

Correlation Between Body Mass Index (BMI) and Level of Anxiety to Menstrual Cycle for Young Female Students in the Department of Midwifery

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Abstract—Menstruation is the initial sign in which the function of a woman's reproductive organs has matured. This situation happens every month in a periodic cycle. The menstrual cycle of young women tends to be irregular or disorders because it is influenced by the balance of the estrogen and progesterone hormone in the blood. The purpose of this study was to determine the relationship between body mass index (BMI) and the level of anxiety towards teenage menstrual cycle. This study was an observational analytic study with a cross-sectional design, in which the data collection was conducted through interview methods and WHO standard questionnaires for the level of anxiety (Taylor Manifest Anxiety Scale). Based on multivariate analysis ($\alpha = 0.05\%$), the results were significant ($p = 0,000$), indicating that there was a correlation between BMI and anxiety levels for the teenage menstrual cycle of the students.

Keywords—BMI (Body Mass Index); level of anxiety; the menstrual cycle.

I. INTRODUCTION

The menstrual cycle is very important for woman reproductive function in preparing the conception and pregnancy. Normal and regular cycles indicate that the woman has good development and reproductive function. The menstrual cycle normally ranges between 21-35 days and only 10-15% has a 28-day menstrual cycle. The length of the menstrual cycle is strongly influenced by age, weight, physical activity, level of stress and anxiety, genetics and nutrition [1]. Adolescence often increase their emotional tension as a result of physical changes and glands because adolescents are highly sensitive and have problems of their thinking, feeling and behavior disorders [2].

Based on the result from the Health Research Association in 2010, the majority of 68% of women aged among 10-59 years in Indonesia was reported to encounter irregular menstruation and 13.7% of them experienced problems of irregular menstrual cycles in the past one year. Emotional disturbance, tension, stress, anxiety can bring on symptoms of abnormal bleeding in the uterine. This happens because the hypothalamus which then affects the hormone that stimulates

the release cycles of ovulation becomes blocked, consequently leading to menstrual irregularity.

One of the hormonal systems in the body which is affected by psychological factors is the axis hypothalamus-pituitary-ovarian (HPO). This shaft is a hormonal system that regulates follicle maturation, ovulation, and menstrual cycle, in which the shaft HPO and other hormones may affect the regularity disturbed menstrual cycle [3]. Stress or anxiety can disrupt the menstrual cycle of women because the location of the stress center is really close to the menstrual regulation center in the brain. Psychosocial stressor stimulation resulted in brain neuron networks participate in signaling danger. The brain can constantly send the message when something goes wrong and needs immediate attention [4].

It is required for teenagers to adjust with life transition, such as transition in the school environment. Routines and academic demands make girls stressed. Moreover, students in the department of obstetrics are required to complete the course promptly of learning in the classroom, laboratory and practical activities, therefore the major's midwifery is very susceptible to emotional disorders, especially anxiety. The factor of anxiety and stress is a universal phenomenon that affects the physical, social, emotional, intellectual, and spiritual condition. Students' over lecturers, clinical practice grueling, intensive tasks and the process of making paper are trigger factors of stress causing the menstrual cycle to become irregular [5].

Menstrual cycle disorders are also often related to nutrient intake or nutrition problems that can be seen through the body mass index (BMI). There is a significant association between body mass index with the length of the menstrual cycle of the student at Lampung University School of Medicine [6]. The body mass index is a measurement for predicting the percentage of fat in the human body that is obtained from the ratio of weight in kilograms by height in meters squared [7]. Fat is one of the compounds in the body that affect the process of estrogen hormone formation, and one of the dominant factors are the causes of the menstrual disorders is hormone estrogen.

Having a low or high BMI can cause menstrual disorders such as the absence of menstruation, the short and long of

cycle (*amenorrhea, polymenorrhagia, and oligomenorrhea*). Teenagers usually body-shame themselves, so they are very concerned about the appearance through diet by losing weight extremely, which often leads to *anorexia nervosa*. On the other hand, the teenagers also have a habit of eating junk food or fast food which contains high saturated fat, cholesterol, and sodium, which will be the risk of obesity [6]. Menstrual disorders are a fairly common problem in primary health care and are a problem that is common with a prevalence of 75% in the late teens. Menstrual disorder is an important indicator of their reproductive system into disorders that may be associated with an increased risk of various diseases such as cervical cancer, breast cancer and infertility [8].

Based on preliminary studies carried out on some students of Diploma IV Midwife at the University 'Aisyiyah Yogyakarta, they said that during the last three months, they encountered disruption in the menstrual cycle between amenorrhea secondary, polymenorrhagia and oligomenorrhea due to the tight schedule of lectures as well as the number of tasks that must be done, therefore it made them restless and results stress. According to reference [9], some students in Department of Midwifery Faculty of Sport and Health Universitas Pendidikan Ganesha, claimed that the state of stress experienced when making a report in lectures and practical activities would lead to eating foods containing high carbohydrates and the fast-food, so it would affect the menstrual cycle. Based on some of these events, it is necessary to analyze the link between body mass index and level of anxiety to the menstrual cycle in young women.

II. RESEARCH METHODS

This study was analytic observational quantitative study, which used a *cross-sectional design*. This approach was used in order to look the relation between body mass index (BMI) and level of anxiety of the menstrual cycle of young women in the student of Midwifery Department, Faculty of sport and health Universitas Pendidikan Ganesha. The observation was done toward the 2nd, 4th and 6th semester students. The overall sample of 120 people was divided into three groups of respondents, so each group consisted of 40 people. Respondents filled out questionnaires in which the level of anxiety questionnaire was T-MAS (*Taylor Manifest Anxiety Scale*) and interview respondents about the menstrual cycle, body weight and height.

Anxiety level was indicated by the high and low scores obtained. The greater the score, the higher the anxiety level was, and the smaller the score, the lower the anxiety level was. This T-MAS instrument consisted of 50 statements. This test was a standard anxiety test that could be accepted internationally. The assessment was "Yes" if the statement was in accordance with the situation, "No" if the statement was not in accordance with the situation. T-MAS questionnaire consisted of 12 unfavorable statements and 38 favorable statements. Favorable statement had a value of 1 for "yes" answers and 0 for "no" answers. The unfavorable statement is worth 1 for "no" answer and 0 for "yes" answer.

The data processing was done by calculating a score in anxiety levels, BMI and the menstrual cycle then inserted into predefined categories with nominal and ordinal scale. Anxiety level has categories: low (score < 20), medium (score 20-25) and high (score > 25). BMI categories include normal with BMI score > 18,5-25,0 and abnormal (fat/thin) with BMI score < 17,0 - > 27,0. The menstrual cycle was categorized regular/ normal and irregular/abnormal. The next step was coding, entering and tabulating the data, and analyzing the data by using model linear is a multivariate test with SPSS 21'.

TABLE 1. BODY MASS INDEX (BMI) OF THE MENSTRUAL CYCLE STUDENTS IN EACH GROUP OF RESPONDENTS

Groups of Respondents (semester)	IMT (Category)	The Menstrual Cycle						Total	F	P
		Regular		Irregular						
		n	%	n	%	n	%			
2 nd	Normal	14	58.3	7	43.7	2	52.1	340.248 318.500		
	Abnormal	10	41.7	9	56.2	1	47.9			
	Total	24	100	16	100	4	100			
4 th	Normal	25	78	6	75	3	77.5	335.624 351.000		
	Abnormal	7	22	2	25	9	22.5			
	Total	32	100	8	100	4	100			
6 th	Normal	24	89	1	84.6	3	87.5	451.286 312.111		
	Abnormal	3	11	2	15.4	5	12.5			
	Total	27	100	3	100	4	100			

III. RESULTS AND DISCUSSION

The number of respondents in semester II, IV and VI were the same, the age range was between 18 to 21 years with the number of respondents of 40 people which had percentage of 33% in each group of respondents. In body mass index of normal category of 87 people, most of them had a percentage of 72.5% compared to the category of abnormal.

Based on data, it was found that the BMI of the respondents (6th semester) were categorized in normal category and regular menstrual cycles as many as 24 people (89%) and their BMI were categorized in abnormal category with irregular menstrual cycles as much as 2 people (15.4%). It means that it was smaller than the other groups. In the group of the other respondents (2nd semester), 14 people (58.3%) were categorized in a normal BMI and regular menstrual cycles. On the other hand, 9 people (56.2%) were categorized in abnormal BMI to irregular menstrual. So it was greater than the other groups with a significance level $\alpha < 0.05$ ($p = 0.000$).

TABLE 2. ANXIETY LEVEL OF THE MENSTRUAL CYCLE STUDENTS IN EACH GROUP OF RESPONDENTS

groups of respondents (semester)	Score T-MAS (Category)	The menstrual cycle				Total		F	P
		Regular		Irregular		n	%		
		n	%	n	%				
2 nd	Light	3	12.6	2	7.6	5	12.5	478.397 318,500	0.000
	moderate	7	29.2	4	15	11	27.5		
	Weight	14	58.2	10	38.4	24	60		
	Total	24	100	26	100	40	100		
4 th	Light	4	12.5	2	25	6	15	351.000	
	moderate	10	31.2	2	25	12	30	416.000	
	Weight	18	56.3	4	50	22	55		
	Total	32	100	8	100	40	100		
6 th	Light	4	14.3	0	0	4	10	541.667	
	moderate	8	28.5	4	33	12	30	313.857	
	Weight	16	57.2	8	67	24	60		
	Total	28	100	12	100	40	100		

Based on the obtained data of the group of respondents (4th semester), they had a category of anxiety and irregular menstrual cycles as many as 18 people (56.3%), more than the other groups, categories was low level of anxiety with regular menstrual as many as 4 people (12.5 %) smaller than the other groups. The group of respondents (2nd semester) who had low level of anxiety and regular menstrual cycles were 3 people (12.6%). Besides, 10 people (38.4%) had a high level of anxiety with irregular menstrual cycles and was higher than the other groups with a significance level $\alpha < 0.05$ ($p = 0.000$).

The numbers of respondents who had regular menstrual cycles were 83 people, most with a percentage of 70% compared to irregular menstrual cycles. T-MAS scores in all groups of respondents with severe categories had a frequency of 70 people; most of them were in percentage of 58.3% compared to mild and moderate categories.

1. Relation of body mass index to the menstrual cycle of young women

After being tested by using multivariate statistical p-value = 0.000 ($p < 0.05$), it can be concluded that there is a significant relationship between body mass index (BMI) with the menstrual cycle of young women. The results are in line with reference [6], that if BMI is normal then the menstrual cycle is regular but if BMI is abnormal then the menstrual cycle tends to be irregular and can be disrupted.

That proves the relationship between BMI on the length of menstruation in young women. The survey results revealed that respondents who had a normal BMI do not have the irregular menstrual cycle. The lower body fat composition affect the lack of high nutrient intake and the extreme loss of energy through physical activity. The length of the menstrual cycle can be an appropriate indicator of hormonal imbalance and anovulation or an irregular ovulation cycle. Hormonal imbalances can affect the timing, presence or absence of the

ovulation process. Nutrient intake is positively related to fat composition in the body.

The buffer system that protects the reproductive system is affected by body weight, body fat and leptin levels. Therefore, if the fat and leptin in the body are less or excess then it will affect the reproductive system including the menstrual cycle. These body fat levels are known to influence the estrogen hormone, which is largely produced by the ovaries but it is also produced by the adrenal glands and the fat tissue. Therefore, if there is weight gain, it automatically also increases the fatty tissue and ultimately increases the estrogen hormone in the blood. This happens because a person with high body fat also has high androgen

Androgen is a hormone that is converted to estrogen through the aromatization process in the granulosa cells and fat tissue. The high of estrogen levels in the blood will lead to negative feedback on the secretion of GnRH (gonadotropin-releasing hormone) [10]. The gonadotropin hormone produced by the hypothalamus which works to stimulate the pituitary gland to produce FSH and LH is used for the growth of follicles in the ovaries until ovulation the ovum in the middle of the menstrual cycle (fertility). If there is an interruption in the feedback process, ovulation disorders will occur. The situation is almost the same when a little fat reserve in the body causes the hormone androgen in the blood to be aromatized into estrogen reduced.

Lower amounts of estrogen will also affect the working system of the hypothalamic-pituitary-ovarian of the menstrual cycle. FSH secretion of estrogen decreases, so it could not form the mature follicle, and consequently the menstruation cannot occur. Besides, it is also known that fat cells in a person's body will release the aromatase enzyme that facilitates the process of aromatization [11]. Therefore, if there was an increase or decrease in body fat, it will certainly affect the secretion of the enzyme aromatase in the blood and the aromatization process is also affected. The steroid of the fat is very functional in producing the hormone in the human body, including sex steroids. Sex steroids are considered as the only regulator of gonadotropin hormone production, it is known that peptides have the nature of the gonad regulating of FSH secretion.

Inhibin and follistatin suppress FSH release, and actives stimulate FSH release. The synthesis and function of reproductive hormones are different, but are interrelated and influenced. This makes steroids as a major support in cyclically producing hormones which then have an impact on the menstrual cycle. In adolescents with normal BMI, there is no rule of the possibility of menstrual disorders because besides hormonal imbalances, it also plays a role in nutrition, psychology, etc. According to the assumption, it can be concluded that menstrual disorders are not only caused by BMI but can also be caused by lifestyle such as lack of activity or exercise and nutritional intake imbalance, where in

general students prefer to eat less nutritious snacks. A woman who has an abnormal BMI either obese, overweight, or thin is at risk of having irregular menstrual cycles with or without menstrual disorders that accompany her.

Adolescents, who have a low BMI, also have low body fat composition, and vice versa. Body fat is a precursor to the formation of gonadotropin hormones and ovarian steroid hormones, the lack of this material causes the hormones that are formed are inadequate to reach the normal menstrual cycle so that the incidence of amenorrhea is found in many of these conditions. Conversely, if the amount of these precursors is abundant, the production of estrogen will be excessive too, thus disturbing the existing hormonal balance.

The second group of respondents (2nd) who had BMI and regular menstrual cycles were 14 people (58.3%), which were smaller than the other groups. The rest of respondent who were 9 people (56.2 %) were categorized in normal BMI to irregular menstrual cycles. These results indicated that the majority of respondents had a normal BMI category as many as 87 people or a large proportion (72.5%) and mostly experienced by the group of respondents (6th) that the BMI was categorized in normal BMI. The regular menstrual cycles was found as many as 24 people (89%) more than the other group and the respondents who had abnormal BMI and irregular menstrual cycles as many as 2 people (15.4%) was smaller than the other groups.

Irregular menstrual cycles with normal BMI was not experienced by most of the group of respondents (2nd) with a percentage of 21 persons or 56.2% more, compared to other respondents, and the regular menstrual cycle was only a fraction of around 14 people (15, 8%) which was smaller than the other groups. It showed that the more respondents have abnormal BMI, the more possibility they have irregular menstrual cycles. The situation can be caused by the sixth respondent group (6th) who were no longer stay in the dorms, so diet was more balanced, and physical activity was much more as a practice to hospitals, health centers, and the midwife clinic, which is compared to the other groups. The respondents (2nd and 4th) live in the dorms, which have diets which tend to be irregular because of the intensity gather with peers is greater so that mealtime is often forgotten even missed and can also reverse overeating, usually snacking and less physical activity. It could also be influenced by age, because of the increasing age of the teenager then menstrual patterns would be more constant.

When gonadotropin levels decrease, the secretion of FSH (follicle stimulating hormone) and the hormones estrogen and progesterone also decreases, so it does not produce mature eggs which will have an impact on menstrual cycle disorders that are too long. Meanwhile, in obese women (BMI > 27.0), of course, will improve the body as a form of hemodialysis (the body's ability to neutralize in its original state) in the framework of removing the excess. This certainly will have an impact on the function of the hormonal system in the body in the form of an increase or decrease in progesterone, estrogen,

LH (Luteinizing Hormone), and FSH (follicle stimulating hormone) Oligomenorrhea can even occur Amenorrhea.

Body mass index (BMI) is one measure to predict the percentage of fat in the human body obtained from the ratio of body weight in kilograms to height in meters squared. Fat is one of the compounds in the body that affects the process of the formation of the estrogen hormone, and one of the dominant factors causing menstrual disorders is the estrogen hormone. Having a high or low BMI will affect the nutritional status of adolescents, this condition can cause menstrual disorders including absence of menstruation or amenorrhea, irregular menstruation, and pain during menstruation.

Results of previous studies by reference [1] said that extreme physical activity could affect the menstrual cycle, as a result of estrogen deficiency associated with weight loss and exercise too much. A study by reference [12] who got the most respondents had a normal BMI experienced by age between 19- 21 years. Most teenagers or young women do diet to gain weight and the body performance as they want, the teenagers and even to not eat everything, resulting eventually cause loss of appetite and decrease the body fat reserves. Teens also tend to decrease blood pressure and anemia due to monthly menstruation. On the other hand, most teenagers like eating fast food with high cholesterol and saturated fats which have greater risk to experience obesity and physical inactivity. Studies by reference [8], showed that the quantity of food could affect gynecological disorders such as irregular periods, dysmenorrhea and premenstrual syndrome in adolescents [12].

To overcome menstrual disorders, students must exercise regularly, maintain nutritional balance so that the nutritional status is not less or excessive, maintain a balanced intake of carbohydrates and fats, avoid excessive dieting, increase consumption of vitamins and minerals.

2. The relationships between anxiety level of young women and the menstrual cycle

After being tested using multivariate statistical p-value = 0.000 (p < 0.05), it can be concluded that there is a significant relationship between the level of anxiety to the menstrual cycle of young women in the Department of Midwifery Student at the Universitas Pendidikan Ganesha The results were in accordance with the research by reference [8], which stated that there was a significant association between psychological stress to the menstrual cycle in the high school. Similarly, the study by Singh et al in the same year showed a relationship between stress and menstrual symptoms, time of occurrence of menstruation could fluctuate with the level of stress a person, therefore the cycle became irregular.

Factors such as pain, anxiety (depression), can accelerate, delay or prevent menstruation because the stress center in the brain is very close to the central regulation of menstruation in the brain. Psychosocial stressor stimulation causes neuro tissue in the brain to participate in giving danger

signals. The brain can constantly send messages that something is wrong and needs immediate attention, this leads to thoughts of obsessive anxiety and representative compulsive behavior which then increments the proportions of the limbic systems that play a role in emotional responses.

The survey results revealed that the majority of the entire group of respondents experiencing high of anxiety as many as 70 people (58.3%), as a whole group of respondents had a regular menstrual cycle as many as 83 people (70%), but it was known that the majority of the respondent groups have the menstrual disorders such as oligomenorrhea, polymenorrhagia, amenorrhea. The majority of respondents with low anxiety have experienced more regular of the menstrual cycles compared to medium and high categories. Disturbances in the menstrual cycle are influenced by disturbances in hormone function, systemic disorders, stress, thyroid, and prolactin excess. If there is interference on FSH and LH then it will not lead to the product of the ovum, furthermore, both hormones estrogen and progesterone are also not formed properly. The impact of the menstrual cycle disorders left untreated will lead to fertility disorders, the body loses too much blood thus causing anemia.

Research conducted by reference [2] on female students at SMA 5 Cimahi, stated that stress could affect the menstrual cycle because in times of stress hormone cortisol as a product of glucocorticoid adrenal cortex were synthesized in the zona fasciculata which could disrupt the menstrual cycle because it affected the amount of progesterone in the body. These results indicated that the group of respondents (6th) has a score of T-MAS with mild anxiety categories as many as 4 people or 10% with the entire a menstrual cycle had a regular cycle; groups of respondents had experienced at least low of anxiety than the other groups. Categories high of anxiety experienced by respondents (sixth semester) were equal to the respondents (second semester) as many as 24 people (60%), but the second semester, which consisted of 10 people, were more likely to have irregular the menstrual cycles.

The group of respondents (4th) was the most respondents who experienced an irregular the menstrual cycle was 32 people, and the second respondents (2nd) was the most experienced irregular menstrual cycles with 26 people. These circumstances show that high anxiety is a potential trigger factor of the problem on the menstrual cycles which tends to be irregular as well as other menstrual disorders. High level of anxiety experienced by groups of respondents (6th and 2nd), likely due to a heavy workload. The over loaded tasks in sixth semester related to find the target in the field of midwifery care to the field, carrying out practical work and the manufacture of the final report deadline. In the second semester, they are just adapted to the campus and dormitories as well as having academic work that much, therefore it affects the menstrual cycle that the majority have irregular cycles. Broadly speaking midwifery students do have a lot of academic work and midwifery care targets/tasks that must be resolved in a timely, both tasks that obtained on campus and in the field or fields of practice.

Emotional conflict, tension and anxiety that occur in adolescents can play roles and feelings of discomfort that can cause anxiety. One of the hormonal systems in the body that is affected by these psychological factors is the hypothalamus-pituitary-ovarian-axis. The HPO shaft is a hormonal system that regulates follicular maturation, ovulation and the menstrual cycle. If the HPO axis and other hormones are disrupted, it can affect the regularity of the menstrual cycle. This stress or anxiety can disrupt women's menstrual cycles because the stress center in the brain is very close to the menstrual regulation center in the brain. Stressors or psychosocial stressors cause neuro tissue in the brain to participate in giving danger signals.

The brain can constantly send messages that something is wrong and needs immediate attention. Stress or anxiety can disrupt a woman's menstrual cycle because the stress center in the brain is very close to the menstrual regulation center in the brain. Psychosocial stressor stimulation causes neuro tissue in the brain to participate in giving danger signals. The brain can constantly send messages that something is wrong and needs immediate attention. Anxiety as a stimulus through the nervous system is transmitted to the central nervous system, namely the limbic system through nerve transmission, then through the autonomic nerve (sympathetic or parasympathetic) will be passed on to the hormonal glands (endocrine) to release secretions (fluids) neurohormonal towards hypophysis through the frontal system in order to secrete gonadotropin in the form of FSH (Stimulating Hormone follicle) and LH (Leutinizing Hormone).

The anxiety as stimuli through the nervous system is forwarded to the central nervous system is the limbic system through the transmission of nerve, then through the autonomic nervous (sympathetic or parasympathetic), it will be forwarded to the glands hormonal (endocrine) to remove secretions (fluids) neurohormonal to the pituitary through a frontal system in order to secrete gonadotropin in the form of FSH and LH. The production of these hormones are under the influence of GnRH which are distributed from the hypothalamus to the pituitary. Releasing hormone spending heavily influenced by the feedback mechanism of estrogen on the hypothalamus to further influence the process of menstruation [3].

Reference [6] also said that the state stress lead to increased levels of *Corticotropin-Releasing Hormone* (CRH) and Glucocorticoid, but it also vasopressin and opioid peptides from the body because of its active *hypothalamic-pituitary-adrenal* (HPA) axis which is an inhibitor of the *hypothalamic-pituitary-gonadal* (HPG) axis. Therefore, the hypothalamus begins to respond and further stimulates the anterior pituitary to secrete *adrenocorticotropic hormone* (ACTH), which stimulates the adrenal glands to secrete cortisol. Excessive secretion of cortisol will suppress the reproductive function of women, because of inhibition GnRH secretion, the arcuate nucleus hypothalamus results in lengthening or shortening of the menstrual cycle. Mechanism of action of the hormone cortisol as a product of the adrenal

cortex was synthesized glucocorticoid the fasciculate zone can disrupt the menstrual cycle, because it inhibits the secretion of LH by way inhibit the anterior pituitary response to GnRH [13].

During the menstrual cycle, the role of LH is needed to produce estrogen and progesterone, for the passage of the menstrual cycle. The influence of the hormone cortisol causes an imbalance of these hormones, resulting in menstrual cycles become irregular [14]. One that can cause stress on the student's final semester (sixth semester) was the final report. The report was one of the most frightening things considered because if the students could not complete the final project, they could not complete their education. This could lead to confusion and distress, which in turn could cause stress, so that the number of business and the tasks obtained either from school or from land practices caused stress on the students that may affect the pattern of her menstrual cycle or menstruation, as a student in the demand for pursuing competence at every level [11].

In the 2nd semester, they were also considered to have a high anxiety level that was as much as the sixth semester, even having irregular the menstrual cycles with more frequency. This was likely due to the anxious feeling because they still could not adapt to the campus and dormitory as well as the demands of the achievements of the learning curriculum with credits that are quite solid. Therefore, many students experienced anxiety and had unstable emotions. Adjustment is required in the transition of adolescent life, one of which is a transition in the school environment [5]. Routines and demands high academic made schoolgirls prone to stress, as well as the midwifery students were required to complete the course promptly of learning in the classroom, laboratory and practical activities field exhausting and mind so that students majoring this midwifery were very susceptible to emotional disorders, particularly anxious feelings.

IV. CONCLUSION

The survey results reveal a significant relationship between body mass index and level of anxiety to the menstrual cycle of young women students of midwifery courses. Therefore, it is necessary for a young woman to maintain a regular eating pattern with balanced nutritional needs, avoid excessive dieting, do regular and not excessive exercise, and have anxiety control, especially when facing problems both personally and academically related.

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