UNIVERSITI TEKNOLOGI MARA (UiTM)

EXPLORING THE SYNERGY OF DIET AND PHYSICAL ACTIVITY ON MENSTRUAL HEALTH IN FEMALE UNDERGRADUATE STUDENTS OF UITM PUNCAK ALAM

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ABSTRACT

Background: Different aspects of a woman's life can influence her menstrual cycle including erratic eating habits and lack of physical activity. **Aim:** This study aims to find the correlation between students' dietary habits and physical activity with the menstruation health of UiTM Puncak Alam female undergraduates. **Method:** This study used a quantitative technique in cross-sectional design. Data was collected via a face-to-face survey involving female undergraduate students of UiTM Puncak Alam between April 2024 and May 2024. The questionnaires are carried out by using a self-administered questionnaire consisting of several sections which include anthropometric data, menstrual history and premenstrual syndromes information, dietary habits, physical activity level, and lifestyles. All questionnaires are valid and reliable. The collected data were analyzed using SPSS software version 27. **Result:** Out of 238 participants, 171 (71.8%) had regular menstruation while 67 (28.2%) had irregular menstruation. Stress level is significantly associated with premenstrual syndrome ($p = 0.001$). Body mass index ($p = 0.008$) and Pro-Healthy Dietary Index ($p = 0.012$) are significantly associated with the age of menarche. BMI ($p = 0.034$) and waist circumference ($p = 0.002$) are significantly associated with regularity of menstruation. Physical activity is significantly associated with the frequency of menstruation ($p = 0.038$). Body mass index is significantly associated with length of menstruation ($p = 0.022$). **Conclusion:** Adhering to a healthy diet, engaging in regular physical exercise, and effectively controlling lifestyle factors such as sleep, smoking, alcohol use, and stress levels can have a substantial impact on several aspects of menstruation health.

Keywords: diet, physical activity, menstruation

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CHAPTER 1: INTRODUCTION

1.0 Research Background

Menstruation, sometimes referred to as a period, is the visible manifestation of cyclic, physiological uterine bleeding that occurs due to the shedding of the endometrium. This process is intricately regulated by hormonal interactions involving the hypothalamus, pituitary gland, and ovaries, primarily mediated through the hypothalamic-pituitary-ovarian axis (Verma et al., 2020). The menstrual cycle, repeating monthly, can exhibit regular variations among individuals and may commence at any time. Menarche, the onset of a woman's first menstrual period, has an average age of 12.14 years (Mariappen et al., 2022). However, the onset of menarche can vary, typically occurring between the ages of 10 and 14 years (Purwanto et al., 2019). Despite this natural variability, menstrual problems are a common occurrence affecting all women at some point in their lives. For instance, Song et al. (2022) found that women who experienced menarche at a later age had a higher probability of encountering irregular menstrual cycles. Age is indeed a significant factor contributing to variations or irregularities in menstrual cycles (Ozimek et al., 2022). Most individuals whose menstruation lasts 8 days or less tend to have regular cycles, and a common interval between cycles is 21-35 days, which is typical among those with regular menstruation (Alshdaifat et al., 2022). Furthermore, cycles lasting between 21 to 35 days usually exhibit consistent patterns of regular menstruation. Common premenstrual symptoms include fatigue, irritability, mood fluctuations, and backache, affecting many women as they approach their menstrual periods (Matsuura et al., 2023). These symptoms and patterns underline the complex interplay of hormonal regulation and individual physiological differences that characterize the menstrual cycle.

Research shows no significant relationship between caloric intake and menstrual cycle regularity, suggesting other factors like hormonal imbalances may play a role (Passoni et al., 2024). Cravings for high-calorie snacks during premenstrual phases are common due to hormonal changes (Matsuura et al.,