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Research

Alexithymia and Nutritional Factor Towards Primary Dysmenorrhea

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A B S T R A C T

Background: Primary dysmenorrhea is a menstrual disorder experienced by teenagers and young adults with complaints of pain in the lower abdomen. There are many factors cause dysmenorrhea, including alexithymia and nutritional status.

Objective : Analyzing the relationship between alexithymia and nutritional status with the primary dysmenorrhea among students in the State Polytechnics of Madura

Method: Using a quantitative design with a cross-sectional approach. The sample was 148 respondents with the simple random sampling technique by using the Toronto Alexithymia scale (TAS-20) questionnaire and the nutritional assessment form.

Results: There is a significant relationship between alexithymia and nutritional status with the primary dysmenorrhea among students in the State Polytechnics of Madura (p value = 0.001) and age of menarche with the incidence of dysmenorrhea (p value = 0.038)

Conclusion: Alexithymia and nutritional status are the risk factors which have a significant relationship contributed with the incidence of dysmenorrhea among the young adolescent girl

INTRODUCTION

Dysmenorhea or menstrual pain is a complaint of pain that occurs in the lower part of abdomen which feels like being stabbed, aching, heartburn and spreads to the waist which causes the disruption of daily activities [1]. There are two types of dysmenorhea, namely primary and secondary dysmenorhea. Dysmenorhea experienced by adolescents and young adults is primary dysmenorhea, associated with a normal ovulatory cycle without any pelvic abnormalities [2]. The main cause of primary dysmenorrhea is the presence of prostaglandine hormone F2a type (PGF2a) which is produced in the endometrium. PGF2a is a needed hormone working on stimulating uterine contractions during menstruation period. [3].

WHO globally showed that an average of 16.8%-81% of young adolescent girls are experiencing dysmenorrhea. As many as 15% of adolescent girls in the United States experience the severe dysmenorrhea [4]. In Indonesia, the incidence of dysmenorrhea is 64.25%, consisting of primary dysmenorrhea 54.89% and secondary dysmenorrhea 69.36%. the incidence of primary menstrual pain reached 54.89%, while the rest were sufferers of the secondary type which resulted among them being

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unable to caay out any activities and this would reduce the quality of life in each individual. Meanwhile, in the East Java province showed that the high incidence of dysmenorrhea was 71.3% [5]. The results of a preliminary study conducted on March 15, 20223 with 10 students by measuring the dysmenorrhea experience, the height and the weight whic showed that 70% of students had an abnormal BMI and 30% of young adolescent girls had a normal BMI. The interview resulted obtaining 6 out of 10 students stated that they often felt such a deep sadness but difficult to express about their feeling.

One of the factors that influences the occurrence of dysmenorrhea is alexithymia, namely someone who has difficulthy identifying feelings and figure it out eo differentiate between feelings and physical response on their body as the result of emotional stimulation. The young adolescents with alexithymia were difficult on describing and appreciating the other people's feelings which is thought to lead a lack of empathy for the others. The risk factors for dysmenorrhea is 3.3 times higher among women with alexythimia [6]. Another risk factor which causes dysmenorrhea is nutritional status. An insufficient nutritional status will not only affect the growth and function of the body's organs but also disrupt the reproductive function. This has an impact on menstrual disorders including dysmenorrhea, but eill improve if the nutritional intake is well.

Dysmenorrhea has a big impact on teenagers. This causes the disruption to daly activities. If a female student ecperiences dysmenorrhea, their learnning activities at school are disrupted and ofthen results on their absence in the learning class. In addtition, the wuality of life will be decreasing for the young adolescent girls who experience dysmenorrhea because they can not concentrate on studying and lack of motivation so that their learning performance will decrease [7]. Wianti's research showed the relationship between dysmenorrhea and the influence of learning for teenagers with severe dysmenorrhea got the low grades (6.5%), the decreased concentration (87.15) and were absent (80.6%). Dysmenorrhea also has an impact physically and psychologically on the women such as a quick tired feeling, easily getting angry and disrupting learning activities [8].

Based on this description, this research aimed to determine the relationship between alexithymia and nutritional status with dysmenorrhea in Madura State Polytechnic nursing students. This research is a type of basic research and previously there has been no similar research regarding the relationship between Alexithymia and Nutritional Status with Primary Dysminorrhea so researchers are interested in conducting this research.

METHOD

1. **Reseach Design**

   This research uses a quantitative design with a cross sectional approach to determine the relationship between alexithymia and nutritional status with primary dysmenorrhea. The type of data used is primary data.

2. **Time and Place**

   This research was carried out from January to October 2023 and was carried out at the Madura State Polytechnic.

3. **Population and Sample**

   The population in this study was 235 level I and level II female students. The sample calculation was carried out using the Slovin formula (1960) and the results obtained were 148 people. Determining the sample used the simple random sampling method

4. **Sample Criteria**

   Samples were taken according to the inclusion criteria, namely female students who experienced primary dysmenorrhea, long menstruation of 3-7 days and exclusion criteria, namely those who were not present at the time of the study and had gynecological diseases.

5. **Reserch Procedure**

   The assessment was using a self-report questionnaire, namely the Torronto Alexithymia Scale 20 [9] It was using the Indonesian version which has been adapted by the researcher [10]. While for the nutriotional status variable was assessed by measing the weight and its height using a digital scale and a microtoise.

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6. Data Analyze

The data was analysed with the univariate analysis was used to see the frequency distribution of respondents' characteristics from demographic data and bivariate analysis by the chi square test.

RESULT DAN DISCUSSION

1. Univariate Analysis

Tabel 1. Table Frequency Distribution of Independent and Dependent Variables Research

No	Category	Frequency (n)	Percentage %
1	Alexithymia		
	Non Alexithymia	17	11.49
	Possible	89	60.14
	Alexithymia	42	28.38
	Total	148	100.00
2	Nutritional status		
	Underweight	24	16.22
	Normal	74	50.00
	Overweight	50	34.01
	Total	148	100.00
3	Primary Dysmenorrhea		
	Non- primary dysmenorrhea	38	25.68
	Primary dysmenorrhea	110	74.32
	Total	148	100.00

Based on the results showed in the table 1, from the 148 respondents, the majority of respondents had normal nutritional status given 50% (74 respondents), the majority of respondents probably experienced alexithymia as much as 60.14% (89 respondents), the majority of respondents experienced primary dysmenorrhea 74.32% (110 respondents).

2. Bivariat Analysis

Tabel 2. The Results of Chi-Square Tested of Independent and Dependent Variables Research

No	Value	Dysmenorrhea Status				p-value
		Non Dysmenorrhea		Dysmenorrhea		
		n	%	n	%	
1	**Alexithymia**					
	Non Alexithymia	11	55	45	6,1	0,001
	Possible	13	32,5	27	67,5	
	Alexithymia	14	15,9	74	84,1	
2	**Nutritional Status**					
	Underweight	10	35,7	18	64,3	0,038
	Normal	18	32,7	37	67,3	
	Overweight	10	15,4	55	84,6	

Based on the table 2, it can be concluded that respondents with alexithymia, possibly or without alexithymia were ecperiencing more dysmenorrhea. The incidence of dysmenorrhea was more common among students with alexithymia at 84.1% whereas the number of students who did not experience dysmenorrhea was higher emong students without alexythimia at 55%. The results of the Chi-square test showed a significance of p value = 0.001 ($p < 0.05$). So it can be concluded that there is a relationship between alexithymia and primary dysmenorrhea.

Respondents with all category of nutritional status experienced more dysmenorrhea. The incidents of dysmenorrhea occurred more frequently in female students with overweight at 84.6%, whereas students who did not experience dysmenorrhea were more likely to have normal nutritional status at 32.7%. the results of the chi-square test showed a significancy p value = 0.038 ($p<0.05$). So it can be concluded that there is a relationship between nutritional status and primary dysmenorrhea.

3. The Relationship between Alexithymia and Dysmenorrhea

Based on the results, it shows that respondents with both alexithymia and non-alexithymia are more likely to experience dysmenorrhea. The incidence of dysmenorrhea was more common in student with alexithymia at 84.1%, whereas the number of students who did not experience dysmenorrhea was higher among students without alexithymia at 55%. Alexithymia is a condition where a person is difficult to identify and differentiate their feeling whether physically or psychologically and also performs difficulties in describing feelings to other people with the limit of imagination process. [11].

The chi-square test showed that the incidence of dysmenorrhea had p value = 0.001 ($p < 0.05$) which can be concluded that there is a significant relationship between alexithymia and the incidence of dtsmenorrhea. The results of the study are in line with the research of Faramarzi et al. which showed that 360 female students who participated, there are 178 female students (49.4%) were showing characteristics of alexithymia. Patients with alexithymia are difficult to describe and appreciate the feelings of others which is thought causing a lack of empathy towards others. The risk factor for dysmenorrhea is 3.3 times higher in women with alexithymia. Psychologically, there is a relationship between alexithymia and primary dysmenorrhea [12]. The young adolescents with alesithymia show the very prominent characteristics of pre-menstrual syndrome. The pre-menstrual syndrome occur at the end of the luteal phase of the menstrual period. These pre-menstrual syndromes include both psychological symptoms including sleep disorders, anxiety, the increasing pain threshold and the physical symptoms including headaches, backpain, swollen breasts, flatulence even vomiting [13].

A research conducted at Babol university of Medical Sciences which was aimed to evaluate psychological and non-psychological risk factors for primary dysmenorrhea found that social support, alexithymia, neurotic personality and family history were significantly associated with dysmenorrhea which has the role as the main risk factors. The low social support became the strongest predictor factor and alexithymia is the second one [12]. Several mechanisms underlying the association of alexithymia with the onset of menstrual pain have been proposed. First, individuals with the high level of alexithymia have difficulties in recognizing their physical and emotional symptoms, which may be related to the onset of somatixed pain [14]. Second, a person with ahigh level of alexithymia performs a limit coping to overcome the stressor [15]. There is a potential for the generalized hypersensitivity to the internal unpleasant sensations and externally induced pain in people with alexithymia [16]. So that alexithymia finally has been statistically proven for being associated with the chronic pain due to its impacts on negative affects [17].

4. The Relationship between Nutritional Status nnd Dysmenorrhea

The results of this research showed that respondents with all types of nutritional status experienced more dysmenorrhea. The incidence of dysmenorrhea occurred more frequently in the overweight female students with the amount of 84.6%, whereas the students who did not experience dysmenorrhea were more likely to have normal nutritional status for amount of 32.7% [18]. This study showed that the nutritional status BMI was measured by individual's weight and height as the one of the causes of dysmenorrhea. The BMI status and the excessive nutritional status are the risk factors for pain during menstruarion. This study is in line with the research by Arisani in 2019 on the midwifery students of The The Ministry of Health Polytechnics of Palangka Raya which showed that nutritional status 9BMI) and dysmenorrhea had a relationship with a p-value = 0.000 (p,0.05) and concluded that the young adolescents who had abnormal type of nutritional status is 14.920 times more likely to experience dysmenorrhea [19].

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A good nutritional intake will influence the formation of the hormones involved in menstruation, namely the FSH (Follicle Stimulating Hormone), LH (Luteinizing Hormone), estrogen and also progesterone. The hormones FSH, LH and estrogen involved together in the menstrual cycle, while the progesterone hormone affects the uterus for reducing the contractions during the menstrual cycle so that the good nutritional intake will influence the metabolism of the menstrual's hormones [20]. The high incidence of dysmenorrhea in female students with underweight nutritional status is caused by the nutrition insufficiency which makes the gonadotropine hormone decreased. It indirectly makes the decrease of the LH and FSH production that can affect in menstrual cycle. This hoemonal imbalance causes the formation of prostaglandis which are the cause of dysmenorrhea. Another theory explaines that the young adolescents with the poor nutritional status indicate a lack of balanced nutritional intake such as calcium, protein, iron and carbohydrates. It can weak the physical condition so that the body's resistance to pain is reduced, meanwhile women need more nutrition in the luteum phase [21].

Another factor that causes a primary dysmenorrhea is the overweight. The overweight young adolescents have a high level of fat pushing the blood pressure on the vessels by fatty tissue in the female reproductive organs and make the blood flow along the menstrual period is disrupted and creates some pains [22]. Another factor that influences the overweight young adolescents for having a dysmenorrhea is the excessive fatti acids in the body which can interfere with the progesterone metabolism in the luteal phase of the menstrual cycle, resulting in an increasing prostaglandin levels which causes pain during a menstrual period. One of the way to prevent the dysmenorrhea is to maintain nutritional status in a normal condition.

CONCLUSION

The results of this study concluded that of the 148 students, the majority were nursing students of the State Polytechnics of Madura in 2023 had a normal nutritional status given 50% (74 respondents), the majority of respondents probably experienced alexithymia as much as 60.14% (89 respondents), the majority of respondents experienced primary dysmenorrhea 74.32% (110 respondents). This showed that there is a significant relationship between alexithymia with and primary dysmenorrhea p value = 0.001 ($p < 0.05$). There is a relationship between nutritional status and primary dysmenorrhea with significancy p value = 0.038 ($p<0.05$).

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