

During The Pandemic Experiencing Stress on the Dysmenorrhoea Scale

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DOI: <https://dx.doi.org/10.47772/IJRISS.2023.7012147>

Received: 26 December 2023; Accepted: 03 January 2023; Published: 15 January 2024

ABSTRACT

During the pandemic, online activities can be a way to get entertainment. However, in such a long time, virtual activities also turn into new sources of stress. Sources of stress are life events, chronic tension, and daily problems (Malahayati, 2019). Stress can also interfere with the work of the endocrine system, causing irregular menstruation and pain during menstruation (Martini et al., 2014). Menstruation is often followed by pain (dysmenorrhoea) due to an increase in prostaglandin F2 due to a decrease in the hormones estrogen and progesterone. Prostaglandin F2 serves to stimulate mild rhythmic contractions in the myometrium (smooth muscle layer) of the uterus. Too strong uterine contractions due to excessive prostaglandin F2 production is what causes dysmenorrhoea. This study aims to analyse the effect of stress on the primary dysmenorrhoea scale during the pandemic. This research method is a quantitative study with an observational analytic design using a cross sectional approach, namely by taking data on stress and primary dysmenorrhoea scale at the same time and only one data collection. The results showed that Chi-Square p value = 0.0001, so it can be concluded that there is an influence between stress and primary dysmenorrhoea where 27.6% experienced very severe stress with severe dysmenorrhoea. However, given the limitations of this study, the researcher hopes that further research will be conducted on the factors that cause stress and primary dysmenorrhoea.

Keywords: Stress level, Dysmenorrhea Scale, Covid-19 Pandemic

INTRODUCTION

The global COVID-19 pandemic has not only brought about unprecedented challenges in public health but has also significantly impacted various aspects of individuals' lives, including their mental and physical well-being. One particular area that has garnered attention is the intersection of stress and its effects on dysmenorrhea during these trying times (Sacco & De Domenico, 2021; Siddique et al, 2021; Clemente-Suárez et al, 2021; Kumari & Shukla, 2020; Anwar et al, 2020).

Dysmenorrhea, commonly known as menstrual cramps, is a prevalent condition experienced by many menstruating individuals. It is characterized by pelvic pain and discomfort before or during menstruation and can vary in intensity. While stress has long been recognized as a potential exacerbating factor for various health issues, its specific impact on dysmenorrhea, especially during a pandemic, remains a subject of interest and concern (Karout et al 2021; Abreu-Sánchez et al, 2020; Al-Matouq et al, 2019; Alsaleem, 2018; Hu, Tang, Chen, Kaminga & Xu, 2020).

The multifaceted consequences of the pandemic, such as social isolation, economic uncertainty, health fears, and disruptions in daily routines, have led to increased stress levels in populations worldwide. Research suggests that stress can influence the severity and duration of menstrual cramps, potentially making the already challenging experience of dysmenorrhea more distressing for those affected (Ahmed & Sifat, 2021; Saha et al, 2020; Velez, Hahn & Troyer, 2022; Aljaberi et al, 2023).

This exploration delves into the relationship between stress and dysmenorrhea during the pandemic, aiming to shed light on how the confluence of these factors may contribute to a heightened burden on individuals. Understanding the interplay between stress and dysmenorrhea is crucial not only for the well-being of those directly affected but also for healthcare professionals seeking to provide targeted support and interventions during these challenging times. As we navigate the complexities of the pandemic, unraveling the impact on women's health, including menstrual health, becomes an essential component of holistic healthcare strategies.

LITERATURE REVIEWS

I can provide you with a general understanding based on existing knowledge up to that point.

1. Stress and Dysmenorrhea:

Stress can have a significant impact on various aspects of health, including menstrual health. Research suggests that stress can exacerbate menstrual symptoms, including dysmenorrhea. Stress may lead to hormonal imbalances and increased levels of inflammatory markers, which can contribute to more severe menstrual pain (O'Connor, Thayer & Vedhara, 2021).

2. Pandemic and Stress:

The COVID-19 pandemic has been a global stressor, affecting individuals' mental health due to factors such as fear of illness, social isolation, economic uncertainties, and changes in daily routines. Studies conducted during the pandemic have reported increased levels of stress and anxiety in the general population (Godinić & Obrenovic, 2020).

3. Connection between Stress and Menstrual Health:

Stress can affect the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system, influencing hormonal balance. Dysregulation of hormones like cortisol and adrenaline can impact the menstrual cycle and exacerbate menstrual pain (Mueller, Figueroa & Robinson-Papp, 2022).

4. Psychosomatic Factors:

Dysmenorrhea has been associated with psychosomatic factors, meaning that psychological and emotional factors can influence the severity of menstrual pain. Stress may contribute to an increased perception of pain and discomfort (Bajalan, Moafi, MoradiBaglooei & Alimoradi, 2019).

5. Coping Mechanisms:

Individual coping mechanisms and stress management strategies play a crucial role. Healthy coping strategies may help mitigate the impact of stress on dysmenorrhea (Sachdev et al, 2021).

6. Healthcare Seeking Behavior:

The level of stress during the pandemic may influence individuals' healthcare seeking behavior, affecting

their ability to manage menstrual symptoms effectively (Yonemoto & Kawashima, 2023).

It's important to note that individual experiences can vary, and not everyone will experience the same degree of impact. Additionally, the field.

METHOD

This study is a quantitative study with an analytical observational design using a cross-sectional approach, namely by taking data on stress and dysmenorrhoea scales for Midwifery students, Faculty of Medicine, Airlangga University at the same time and only one time data collection. This research was conducted in July-September 2021 at the Faculty of Medicine, Universitas Airlangga. Data collection in this study was carried out using a questionnaire distributed online in the form of a google form. Sampling using total sampling on the population that has met the inclusion and exclusion criteria. Respondents in this study found 225 female students with a total of respondents meeting the inclusion criteria. Characteristics of research subjects based on student dysmenorrhea, 7.1% or 16 female students experienced mild dysmenorrhea, 22.7% or 51 female students experienced moderate dysmenorrhea, and as many as 70.2% or 158 female students experienced severe dysmenorrhea.

The variables in this study consisted of the independent variables in this study, namely stress, which is pressure or something that feels pressing on the feelings of Midwifery students, Faculty of Medicine, Airlangga University during the pandemic, and the dependent variable in this study is the dysmenorrhea scale, namely a history of pain in the lower abdomen during menstruation. experienced by Midwifery students, Faculty of Medicine, Universitas Airlangga during the pandemic.

The stress questionnaire consists of 42 questions with four answer criteria, namely the answer "never" is given a value (0), the answer "sometimes" is given a value (1), the answer "often" is given a value (2), the answer "always" is scored (3). Lovibond's DASS questionnaire did not categorize stress levels. However, several journals are DASS to categorize DASS stress into several levels, including (Anindita Ainun RP* et al., 2019) classifying stress into five, namely normal (0-18), mild (19-23), moderate (24-28), severe (29-33) , and very severe (>34). Meanwhile, Oseatiarla Arian Kinantie classifies stress into five levels, namely normal (0-7), mild (8-9), moderate (10-12), severe (13-16), and very severe (> 17). Therefore, the researcher used all the statements in the DASS questionnaire which was opened 42, the lowest score was 0 and the highest score was 126. The dysmenorrhoea scale questionnaire consists of 11 and is divided into 3 categories, namely questions 1-2 for mild dysmenorrhea, questions 3-5 for moderate dysmenorrhea, and questions 6-11 for severe dysmenorrhea.

RESULTS AND DISCUSSION

WHO has declared COVID-19 or SARS-Co V-2 a global pandemic as of March 2020. Following the physical distancing policy to prevent the spread of COVID-19 implemented in Indonesia, academic activities were shifted from face-to-face methods to online methods. The Minister of Education and Culture issued a Circular Letter of the Minister of Education and Culture Number 36962/MPK.A/HK/2020 which states that online learning from home is for students. This change resulted in students having to adapt to a new system that had several challenges in its implementation. Among them, the internet network and the number of internet quotas owned are required to be stable and sufficient,

the delivery of lecture material is not as clear as face-to-face lectures, and academic schedules are delayed or delayed. In addition to problems that are directly related to the lecture process, there are also stressors from the students' daily lives themselves. The impact of the changes experienced by students during the

COVID-19 pandemic has the risk of causing mental health problems.

During menstruation, sloughed endometrial cells release prostaglandins. Prostaglandins are a group of hormone-like compounds consisting of essential fatty acids. Prostaglandins stimulate the muscles of the uterus (womb) and affect blood vessels; commonly used to induce abortion or birth causing uterine ischemia (decreased blood supply to the uterus) through contraction of the myometrium (muscle wall of the uterus) and vasoconstriction (narrowing of blood vessels). Elevated levels of prostaglandins are found in the menstrual fluid of women with severe dysmenorrhea. These levels do increase, especially during the first two days of menstruation. Vasopressin (also called antidiuretic hormone, a hormone secreted by the posterior lobe of the pituitary gland that functions to constrict blood vessels and reduce urine output) also has a similar role. Elevated levels of prostaglandins are found in the endometrial fluid of women with dysmenorrhea and cause pain. A threefold increase in endometrial prostaglandins occurs from the follicular phase to the luteal phase with a further increase occurring during the menstrual period. The increase in prostaglandins in the endometrium following the decrease in progesterone at the end of the luteal phase causes increased myometrial tone and excessive uterine contractions. Leukotriene (a product of arachidonic acid metabolism that causes smooth muscle contraction in the inflammatory process and increases pain sensitivity in uterine fibers). Significant amounts of leukotrienes have been found in the endometrium of women with primary dysmenorrhea who do not respond to prostaglandin antagonist therapy. Posterior pituitary hormone, vasopressin plays a role in myometrial hypersensitivity, reduces uterine blood flow, and pain in patients with primary dysmenorrhea. The role of vasopressin in the endometrium is related to the synthesis and release of prostaglandins. Primary dysmenorrhea has now been associated with behavioral and psychological factors. Although these factors are not yet fully accepted they can be considered if medical treatment fails (Try Ayu Patmawati, 2020).

Several risk factors cause primary dysmenorrhea, including family history, age < 30 years, early menarche age (< 12 years), longer menstrual cycle, nullipara, low body mass index, low socioeconomic status and lifestyle. (diet, stress and smoking) (Nada Ismalia, 2017). Research conducted (Rahmatanti et al.,2020) found that there were differences between the lifestyles of young women with and without primary dysmenorrhea. It was explained that a lifestyle in the form of infrequent physical activity, stress and smoking both as active and passive smokers exist in women with primary dysmenorrhea.

Table 1. Respondent characteristics

Characteristics	Total	%
Age		
18-19 years	66	29,3
20-21 years	115	51,1
> 22 years	44	19,5
Age of Menarche		
<12 years	63	28
12-13 years	134	59,6
>14 years	28	12,4
Menstrual Period		
<3 day	63	28
3-7 day	134	59,6
>7 day	28	12,4

Stress Level		
Normal	91	40,4
Light	25	11,1
Currently	29	12,9
Critical	16	7,1
Awfully	64	28,4
Dismenorea Scale		
Light	16	7,1
Currently	51	22,7
Heavy	158	70,2

In the table above, it can be seen that the respondent's data description is based on age, age of menarche, duration of menstruation, stress level, and dysmenorrhea scale during the pandemic. It can be seen that the age range of respondents ranging from 18 years to 25 years, the majority of respondents aged 20-21 years as many as 115 respondents. Age is very influential on the occurrence of stress, usually, teenagers to early adulthood are very susceptible to stress, (nuramida et al., 2019) and the majority of respondents getting their first menstruation (menarche) at the age of 12-13 years as many as 134 respondents. This indicates that the majority of respondents experience menarche at an age that is considered mature. First menstruation (menarche) at the age of >12 years can reduce risk factors for health problems because menarche at an early age has been shown to be associated with various health problems and even causes of premature death (Luluk Khusnul D, 2018). While the characteristics of the duration of menstruation most respondents are 3-7 days as many as 134 respondents. Menstruation is longer than usual (7 days), menstruation causes longer uterine contractions resulting in more frequent uterine contractions, and more prostaglandins are secreted. Excessive production of prostaglandins causes pain, while continuous uterine contractions cause the blood supply to the uterus to stop and dysmenorrhea occurs.

Of the 225 respondents, 40.4% did not experience stress, but most experienced stress with various levels, as many as 28% experienced very severe stress. The numbers are quite surprising and it is necessary to understand that stress is an unpleasant condition where it can cause physical and psychological pressure on individuals (Sari & Nurdin, 2015). Meanwhile, according to (Luluk Khusnul D, 2018), everyone must have experienced stress and anxiety at least once in their life. The difference is, stress is the body's response to threats in random situations that could harm you. Anxiety is your reaction to stress. While depression is a mental illness characterized by a worsening of mood, feelings, stamina, appetite, sleep patterns, and concentration levels of the sufferer. Depression is not a sign of weakness or character flaw. Depression is also not to be confused with feelings of sadness or grief, which usually get better over time although in some cases, depression can be triggered by ongoing grieving or severe stress. Stress and depression affect the same way, but the symptoms of depression are much more intense and overwhelming and last for at least two weeks or more. Depression causes drastic changes from great moods to feelings of hopelessness, despair, and even not wanting to continue living (Livana, Mubin, & Basthomi, 2020).

most of the respondents experienced severe dysmenorrhea as many as 158 respondents. Etymologically, dysmenorrhea comes from the word dys which means difficult, painful, abnormal; meno means month; rhea which means flow or current. Thus, dysmenorrhea is briefly defined as difficult menstrual flow or painful menstruation (Wulandari et al., 2018) According to (Zhu et al., 2020) dysmenorrhea is a pain in the pelvic area due to menstruation and increased production of prostaglandin substances that begins 24 hours before menstruation and during menstruation until the first 12 hours after menstruation. Meanwhile, according to (Armadani et al., 2016) dysmenorrhea is menstrual pain such as cramps and centered in the lower abdomen

Table 2. Distribution of stress frequency on dysmenorrhea

Variable	Dismenorea				P-Value	
	Lightly	Current	Heavy	Total		
Stress	Normal	9	39	43	91	0,0001
		(4,0%)	(17,3%)	(19,1%)	(40%)	
	Light	5	4	16	25	
		(2,2%)	(1,8%)	(7,1%)	(11,1%)	
	Currently	1	6	22	29	
		(0,4%)	(2,7%)	(9,8%)	(7,4%)	
	Critical	0	1	15	16	
		(0,0%)	(0,4%)	(6,7%)	(7,1%)	
Awfully	1	1	62	64		
	(0,4%)	(0,4%)	(27,6%)	(28,4%)		
Total	16	51	158	225		
(6,6%)		(22,7%)	(70,2%)	(100%)		

Stressors faced by students in addition to changes in learning methods include economic concerns, concerns about family and self-health, academic delays, limited social interaction, reduced employment opportunities, and other factors in students' personal lives. This is following by several previous studies which state that students are faced with a large number of stressors including internal and external demands. Stressors faced by students include economic problems, worries about an uncertain future, social problems and opportunities, expectations for themselves, distance from parents and relatives, and other personal problems. Academic factors also contribute to potential stress, for example due to changes in learning styles from secondary school to higher education, lecture assignments, target achievement values, and academic achievement. Increased stress levels among students can result in decreased academic achievement and can affect the physical and mental health of students. Stress and anxiety during the COVID- 19 pandemic is determined by several factors that affect the speed and way a person adapts, such as personality, age, experience, learning process, physical condition, and environment. One's adaptability also plays a role in preventing stress and anxiety and determines how one determines how to deal with negative feelings that arise when faced with challenges or pressures (Fauziyyah et al., 2021).

Efforts to prevent stress on students that can be done by the university are by organizing interesting and communicative learning processes such as voice notes or teaching videos, relaxed and flexible online meetings, and being able to use email and social media. The campus can also provide adequate health facilities or carry out institutional collaboration with health facilities to detect and/or handle COVID-19 cases or be supportive for the mental/psychological health needs of the academic community (Wang et al., 2020).

There are several ways to deal with the increased stress and anxiety experienced by students during this pandemic, according to (Sari & Anggraini, 2020) there are three main steps that can be taken. First, it is advisable to equip yourself with sufficient knowledge about COVID-19. Second, find out about your health condition through self- screening. Third, determine attitudes and steps according to current health conditions. One way to reduce stress is to start talking about the feelings you are experiencing with the closest person or someone you can trust to help (Lubis et al., 2021) also mentions that the way to reduce

anxiety symptoms due to this pandemic is to do self-care. Self-care includes a variety of ways to take care of yourself physically, emotionally, and mentally. Some types of self-care that are recommended for everyone are sleeping well, doing physical activity, and meeting nutritional needs. Various efforts can be made to deal with this problem, both from students, universities, and the government. Students can do things that can prevent and reduce stress and anxiety, such as exercise or physical activity, get enough rest, do hobbies, keep socializing even though virtually, and if stress or anxiety feels heavy and disturbing, do not hesitate to tell people who trust or seek professional help. Suggestions that can be given to students' families are to be able to apply a healthy home environment, both physically and psychologically, to reduce stress for family members. The university is also responsible for the mental health of its students, so that it can contribute by paying attention to the mental health condition of students and providing counseling services or other mental health-related assistance from psychologists/psychiatrists for the university community. As for the government, it is also recommended to focus more for mobilizing resources on mental health problems which have increased considerably during this pandemic to realize effective handling efforts.

Stress can produce a variety of responses that can be useful as indicators and measuring tools of stress in individuals. The stress response can be seen in various aspects, namely physiological, adaptive, and psychological responses. Physiological responses in the form of brain interpretation and neuroendocrine responses; adaptive response in the form of General Adaption Syndrome (GAS) and Local Adaption Syndrome (LAS) stages. Psychological responses can be constructive or destructive behavior (Priyanti et al., 2014). The physiological response to stressors is a protective and adaptive mechanism to maintain the body's homeostatic balance. It is a series of neural and hormonal events that have both short and long term consequences for the brain and body. In the stress response, afferent impulses will be captured by the sensory and internal organs to the brain's nerve center and then forwarded to the hypothalamus. Then it is integrated and coordinated with the response needed to return the body to a state of homeostasis (Priyanti et al., 2014). If the body is not able to adapt to these changes, it can lead to disturbances in the body's balance (Putri et al., 2020). Neural and neuroendocrine pathways under the control of the hypothalamus are activated. Then there will be secretion of the sympathetic nervous system followed by the secretion of sympathetic-adrenal-medullary, and finally when stress is still present in the hypothalamic-pituitary system it will be activated (Priyanti et al., 2014). The central nervous system secretes norepinephrine and epinephrine to increase the sympathetic-adrenal-medullary response in stressful conditions. This response causes different effects or reactions in each body system (Wulandari et al., 2018).

When a person experiences stress, a neuroendocrine response (hormonal response) occurs which stimulates the hypothalamus to produce Corticotrophin Releasing Hormone (CRH). CRH then travels to the pituitary gland and triggers the release of Adrenocorticotrophic hormone (ACTH). ACTH is released into the bloodstream and causes the cortex of the adrenal glands to increase their release of hormones (cortisol, glucocorticoids, gonadocorthyroidism). These hormones inhibit the secretion of Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH) so that follicle development is disrupted. This causes the synthesis and release of progesterone to be impaired. Low progesterone levels increase the synthesis of prostaglandins F2 α and E2. The imbalance between prostaglandins F2 α and E2 with prostacyclin (PGI2) causes an increase in PGF2 α activation. Increased activation causes ischemia of the myometrial cells and increased uterine contractions. An excessive increase in contractions causes dysmenorrhea. Meanwhile, the increase in prostaglandins when the endometrium is in the secretory phase causes pain during menstruation (Hendrik, 2006).

According to (Zhu et al., 2020), when stressed, the body will produce excess hormones such as adrenaline, estrogen, progesterone, and prostaglandins. The increase in the hormone estrogen can increase uterine contractions, causing pain. The increase in adrenaline causes the body's muscles to tense up, including the uterine muscles, resulting in decreased perfusion to the endometrial tissue so that the blood vessels are

pinched by the uterine muscles which causes reduced oxygen supply and ischemia. The increase in the hormone adrenaline also causes the heart rate to increase so that cardiac output increases and there is a constriction of blood vessels. Blood vessels rich in oxygen stimulate the uterus to contract during menstruation. These contractions cause the blood supply to the uterus to stop for a while and increase the sensitivity of the nerve endings to pain, causing pain (Zhu et al., 2020). Because lectures are carried out entirely at home, students don't have much space to move and activities are low and more monotonous. Staring at a laptop screen all day will certainly cause fatigue to lead to stress. As for stress, due to academic demands during the COVID-19 pandemic, which forced students to adapt quickly, was one of the causes, so most of the students experienced stress. Stress can disrupt the work of the endocrine system, causing dysmenorrhea.

This study aims to determine the effect of stress on the dysmenorrhea scale of midwifery students at the Faculty of Medicine, Airlangga University. Based on the results of the study, most of the respondents experienced very severe stress with severe dysmenorrhea, namely 62 female students (27.6%) and only 9 female students (4.0%) who were not experiencing stress and did not experience dysmenorrhea. The results of the Chi-Square test between stress and dysmenorrhea stated that there was an influence between stress and dysmenorrhea, the P-Value = 0.0001.

This research is in line with research (Oktavani, 2017), conducted on 300 university students of North Sumatra which showed that there was a relationship between stress and the incidence of dysmenorrhea, and research conducted by (Malahayati, 2019), stated that the cause of dysmenorrhea is a psychological factor, one thing is stress. Stress is

an individual's response to a situation or event that can threaten the individual. Stress can disrupt the work of the endocrine system so that it can cause irregular menstruation and dysmenorrhea.

Research (Wang et al., 2020), suggests that psychological disorders such as depression, anxiety, and stress may have a two-way relationship with dysmenorrhea. On the other hand, experiencing recurring menstrual pain every month can increase the risk of experiencing depression, anxiety, or stress, and vice versa. In some cases, experiencing this psychological disorder worsens the safety of menstrual pain. Experiencing depression and dysmenorrhea at the same time can alter the perception of pain relief and reduce the response to treatment.

Pharmacological efforts can be made by giving analgesic drugs as pain relievers. According to Bare & Smeltzer (Lestari, 2013), pain management experienced by individuals can be through pharmacological interventions, collaboration with doctors or other primary care providers for patients. These drugs can reduce pain and inhibit the production of prostaglandins from traumatized and inflamed tissues that block pain receptors from being sensitive to previous painful stimuli, examples of non-steroidal anti-inflammatory drugs are aspirin, ibuprofen. Handling of primary dysmenorrhea is (Lestari, 2013) by giving treatment and advice. Administration of analgesic drugs that are often given are preparations of a combination of aspirin, fentanyl, and caffeine. Patent drugs circulating in the market include novalgine, ponstan, acetaminophen and so on. Hormonal therapy, the goal of hormonal therapy is to suppress ovulation, is temporary to prove that the disorder is really primary dysmenorrhea. This goal can be achieved by giving one type of combined contraceptive pill. Therapy with non-steroidal anti-prostaglandin drugs Endomethacin, ibuprofen, and naproxen, in approximately 70% of patients can be cured or experience a lot of improvement. Treatment can be given before menstruation starting one to three days before menstruation and can be the first day of menstruation. and dilatation of the cervical canal 327 Dilatation of the cervical canal can provide relief because it can facilitate the discharge of blood with menstruation and the prostaglandins in it. Presacral neurectomy (cutting of the sensory nerves between the uterus and the central nervous system) coupled with ovarian neurectomy (cutting of the sensory nerves to the infundibulum ligament) is a last resort, if other attempts fail.

According to (Lestari, 2013), there are two treatments for dysmenorrhea including pharmacological and non-pharmacological management. Non-Pharmacologically According to (Hendrik, 2006), non-pharmacological pain management consists of: Stimulation and cutaneous massage. Massage is a general cutaneous stimulus of the body, often centered on the back and shoulders. Massage can make the patient more comfortable because massage makes muscle relaxation. Ice and heat therapy, ice therapy can reduce prostaglandins that enhance the sensitivity of other subcutaneous and pain receptors at the site of injury by inhibiting the inflammatory process. Heat therapy has the advantage of increasing blood flow to an area and may also reduce pain by speeding healing. Transcutaneous Electrical Nerve Stimulation (TENS). Distraction, distraction is a distraction from things that cause pain, for example singing, praying, telling pictures or photos on paper, listening to music and playing a game. Relaxation, relaxation is a relaxation or release technique for tension. Simple relaxation techniques consist of slow, rhythmic abdominal breaths (deep breathing relaxation techniques. for Example: deep and slow breathing, and imagination). Most women do not treat their dysmenorrhea and some do limited treatment such as only applying eucalyptus oil or balm on the painful area, resting in bed, and taking painkillers on the market without consulting a doctor.

CONCLUSION

The ongoing global pandemic has undeniably introduced unprecedented levels of stress and anxiety into people's lives. This elevated stress can have multifaceted effects on health, potentially exacerbating pre-existing conditions such as dysmenorrhea or menstrual pain. Stress is known to influence hormonal balance, immune function, and overall well-being, which may indirectly contribute to menstrual discomfort. The dysregulation of stress hormones, particularly cortisol, can affect the menstrual cycle and exacerbate symptoms like cramping and pain. Additionally, lifestyle changes and disruptions in routines during the pandemic, such as altered sleep patterns, dietary habits, and exercise routines, may also impact menstrual health. It is crucial for individuals experiencing stress-related impacts on their menstrual health to prioritize self-care, including stress management techniques such as mindfulness, relaxation exercises, and maintaining a healthy lifestyle. Seeking support from healthcare professionals can also be beneficial in managing and alleviating the impact of stress on dysmenorrhea. In conclusion, while stress during the pandemic may not directly cause dysmenorrhea, its influence on overall health and well-being can contribute to the exacerbation of menstrual symptoms. Taking proactive steps to manage stress and adopting a holistic approach to health and self-care is essential during these challenging times.

ACKNOWLEDGEMENT

This research can be carried out properly thanks to the assistance of various parties, for that the researcher would like to thank the supervisor who has guided me in this research, family, and friends who have always supported me, and the Faculty of Medicine Universitas Airlangga who has given permission to conduct research.

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