

**THE RELATIONSHIP BETWEEN FAST FOOD CONSUMPTION AND
STRESS WITH THE MENSTRUAL CYCLE IN UNDERGRADUATE
STUDENTS OF THE INSTITUT PAYUNG NEGERI PEKANBARU****Valiza Septi Hapsari^{1*}, Deswinda¹, Fitri Dyna¹, Cindy Febriyeni¹**¹ Program Study of Public Health, Faculty Health, Universitas X, Padang, Indonesia***Corresponding author:**deswinda@payungnegeri.ac.id**Abstract**

Menstruation is the occurrence of uterine bleeding that flows from the uterus and out through the vagina. The normal menstrual cycle in women usually occurs every month and some also experience an abnormal menstrual cycle, there are several factors that influence cycle irregularities, namely fast food and stress, menstrual cycle irregularities can cause women to experience pain. The contractions that occur in the uterus are too strong so that they will press on the blood vessels around it and result in the blood flow from the uterus to the tissue being disrupted. The purpose of this study was to determine whether there was a Relationship Between Fast Food Consumption and Stress with the Menstrual Cycle in Nursing Undergraduate Students at the Payung Negeri Pekanbaru Health Institute in 2024. This type of research is a quantitative study with a correlation design through a cross-sectional study approach. The population was 467 people with a stratified random sampling technique with a sample of 137 people. The research instruments used were using a menstrual cycle questionnaire, a fast food questionnaire and a stress questionnaire. The results of univariate analysis based on the results of the study showed that as many as 85 students or with a percentage (59%) experienced abnormal menstrual cycles, the results of stress research conducted by researchers showed that almost all (62.8%) or as many as 86 students experienced stress, and the results of fast food research showed that almost all (48.9%) respondents with bad fast food consumption were 67 students. Bivariate analysis of the chi-square test produced a p-value = 0.001, so there is a significant relationship between stress levels and the menstrual cycle, and the statistical test of fast food consumption with the menstrual cycle obtained a p-value = 0.007, which means there is a significant relationship between fast food consumption and stress with the menstrual cycle.

Keyword: Fast Food, Stress, Menstrual Cycle**INTRODUCTION**

Adolescence is the transition from childhood to adulthood, encompassing all the changes that occur in preparation for adulthood. Physical changes are the primary symptoms that occur during adolescent growth, and psychological changes arise, among other things, as a result of these physical changes[1]. One example of a physical change that occurs in adolescent girls is the maturation of the female reproductive organs.

Puberty in girls is called menstruation. Menstruation is a biological process associated with sexual maturity, fertility, normality, and physical health. Factors that influence menstrual cycle irregularities include hormones, enzymes, vascular factors, prostaglandins, psychology, chronic illnesses, nutrition, physical activity, and medication use [2]. One factor that influences menstrual cycle disorders is an unhealthy diet. Fast food, or ready-to-eat food, is a food with a very practical and fast preparation and serving process. In addition to consuming fast food, stress can also cause menstrual cycle irregularities[3]. Stress is also one of the causes of menstrual cycle disorders in teenagers who are easily stressed. Stress greatly affects the nervous system, which plays a vital role in female reproduction. Irregular menstrual cycles

can cause women to experience pain and contractions in the uterus that are too strong, which will press on the surrounding blood vessels and result in the blood flow from the uterus to the tissue being disrupted[4].

Menstrual cycle irregularities are common reproductive health concerns among young women, particularly undergraduate students, with various lifestyle and psychosocial factors implicated as contributing elements. Recent studies suggest that dietary patterns, especially the frequent consumption of fast food — which tends to be high in saturated fats, sugars, and low in essential micronutrients — may influence hormonal regulation and metabolic processes that are central to menstrual function. Fast food consumption has been linked to imbalances in body weight and metabolic stress, factors which may disrupt the hypothalamic–pituitary–ovarian axis and, in turn, affect menstrual regularity [5]

Psychological stress is also recognized as a significant determinant of reproductive health. Stress activates the hypothalamic–pituitary–adrenal (HPA) axis, increasing cortisol secretion and potentially interfering with the secretion of gonadotropin-releasing hormone (GnRH), which plays a key role in menstrual cycle regulation [6] Elevated stress levels have been associated with longer cycle lengths, delayed ovulation, and irregular menstruation in female students, indicating that psychological stress may independently contribute to menstrual disturbances.

Despite an increasing number of studies exploring elements of diet, stress, and menstrual health, research specifically addressing the combined influence of fast food habits and stress on menstrual cycles among Indonesian undergraduate students remains limited. This gap underscores the need for context-specific investigations at institutions such as Institut Payung Negeri Pekanbaru. Understanding this relationship will not only contribute to reproductive health literature but may also inform health promotion interventions aimed at improving lifestyle behaviors and stress management among young women in higher education settings[7].

RESEARCH METHODS

The type of research conducted was quantitative with a correlation design using a cross-sectional study approach[8]. A cross-sectional study examines the relationship between causal factors (independent variables) and consequent factors (dependent variables) simultaneously or over time within a population [9]. This study aimed to determine the prevalence or effect of a phenomenon (independent variable), namely fast food consumption and stress, then link it to the cause (dependent variable), namely the menstrual cycle[10].

RESEARCH RESULTS

Based on the results of the study, an analysis of the relationship between fast food consumption and menstrual cycles revealed that 3 respondents (2.2%) who consumed good fast food experienced irregular menstrual cycles, 45 respondents (32.8%) who consumed moderate fast food experienced irregular menstrual cycles, and 34 respondents (24.8%) who consumed poor fast food experienced irregular menstrual cycles. Six respondents (4.4%) who consumed good fast food experienced normal menstrual cycles, 16 respondents (11.7%) who consumed moderate fast food experienced normal menstrual cycles, and 33 respondents (24.1%) who consumed poor fast food experienced normal menstrual cycles.

The statistical test results obtained a p-value of 0.007, indicating a significant relationship between fast food consumption and menstrual cycles. Based on the research results on the relationship between stress levels and menstrual cycles, it was found that 64

respondents (46.7%) with high stress levels had irregular menstrual cycles. 22 respondents (16.1%) with high stress levels had normal menstrual cycles. Meanwhile, 33 respondents (24.1%) with low stress levels had normal menstrual cycles. 18 respondents (13.1%) with low stress levels had irregular menstrual cycles. The chi-square test yielded a p-value of 0.001, indicating a significant relationship between stress levels and menstrual cycles among undergraduate nursing students at the Payung Negeri Pekanbaru Health Institute.

DISCUSSION

One factor that influences menstrual cycle disorders is an unhealthy diet. The habit of consuming fast food is an unhealthy diet. Fast food is classified as high-fat, high-sodium, and high-sugar foods, but low in fiber and vitamins. The nutritional content of fast food is unbalanced, and excessive consumption can lead to nutritional problems and risk factors for diseases, such as obesity, skin disorders, degenerative diseases, and menstrual cycle disorders [11]. Fast food has an unbalanced nutritional content, namely high in calories, high in fat, high in sugar, and low in fiber. The fatty acid content in fast food disrupts progesterone metabolism during the luteal phase of the menstrual cycle[12].

Commonly consumed fast foods include burgers, French fries, fried chicken, and hamburgers[13]. Stress is also a cause of menstrual cycle disorders in adolescents, who are prone to stress. One of the stressors experienced by adolescents is academic stress. Academic stress can be defined as feelings of pressure experienced by students, both physically and emotionally[14]. The stress experienced by students in educational institutions is known as academic stress. This is a physical, mental, and emotional problem caused by a misalignment between needs and actual abilities, causing them to be overwhelmed by the pressures and demands of higher education [15]. Stress is a physiological and behavioral response that adapts to and regulates internal and external pressures, as well as psychological factors. Stress significantly affects the nervous system, which plays a vital role in female reproduction[16].

Evidence from cross-sectional studies among adolescents and young adult women highlights the interconnected effects of fast food consumption and stress on menstrual health. For example, research on adolescent women revealed that both frequent fast food eating and higher perceived stress levels were significantly related to disrupted menstrual cycles [17]. Although some studies report mixed associations between fast food and menstrual outcomes, the overall trend supports a framework in which lifestyle and psychological factors jointly influence reproductive health.

Undergraduate students are a particularly relevant population for this research due to the unique combination of dietary autonomy, academic pressures, and transitional life stressors characteristic of university life. Academic stress, irregular eating behaviors, and high fast food consumption have been reported in several student cohorts and are associated with adverse health outcomes, including menstrual irregularities and dysmenorrhea (Rahma et al., 2021; Depok study, 2024). The transitional nature of university life may exacerbate poor dietary habits and stress, making menstrual health more vulnerable to perturbation [18]

CONCLUSION

Based on the research results, it shows that of the 137 respondents, (6.6%) respondents with good fast food consumption were 9 students, (44.5%) respondents with moderate fast food consumption were 61 students, almost all (48.9%) respondents with bad fast food consumption were 67 students.

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