

Effect Of Glutinosa Oriza Sativa On Adolescent Menstrual Cycle

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Abstract—Menstrual cycle is one of the vital signs of health for teenage girls because of the risk for anemia due to increased iron requirements due to growth, menstruation, often restricting food consumption, and eating patterns and habits less than the recommended nutritional adequacy rate. The regularity of the menstrual cycle is environmental factors, nutrition status, nutritional status abnormalities such as overweight or obesity and maternal menstrual history. This study aims to see the effect of black sticky tape on pain and menstrual cycle in teenage girls. The design of this study was quasi-experimental pre and post-test without a control group with the intervention inform of giving the same type of black sticky rice with 200 grams per day for 30 days. Data analysis using a chi-square test. There is the effect of black sticky tape on pain and menstrual cycle in young women.

Keywords - *Oryza Sativa Glutinosa, Pain, Cycle Menstruation*

I. INTRODUCTION

The menstrual cycle is a natural and essential phenomenon that occurs in the female reproductive cycle. The duration of the menstrual cycle is from 21 to 35 days, and the average duration is 28 days. If the duration of the menstrual cycle is less than 21 days or more than 35 is called menstruation *irregular* if more than 35 days is known as oligomenorrhea. The menstrual cycle is one of the vital signs of health for teenage girls because of the risk for anemia due to increased iron requirements due to growth, menstruation, often restricting food consumption, as well as eating patterns and habits less than the recommended level of nutritional adequacy. Duration of menstruation more than six days and this has the potential to deficiency iron anemia [1, 2]. The actors that influence the regularity of the menstrual cycle are environmental factors, nutrition status, nutritional status abnormalities such as *overweight* or *obesity* and maternal menstrual history. Yulinda's research, et al. in 2015 states that changes in the function of the autonomic nervous system during the luteal phase are related to the incidence of psychosomatic symptoms that arise during the menstrual phase [3,4].

In some community groups in Indonesia, many use traditional medicine to facilitate menstruation, such as consuming tape, peanuts, and others. *Oryza sativa glutinosa* is a food fermented alcoholic product containing anthocyanin which is an antioxidant compound of flavonoids which can inhibit cholesterol formation by inhibiting the enzyme HMG Co-A Reductase, this has a positive influence on menstruation and prevents anemia [4]. This study aims to see the effect of *Oryza sativa glutinosa* on pain and menstrual cycle in young women.

II. METHODS

The design of this study was quasi-experimental pre and post-test without a control group. Samples are the girls, aged 17 to 21 years in Sukajadi District, Bandung Province, were 30 people selected by purposive sampling with criteria already menars, no history of chronic diseases, endocrine or malignant, psychiatric disorders and not using hormonal contraceptives.

An intervention was carried out by giving the same type of *Oryza Sativa glutinosa* with the same amount and amount of 200 grams containing 3.48 mg / 100 g of anthocyanin, total phenol tape of *Oryza Sativa glutinosa* which was 73.38 mg / 100 g given every day for 30 days. Before and after treatment, menstrual cycles and pain are measured. Data analysis using a chi-square test.

III. RESULT

TABLE I. THE EFFECT OF ORYZA SATIVA GLUTINOSA ON ADOLESCENT MENSTRUAL CYCLE

	Menstrual Cycle						Total	p
	21-35		<21		> 35			
	n	%	n	%	n	%		
Pre	7	23.3	15	50	8	26.7	30	0.00
Post	20	66.7	4	13.3	6	20.0	30	

Table I shows that before the treatment 7 (23.3%) teenage girls experienced menstrual cycles 21-35 days, after being given treatment 20 (66.7%) young women had a menstrual cycle of 21-35 days. The results of the statistical tests showed that there was an effect of *Oryza sativa glutinosa* on the menstrual cycle of young women.

TABLE II. THE EFFECT OF ORYZA SATIVA GLUTINOSA ON MENSTRUAL PAIN

	Menstrual Cycle						Total	p
	No Pain		Sometimes		Always			
	n	%	n	%	n	%		
Pre	7	23.3	11	36.7	12	40	30	0.00
Post	14	46.7	12	40	4	13.3	30	

Table II shows that before treatment as many as 12 (40%) young women always experienced menstrual pain, after being given treatment, there were only 4 (13.3%) young women who always experienced menstrual pain. The results of the statistical tests showed that there was an effect of giving black sticky tape (*Oryza Sativa glutinosa*) to menstrual pain.

IV. DISCUSSION

The results of this study found that the provision of black sticky rice tape affected the teenage menstrual cycle, the findings are in line with previous studies that factors affecting the regularity of the menstrual cycle are environmental factors, nutrition status, nutritional status abnormalities such as *overweight* or *obesity* and maternal menstrual history — giving black sticky tape the possibility of increasing nutrition in teenagers so that improving the menstrual cycle becomes normal (cycle 21-35 days). Several studies have shown that intake of cyanide-rich foods can prevent obesity and hyperglycemia and anthocyanin administration affects adiponectin secretion and adipocyte-specific gene expression in rats and anthocyanins can regulate adipocytokine gene expression which affects the prevention of obesity and diabetes [5].

Tape black sticky rice also contains fiber. Soluble fiber has higher effectiveness against cholesterol by binding to bile acids and increasing cholesterol excretion [6]. In general, fiber can reduce absorption of carbohydrates, reduce the glycemic index of food sources of carbohydrates, reduce insulin resistance and improve heavy concentration. Fiber can provide mass to the food that is digested to provide a sense of fullness and can reduce hunger and ultimately reduce the amount of calorie intake. Fiber also slows down the rate of gastric emptying by slowing down the transit of nutrients during the digestive process resulting in a slow increase in glucose. This stimulates the release of small amounts of insulin [6].

The results of this study also found that the provision of black sticky rice tape affected teenage menstrual pain. This is in line with previous research that tape made from black sticky rice has higher antioxidant activity, compared to white sticky rice, because the total components of phenolic, flavonoids and anthocyanin black glutinous rice have higher phytochemical components than white glutinous rice [7]. Anthocyanin regulates adipocyte function that is thought to prevent metabolic syndrome [8]. The anthocyanin content of black sticky rice is 3.48mg / 100g, while the total phenol tape of *Oryza Sativa glutinosa* is 73.38 mg / 100gr. The antioxidant activity of *Oryza Sativa glutinosa* is 70.2% [9]. In this study 200 g of black sticky tape was used which contained 3.48 mg / 100 g of anthocyanin, total phenol was 73.38 mg / 100 g [10]. Anthocyanins containing flavonoids can inhibit the formation of prostaglandins and reactive oxidants to prevent pain sensations [9,10].

V. CONCLUSION

There is the effect of *Oryza Sativa glutinosa* on pain and menstrual cycle in young women.

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