Correlation Between Indeks Mass Body with Premenstrual Syndrome on Female Students in Institute of Health Sciences of Karya Husada Kediri

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ABSTRACT

Teenagers who had menstruation can not be separated from the problem of premenstrual syndrome, in addition to a variety of lifestyle factors make these symptoms worse. One of the risk factors of premenstrual syndrome is the body mass index. Women who have a body mass index scores $> 30$ had a threefold risk of premenstrual syndrome compared to women with a body mass index $<30$. The purpose of this study to know the relation of body mass index with the incidence of premenstrual syndrome.

This study was analytic correlative with case control approach. population in this study is college female students at STIKES Karya Husada Kediri. Total student population of 531, the number of samples overweight 31 female students and 83 normal college student, variable in this research is the independent variable is the body mass index and the dependent variable is Premenstrual Syndrome, instrument in this study using data collector sheet and questionnaire. The data collected were processed with statistical Spearman rank test. The study was conducted on 13-17 July 2016.

From the statistical test using Spearman Rank correlation with a $p$-value $0.001 < \alpha$ r value of 0.01 and 0.628 hence Ho refused and H1 accepted which means there is a correlation between body mass index with premenstrual syndrome.

The correlation of body mass index with premenstrual syndrome due to an imbalance of estrogen and progesterone. Increased levels of estrogen is directly proportional to the increase in the percentage of fat in the body means higher body mass index, the greater the risk of a woman to experience premenstrual syndrome.

I. INTRODUCTION

Puberty in girls is marked with menstruation. Ahead of the arrival of the menstrual phase, a woman will face many uncomfortable symptoms that occur in a short time, ranging from several hours to several days. Disturbances commonly experienced by women before menstruation called Pre-Menstrual Syndrome or Pre-Menstrual Syndrome. Teenagers who had menstruation regardless of the PMS, plus the various lifestyle factors make these symptoms worse. One disturbance of health, which is difficult to identify accurately the woman is a collection of symptoms known as premenstrual syndrome.

According to research by the World Health Organization in Emilia (2009), which is done at 14 different cultural groups in 10 countries found the prevalence of symptoms of pre-menstrual syndrome in culture. In the eastern region of the state is lower (23-34%), such as Indonesia. Three pre-menstrual syndrome, the most heavily felt by adolescent is a great abdominal pain 17.6%, irritable or irritable 10.8% and muscle or joint pain 9.1% (1).

One of the risk factors of premenstrual syndrome is the body mass index. Women who have a body mass index scores $> 30$ had a threefold risk of premenstrual syndrome compared to women with...
a body mass index <30. Permasalahan high and low score of body mass index in adolescence is an important issue, because it can lead to the risk of various diseases and affects work productivity (2). The cause of pre-menstrual syndrome is not known with certainty. According to the theory occurs due to hormonal imbalance in estrogen and progesterone that is because too tingginnya estrogen levels or the levels of serotonin are not proportional. pre menstrual syndrome occurs as a result of a defective process of ovulation due to hormonal imbalances.

Adolescents in making the suggested diet more often but in small portions because it is based on evidence that during the period of pre-menstrual syndrome there is interference taking glucose for energy. Common symptoms of pre-menstrual syndrome such as an increase to mengkonsumsian carbohydrates due to low serotonin levels. When serotonin is low, the brain sends signals to the body to eat karbohidarat, where to stimulate the production of serotonin from the natural amino acid building block. A regular diet and reduce fat composition can keep the weight off. Due to excessive weight can increase the risk of suffering from pre-menstrual syndrome.

II. METODS OF RESEARCH

The study design used in this research is the design of case control studies that are retrospective. This research is a study design comparing between the case group (obese body mass index) in the control group (normal body mass index) to determine the proportion of the incident based on the presence or absence of a history of exposure to the symptoms of pre-menstrual syndrome.

The research was conducted on 13-17 July 2016, for 5 days in STIKES Karya Husada Kediri. The population studied is the entire student at STIKES Karya Husada Kediri many as 114 female students, the sample was student body fat mass index of 31 and a student of normal body mass index 83 in STIKES Karya Husada Kediri. Sampling in this research is proportional random sampling.

The data collection process starts from an application for permission to the Chairman Prodi D4 Midwifery STIKES work Husada Kediri. Continued application for permission to the chairman LPPM STIKES Karya Husada Kediri. Continued application for permission to the Chairman Prodi S1 Nursing, Midwifery D4, D3 Midwives, D3 Nutrition STIKES Karya Husada Kediri.

This was allowed to conduct the study, researchers with the help of other researchers doing research. First, the researchers remotely measured the height and weight on the students. Having obtained the results by calculating the body mass index, the researchers went on to distribute the questionnaire. Followed by the data collection process.

Types of data collection instruments of this study was the observation and questionnaires. Data analysis technique used to examine the relationship between two variables using test Spearman rank.
III. RESULTS AND DISCUSSION

Results

Research conducted on 114 respondents common data obtained as follows:

General Data

1. Characteristics of Respondents By Age

Diagram 1 Characteristics of respondents obese BMI group (cases) and normal BMI group (those under) by age in STIKES Karya Husada Kediri, 13-17 June 2016 (n = 114).

Based on one diagram can be seen most of the group was 19 years old obese BMI is 12 respondents (39%). And the normal BMI group mostly aged 20 years is 31 respondents (37%).

2. Characteristics Of Respondents Had Received Information Based On Pre Menstrual Syndrome

Diagram 2 The characteristics of the respondent group of obese body mass index (cases) and a group of normal body mass index (control) based've got information on pre menstrual syndrome in STIKES Karya Husada Kediri, 13-17 June 2016 (n = 114).

Based on the diagram of two known groups of body mass index chubby majority of respondents who had received information about pre-menstrual syndrome is 21responden (68%) and IMT normal most of the respondents who had received information about pre-menstrual syndrome, ie 68 respondents (82%).
3. Characteristics of respondents based source of information about pre menstrual syndrome

![Diagram 3 Characteristics of respondents fat body mass index groups (cases) and a group of normal body mass index (control) by source of information about pre-menstrual syndrome in STIKES Karya Husada Kediri, 13-17 June 2016 (n = 114).](image)

Based on the diagram 3 can be seen most of the respondents were the source of information about pre menstrual syndrome on health workers which 15 respondents (49%) and most of the sources of information about pre menstrual syndrome on health workers which 42 respondents (50%)

4. Characteristics of respondents fat body mass index groups (cases) and a group of normal body mass index (control) based on the present state

![Diagram 4 Respondent Characteristics Obese Body Mass Index Groups (Cases) And A Group Of Normal Body Mass Index (Control) Based On The Circumstances At Husada work STIKES Kediri, 13-17 June 2016 (n = 114).](image)

Based on the diagram 4 can be seen that the group of body mass index obese (cases) of the 31 respondents almost all respondents from groups of body mass index fat (case) to the current situation does not menstruate ie 24 respondents (77%) and of 83 respondents almost all respondents index groups normal body mass (control) with no menstrual keadaansekarang of 71 respondents (86%).
Specific Data

1. Characteristics Of Respondents By The Body Mass Index

Table 1 Body Mass Index Respondents in STIKES Karya Husada Kediri, 13 to 17 June 2016 (n = 144).

<table>
<thead>
<tr>
<th>No</th>
<th>BMI</th>
<th>Frekwensi</th>
<th>Prosentase(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Normal</td>
<td>83</td>
<td>72.8</td>
</tr>
<tr>
<td>2</td>
<td>Overweight</td>
<td>31</td>
<td>27.2</td>
</tr>
<tr>
<td></td>
<td>Amount</td>
<td>114</td>
<td>100</td>
</tr>
</tbody>
</table>

Based on Table 1 it can be seen that the group of normal body mass index is 31 respondents (27.2%) and normal body mass index (control) is 83 respondents (72.8%).

2. Characteristics Of Respondents By Symptoms Of Premenstrual Syndrome

Diagram 5 Characteristics of respondents fat body mass index groups (cases) and a group of normal body mass index (control) based on the symptoms of pre-menstrual syndrome in STIKES Karya Husada Kediri, 13-17 June 2016 (n = 114).

Based on the diagram 5 can be seen that the group of obese body mass index (cases) of the 31 respondents are subjected to severe symptoms of pre-menstrual syndrome, namely 22 respondents (71.8%) and normal body mass index (control) of 83 respondents mostly experiencing symptoms mild pre menstrual syndrome which is 36 respondents (43.4%).

3. Relationship Between Body Mass Index With Pre Menstrual Syndrome By Student.

Table 2 Relationship between body mass index With Genesis Pre Menstrual Syndrome By Student At Work STIKES Husada Kediri, 13 to 17 June 2016 (n = 114).

<table>
<thead>
<tr>
<th>Nutritional status</th>
<th>Symptom</th>
<th>weight</th>
<th>moderate</th>
<th>light</th>
<th>Very light</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>overweight</td>
<td>22</td>
<td>19.3</td>
<td>8</td>
<td>7.0</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Normal</td>
<td>3</td>
<td>2.6</td>
<td>26</td>
<td>22.8</td>
<td>36</td>
<td>31.6</td>
</tr>
<tr>
<td>Amount</td>
<td>25</td>
<td>21.9</td>
<td>34</td>
<td>29.8</td>
<td>37</td>
<td>32.5</td>
</tr>
</tbody>
</table>

Uji korelasi spearman rank = 0.628, sign 0.001
Based on the above table it can be seen that a student who has a body mass index of obese mostly experiencing severe symptoms of pre-menstrual syndrome which 22 (19.3%) of respondents. And a student with normal body mass index largely experiencing mild symptoms of pre-menstrual syndrome, namely 36 respondents (31.6%).

4. Test Results Statistics

From the statistical test using Spearman Rank correlation with a p-value 0.001 <α r value of 0.01 and 0.628 hence Ho refused and H1 accepted which means there is a relationship between body mass index with pre menstrual syndrome on the students in STIKES Karya Husada Kediri. where the greater body mass index, the more severe the symptoms of pre-menstrual syndrome in students in STIKES Karya Husada Kediri. Furthermore, if the value rtersebut guided by the provisions, a score is a strong correlation or relationship between body mass index with pre menstrual syndrome on the students in STIKES Karya Husada Kediri.

IV. DISCUSSION

Body Mass Index

Based on the results of research conducted on 13 to 17 June 2016 Karya Husada STIKES Kediri that almost half of the respondents had a normal BMI is 83 respondents (72.80%).

The body mass index is a simple tool for monitoring the nutritional status especially those related to deficiency and overweight (3).There is a flurry of obesity precipitating factors include: genetic factors, excessive eating, lack of activity, emotions and environment (4). Nutritional problems commonly experienced in the adolescent phase is obesity and anemia. The cause of obesity is diverse. Energy needs for teenagers to do more physical activity, such as sports, play, or help their parents. Teens usually have a lot of attention and activity outside the home, so it is often forgotten mealtime (5).

According Almatsier (2003), food consumption is influenced by two main factors, namely internal and external. Internal factors are factors that exist in the human itself. Internal factors can be divided into two classes, namely that are emotional / psychological and habitual. External factors are factors which are beyond humans, such as groceries provided by the surrounding nature, I bought, and so on.(5)

Researchers found many factors that affect body mass index in young girls, one of which is a factor of food consumption. In today's widely available fast food (fast food), the food was favored by most teenagers, were we all know that fast food contain nutritional value is good but for the short term, this is what causes the value of the body mass index in young girls today average fall within the categories of body mass index is normal or even above normal.

Pre Menstrual Syndrome

Pre-menstrual syndrome in female students in STIKES Karya Husada Kediri known in fat body mass index groups (the case) that the majority of respondents experienced symptoms of severe pre-menstrual syndrome, namely 22 respondents (19.3%). While the group of normal body mass index (controls) who experienced mild symptoms of pre-menstrual syndrome, namely 36 respondents (31.6%).

According Pudjadiastuti,(2012) pre-menstrual syndrome is a collection of complaints or physical symptoms, emotional, and behavior that occurs in women of reproductive age, which appear regularly in the span of 7-10 days before menstruation and disappear after the menstrual blood keuluar occurs at a level that is able to influence the lifestyle and the woman job (6)

The risk factors of women who are at high risk or have pre menstrual syndrome include family history, women who have given birth, marital status, age, stress, diet, smoking and drinking alcohol can also aggravate the symptoms of pre-menstrual syndrome (7). According to statistics in the United States said that the pre menstrual syndrome suffered moderate or severe at least by 3-5% of the
population of women of reproductive age. Emilia (2009) even mention the prevalence rate can reach 30% of the entire population of women of reproductive age, and one third of them had pre menstrual syndrome severity (1,2).

Based on the research that has been done, the researchers suggested in order to prevent pre-menstrual syndrome in women this, women should be aware of and identify with both the symptoms specifically posed pre menstrual syndrome, so with so may start avoiding the things that trigger the onset of symptoms the. Consult the midwife who is believed to solve the problems faced, is a wise attitude in preventing refers to the severity of symptoms.(5)

The fewer the women who developed pre-menstrual syndrome, the higher the quality of life of the woman seen on the physical health and psychological health. For teens who are at high risk, healthy behaviors such as regular exercise and avoid eating foods that are not healthy seems to be the best alternative to avoid yourself from pre menstrual syndrome

V. CONCLUSION

1. Students in STIKES Karya Husada Kediri majority of respondents 72.8% had a normal BMI.

2. From the results of pre menstrual syndrome symptoms can be identified obese BMI groups (case) almost half of respondents with symptoms of severe pre-menstrual syndrome, namely 22 respondents, while 71.0% of the normal BMI group (control) mostly experiencing mild symptoms of pre-menstrual syndrome, namely 36 respondents (43.4%).

3. From the statistical test using Spearman Rank correlation with a p-value 0.001 <α0,01 with r = 0.628, then Ho is rejected and H1 accepted which means that there is a relationship between BMI with pre menstrual syndrome in students in STIKES Karya Husada Kediri. where the greater the BMI, the more severe the symptoms of pre-menstrual syndrome in students in STIKES Karya Husada Kediri. Furthermore, if the value of the Pearson correlation guided by the provisions, a score is a strong correlation or relationship between BMI with pre menstrual syndrome in students in STIKES Karya Husada Kediri.

VI. BIBLIOGRAPHY


