual factors. The physical environment in the form of weather, environmental comfort and habits in using social media have a significant influence on the incidence of PMS.

The results showed that there was a relationship between internet use and the incidence of PMS in adolescents (Yoshimi et al., 2019). Adolescents with high internet use have an effect of 3.2 times on PMS

(Yoshimi et al., 2019). Intense internet use is symptomatic of changes in the higher estrogen hormone which result in a hormonal imbalance that will trigger PMS (Yoshimi et al., 2019).

In addition to psychological factors and physical factors, external factors also influence the incidence of PMS. External factors such as physical activity have a major role in the incidence of premenstrual syndrome, routine and good activities will reduce the symptoms of premenstrual syndrome experienced.

Symptoms of Premenstrual

Syndrome Physical Symptoms

PMS is mostly experienced by most adolescent girls. PMS gives symptoms both physically and psychologically. Sudden hormonal changes affect a teenager's physical or psychological state. In a study conducted by (Abeje & Berhanu, 2019) in an article entitled Premenstrual syndrome and factors associated with it among secondary and preparatory school students in Debremarkos town, North-west Ethiopia, physical symptoms caused by PMS include: Others include headache, breast tenderness and extremity pain. Meanwhile, in a study conducted by (Buddhabunyakan et al., 2017) in an article entitled Premenstrual syndrome among high school students. Physical symptoms caused by PMS include: Heartburn, headache, abdominal pain and extremity pain.

Psychological Symptoms

The main symptoms that arise from PMS are psychological. Inadequate changes in the hormones estrogen and progesterone. cause a person's mood disturbance. PMS disorders that are more severe will be symptomatic of a person's activity disruption in carrying out daily activities.

The results of research conducted by (Abeje & Berhanu, 2019) in an article entitled Premenstrual syndrome and factors associated with it among secondary and preparatory school students in Debremarkos town, North-west Ethiopia, it is stated that when adolescent girls experience PMS symptoms are felt physically. Psychological factors are anxiety, anxiety, withdrawal, confusion, depression and irritability. In another study conducted by (Buddhabunyakan et al., 2017) in the article Premenstrual syndrome among high school students. When a person experiences PMS, the symptoms that arise include: irritability and anxiety.

CONCLUSION

Factors that affect premenstrual syndrome include: physiological factors include (age, education, length

of menstruation, menstrual cycle, menstrual history, physical activity), nutritional factors include (diet, coffee consumption), psychological factors include (stress, feelings of uncomfortable, feeling insecure) and the external factor is the use of the internet. Premenstrual syndrome includes physical (headache, breast tenderness, swelling of the extremities, abdominal pain and heartburn), psychologically (anxiety, anxiety, withdrawal, confusion, depression and irritability).

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