

How to Deal with Menstrual Problems?

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Abstract

Menstruation is the normal cycle experienced by all women's, however it's causes unstable emotions, irritable, crying, aggressive, provoking, pain, bleeding a lot of bleeding in a long duration. These problems would influence women's well-being, so interventions are needed for women's with menstrual problems. This systematic review aimed to describe the findings from studies about the interventions to deal with menstrual problems. The review process was conducted using electronic databases: PubMed, Proquest, Google scholar and EBSCO. The keywords used were Quality of life, Menstruation problems, Menstruation periods, Teenage, and Urban. The inclusion criteria of articles were taken from 2015 to 2018 while the exclusion criteria were articles that were non-English. The review identified a total of 12 articles. However, according to the inclusion and exclusion criteria, 5 articles were obtained. The method used was experimental and cross sectional study. In addition, the analysis was used content analysis process. Menstrual problems can be minimized by doing various physical exercises continuously and intensively, the factors of age and counseling from the closest person greatly determines the quality of life in adolescents with menstrual problems. In addition, providing TENS therapy and drug therapy among adolescent can help to improve the quality of life in adolescents with menstrual problems. Conclusions: Menstrual problems can be reduced in various ways, including physical, pharmacological and non-pharmacological treatments.

Keywords: Intervention, menstrual problem, menstrual period.

Introduction

Adolescence is a period of transition from childhood to adulthood marked by physical, psychological and psychosocial changes. This period not only grow to be taller and bigger, but also changes as the hormonal process a woman's body goes through each month to prepare for reproduction (Felicia HG et al, 2015). One sign of the reproductive organs towards maturity is the release of blood from the vaginal canal which indicates that the reproductive organs are headed for maturity. The process of bleeding from the vaginal canal is called menstruation. According to Yonglitthipagon P et al (2017) states that even though menstruation is natural process however there are several menstrual disorders that are often experienced by women. The menstrual problem also known as *Premenstrual Syndrome* (PMS) or *Premenstruation Dysphoric Disorder* (PMDD).

In accordance with Freeman EW et al (2009), premenstrual syndrome (PMS) was a cycle disorder that commonly occurs in young and middle women and it has is a combination of physical, psychological, and emotional symptoms that consistently occur during the luteal stage of the menstrual cycle due to hormonal changes, which was associated with the ovulation cycle (release of egg cells from the ovary) and menstruation. The symptoms usually occur regularly 7-14 days before menstruation. The main symptoms include headaches, fatigue, lumbago, enlargement and pain in breasts area, and feeling distension in the abdomen area, changes in mood, fear of losing control, overeating and also crying suddenly can occur. The symptoms are very variety from one woman to another and from one cycle to the next cycle in the same woman as well (Brunner & Suddarth, 2010)

The research conducted by Czajkowska M et al 2015 was supported by the study of Cakir M et al 2007. revealed that the greatest prevalence of menstrual disorders were dysmenorrhea (89.5%) then menstrual irregularities (31.2%), and the distribution of menstrual duration (5.3%). This was also supported by the study results from Nooh M's study, Nooh AM et al (2015) reported that the

prevalence of dysmenorrhea was 66%, hypo-amenorrhea was 8.8% and hyper-amenorrhea was 4.2%

This menstrual disorder needs intervention immediately as it has been done in developed countries such as the United Kingdom, the United States, Australia, Japan and New Zealand where there was good handling compared to developing countries. The goal of intervention for menstrual disorders was how to reduce advanced symptoms or adverse effects so that it can impact with their academic, work or interpersonal relationships with others. Several conditions of human life can affect quality of life, including menstrual disorders themselves can affect the quality of life of adolescents (Maziyya, N., Rahayuwati, L., & Yamin, A, 2018; Wulandari, A. E., Susilaningsih, F. S., & Somantri, I., 2018; Zakiyah, I., Mediani, H. S., & Mardiah, W, 2018) . The quality of life was defined as individual perceptions about the position of individuals in life based on the culture and the value system in where this individual live and related to their goals, expectations and attention (World Health Organization Quality of Life, WHOQOL in Rapley, 2004). These menstrual disorders can cause a decrease in the quality of life among teenage. Objective: This systematic review aimed to describe the findings from studies about the interventions to enhance quality of life of adolescents with menstrual problems.

Research Method

The method of this systematic review was conducted by searching articles using electronic databases include Pubmed, Proquest, and EBSCO. The keywords used were "Teenage", "Urban", "Menstruation problem", "Menstruation period" and "Quality of life". The inclusion criteria were articles in full text, the study research between year 2015 - 2018 while the exclusion criteria were articles that were not in English. The results of these articles were found 21 articles in Pubmed. However, according to the inclusion criteria, there were 5 articles. The method used were experimental and cross sectional.

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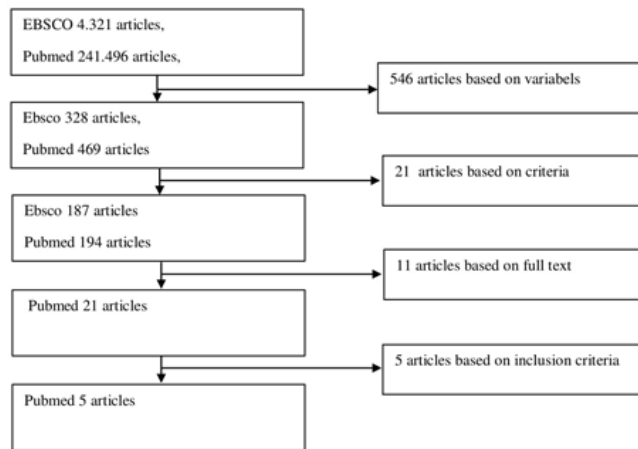


Figure 1 The flow diagram showing the search method and exclusion process

Research Results

Based on the results of searching the

articles, there were 5 articles that meet with the inclusion criteria, with the following information:

Table 1 Characteristics of the studies included in the systematic review

Name	Title	Year Country	Study	Method	Sample	Sampling technique	Inclusion criteria	Results
Mariola Czajkowska PhD, Agnieszka Drosdzol-Cop MD, PhD, Iwona Galażka PhD	Menstrual Cycle and the Prevalence of Premenstrual Syndrome/ Premenstrual Dysphoric Disorder in Adolescent Athletes	2015 Poland	Quantitative	Prospective study	75 samples	Purposive Sampling	Women who participated in sports / athletes competitions, aged 16-22 years, informed consent, menstruated at least 2 years, had no systemic disease, no endocrine disorders, no depression, no anxiety and personality disorders	<ul style="list-style-type: none"> Intensive physical exercise can provoke, argument and feeling anger (P5.001; P5.007) and / confusion (P 5, 003; P 5, 02) The prevalence of PMDD was diagnosed and PMS in 42.4% of all respondents The prevalence of PMDD did not differ significantly between groups of athletes with the control group which was 6.00%. PMS was significantly more frequent among athletes than controls 49.32%,(P 5 0.045). The prevalence of PMS correlated significantly with age (P.00.00001) PMS was more common in athletes and girls of older age at menarche. The relationship between the prevalence of PMS and the prevalence of PMDD was observed both in athletes and controls The prevalence of amenorrhea, menometrorrhea and psychomotor disorders was more common in distance runners, marathons, gymnasts and ballet dancers.

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Ahmed M. Nooh, Atia Abdul Hady, dan Nadia El-Attar.	Nature and The Prevalence of Menstrual Disorders among Adolescents Female Students at Zagazig University, Zagazig, Egypt	2015 Egypt	Quantitative	Descriptive observes, cross sectional	340 samples	Representative Sampling	Teenage girls up to 20 years old were less than 1 day old, new and registered female students	<ul style="list-style-type: none"> A total of 285 questionnaires were analyzed. The average of age at menarche was 12.3 ± 1.5 years. The oligomenorrhea was reported by 18 participants (6.3%) and another 5 participants (1.8%) have polymenorrhea. Hypomenorrhea was found in 25 students (8.8%), and hypermenorrhea was reported by 12 student (4.2%). Irregular periods were mentioned by 24 students (8.4%). Dysmenorrhea was reported in 188 students (66.0%). Of these, 81 students (28.4%) assessed their pain as mild, 69 students (24.2%) as moderate, and 38 students (13.3%) as severe. Premenstrual syndrome was mentioned by 160 girls (56.1%). A person's consultation regarding their menstrual problems was reported by 36 students (12.6%)
Gabriela R. Lauretti, MD, MSc, PhD, FIPP; Raquel Oliveira, MD, MSc, PhD; Flavia Parada; Anita L. Mattos, MD, MSc, PhD	The New Portable Transcutaneous Electrical Nerve Stimulation Device Was Efficacious In The Control Of Primary Dysmenorrhea Cramp Pain	2014	RCT	Experiment	40 samples	Randomize	Women who have a painful and debilitating history of dysmenorhea regularly take analgesics such as N-butyl scopolamine combined with non-steroidal diclofenac for controlling pain	<ul style="list-style-type: none"> All patients have a history of severe menstrual cramps every month (VAS 7-10 cm) before the study. Both PG and TG reported VAS pain 8 ± 1 cm before treatment, which was maintained statistically similar to PG treatment after TENS: 7 ± 2 cm; but decreased to TG 2 ± 1cm ($p < 0.001$). Active TENS devices induce rapid onset of pain in the segmental way adjacent to the dermatome where TENS was applied to the skin, and there was a decrease in the average pain score from 8 ± 2 cm ($p < 0.001$). Diclofenac consumption was also significantly reduced ($p < 0.01$), compared with PG. Quality of life increased significantly in TG when compared with PG ($p < 0.05$). Three months after the initial study, 14/20 women still use active devices regularly. No side effects were observed
Hina Rehman*, Waje eha Begum, Farzana Anjum, Humyra Tabasum and Shabnam Zahid	Effect of rhubarb (Rheum emodi) in primary dysmenorrhoea: a single-blind randomized controlled trial	2012 India	RCT	Experiment	45 people in which 30 people were the intervention group and 15 were the control group	Randomize	Unmarried women, aged 15-25, have regular menstrual cycles lasting 21 to 35 days and 2-6 days of menstruation duration, with moderate to severe dysmenorrhoea.	<ul style="list-style-type: none"> In the intervention group, 16 respondents (53.33%) were severe dysmenorrhoe and 14 respondents (46.67%) had moderate dysmenorrhoea. In the control group 10 respondents (66.7%) experienced severe dysmenorrhoea and 5 respondents (33.33%) experienced moderate dysmenorrhoea. The bivariate analysis result that there was no significant difference in the severity of pain between the intervention group and the control group with p value = 0.236. Symptoms such as fatigue, nausea, vomiting, diarrhea, headaches were reduced after treatment with p value = 0.001 QOL increased both in the intervention group and in the control group with p value = 0.001

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Kazuo Yamada Eiichir o Kamagata	Reduction of quality-adjusted life years (QALYs) in patients with premenstrual dysphoric disorder (PMDD)	2017 Tokyo		Quantitative	66 people who suffered from untreated PMDD		Women who are untreated with PMDD, age at least 18 years old, there were no medical complications	<ul style="list-style-type: none"> • The average age was 3 with a minimum age of • Menstrual cycle averages • PPMD appears menstruation averages • The symptoms of disappear by an average • The period of appear PPMD per menstrual cycle • The mean EQ-5D score patients with PMDD was 0.120 (range 0.362-0.499), the loss of QALY was around 0
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Discussion

Based on the articles obtained, it was concluded that to improve the quality of life of adolescents who experience menstrual disorders include:

Counseling and Physical Exercise

Menstrual disorders such as PMS and PMDD have been conducted by Czajkowska, M et al., (2015) among athletes who practice intensively and often participate in competition, the result was significantly correlation between the prevalence of PMS and PMDD with age. The incidence of PMS and PMDD was more common in athletes with older age or longer the menarche. In addition, the results of this study found that the feeling of tendency to refute, provoke and feel angry was common in runner, marathon, gymnast and ballet athletes. Another study conducted by Yamada K et al (2017) reported that women who suffer from PMDD experience were decrease in quality of life (EQ-5D was 0.795 and the average QALY was 0.14 years). This study finding was congruent with research conducted by Kannan P et al. (2015) showed that Treadmill exercises were carried out intensively can affect psychological disorders and the quality of life among adolescents who have experience menstrual disorders.

According to research conducted by Nooh AM et al (2015), reported that PMS was influenced by age, BMI, nutrition, and lifestyle of adolescents. The ages that often experience PMS were adolescents with an age range of 12-12.3 years. This result was not congruent with the research conducted by Czajkowska, M et al. (2015) showed the age of experiencing frequent PMS in athletes who take part in the competition was old age (ranges from 18-20 years). The adolescent who have

an increase in BMI were significantly related with the incidence of PMS. In adolescents who did not red meat diet showed the high of PMS incidence, while adolescents who often consume alcohol, smoking and consuming lots of caffeine were more common the incidence of PMS. This was consistent with the results of research conducted by Chen et al., (2014) reported that factors affecting PMS include family and psychological factors, for example depression.

Based on the results of study conducted by Nooh AM et al (2015) and Czajkowska M et al (2015) revealed that to overcome PMS among adolescents and adolescent athletes was routine exercise and counseling or health education lead by nurses, psychologists, doctors and with closest family. This result was similarity with study conducted by Kannan P et al (2015) reported that the PMS can be intervention by counseling conducted by the family, especially mothers and older sisters and also treadmill exercises regularly. According to BKKBN (2009), counseling among adolescents with experience menstrual disorders was part of the counseling of adolescent reproductive health by communication between two parties. The first party is a counselor who helping the other parties namely clients in solving the reproductive health problems.

The reproductive health counseling was client centered. This emphasizes the role of the client himself in the counseling process until decision making. This theory was based on the basic belief of human dignity that when a client experiences have problem, then who is able to solve the problem was the individual itself (PKBI, 2009).

In general, the purpose of reproductive health counseling was to provide information about reproductive health correctly and

proportionally. Reproductive health counseling also helps the clients to obtain their identity in behavior, increase knowledge and reduce the anxiety related to their behavior and sexual orientation. In addition, reproductive health counseling create the changes in habits and responsible behavior and teaches decision-making skills (PKBI, 2009). The counseling about menstrual problems among adolescents was not only carried out by the health worker such as doctors, nurses, nutritionists, pharmacists and psychology but also can carried out by their closest family, especially mothers and older sisters.

In addition, another intervention to overcome the effects of PMS was physical exercise regularly and intake the health nutrition, so that the heart muscle can pump blood that contains a lot of oxygen and increasing physical fitness. So far, physical exercise has no side effects, easy to do, cheap, and healthy. It was to do regularly and correctly with a frequency of 3-5 times a week for 15-60 minutes, and intensity until sweat and breathe deeply and no complaints arise such as pain and dizziness. Physical exercise can affect the pituitary hormone to release an endogenous opiate substance called beta endorphin, a hormone that acts as a non-specific pain analgesic, which can reduce the degree of pain in dysmenorrhea in the menstrual cycle (Cahyaningtyas PL et al 2007).

TENS (Transcutaneous Electrical Nerve Stimulation)

TENS is a non-pharmacological intervention that can be applied to relieve pain. Based on the results of research conducted by Lauretti GR et al (2015) among 40 women who have experience menstrual pain showed that TENS can reduce pain during menstruation and control that pain without side effects and also can improve the quality of life of respondents (p value = 0.001). The mechanism of action on TENS in reducing pain was works by activating the descending inhibitor system in the central nervous system to reduce hyper-algesia and maintain hypoalgesia. In process of reducing hyperalgesia, the activity of Periaqueductal Gray (PAG), Rostral Ventromedial Medulla

(RVM) and spinal cord were blockaded while α_2 -adrenergic receptors located peripheral in primary afferent neurons was activated. In addition, decreased pain during menstruation can be caused by decreased of uterine ischemia, the effects of opioid-sparing both with low frequency (2Hz), high (100 Hz) or mixed, decreased prostanoids and possible eicosanoids released from the endometrium during menstruation. These pain reductions ultimately improves the quality of life of the respondents both related to the ability of the respondents to get out of bed, the quality of sleep, increasing their nutrition and being able to perform daily activities such as school and work.

Non-pharmacological therapy

Pain during menstruation can reduced by non-pharmacological therapy used to rhubarb therapy. The study conducted by Rehman H et al (2015) in India reported that rhubarb was effective in reducing pain during menstruation and improving the quality of life of respondents. Rhubarb is a traditional plant that contains a number of phenolic compounds including antroquinones, stillbenes, tannins, polysaccharides and others. Rhubarb has functions as an antioxidant, anti-inflammatory, antiulcer, anti-cancer, and as immune enhancing.

The method of rhubarb therapy was by mashing rhubarb and put into a 500 mg capsule where rhubarb contains of mefenamat acid to reduce the pain of primary dysmenorrhea. The rhubarb also contains of phenolic compounds such as sennosides, anthraquinones, stillbenes, glucose gallate, naphthalenes and catechins. Resveratrol is a derivative of stilbene from rhubarb which has antioxidant and anti-inflammatory properties. However the workings of rhubarb to reduce pain were not clear, it was used among patients with dysmenorrhea so that the quality of life of a person experiencing menstrual disorders will also increase.

Conclusion

Several on-pharmacological therapy: TENS, counselling, and Rhubarb therapy are effective in reducing menstrual pain. The

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further research is needed to determine the prevalence of risk factors and techniques to overcome menstrual problems so it will improve the quality of life.

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