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An Inclusive Study on the Physical and Emotional Changes Among Adolescent Girls During Menstrual Cycle in Physical Training Sessions in School

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Abstract: Adolescence is a critical phase of growth characterized by significant physical, emotional, and psychological changes. During this period, many adolescent girls experience discomfort, mood swings, and physical limitations, particularly during their menstrual cycle. This study explores the emotional needs and necessary physical supports required by adolescent girls during Physical Training (PT) sessions. Through qualitative feedback, surveys, and observation, it was found that a majority of girls prefer lighter physical activities and more empathetic understanding from PT instructors during menstruation. The study highlights the importance of addressing emotional well-being through supportive communication, flexibility in activities, and provision of rest options when needed. By incorporating inclusive and sensitive approaches in PT classes, schools can ensure that adolescent girls feel comfortable, respected, and encouraged to participate in physical activities without distress. This research aims to guide educators and PT teachers in creating a more accommodating and supportive environment that nurtures both the physical and emotional health of adolescent girls.

Keywords: *Menstrual Cycle, Physical Activity, Mood Swing, Support from School.*

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I. INTRODUCTION

Physical Education (PE) plays a crucial role in fostering a balanced and healthy educational experience, contributing not only to students' physical development but also to their mental and emotional well-being. While the physical advantages of regular exercise are widely recognized, its psychological effects—particularly its influence on mood—are equally important. Studies indicate that consistent physical activity can help alleviate symptoms of stress, anxiety, and depression, while also enhancing mood stability and cognitive performance. Despite this, there remains a gap in research specifically examining how scheduled PE sessions affect students' emotional states. This study seeks to explore the connection between PE periods and student mood, shedding light on how physical activity within school settings may positively impact emotional health. By investigating students' perceptions, expectations, and any discomfort they may associate with PE, the findings can help guide educators, administrators, and families in emphasizing the role of physical activity in nurturing a more supportive and health-conscious learning environment.

A mood swing refers to a quick or extreme shift in emotional state, often moving abruptly between feelings such as joy, excitement, sadness, irritability, or anger, even when there is no obvious or proportional reason.

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Menstrual cycles are commonly accompanied by a variety of physical and emotional symptoms that differ from one individual to another. Physically, common symptoms include cramps (dysmenorrhea), bloating, tenderness in the breasts, headaches, and lower back pain. Many also report changes in digestion, such as constipation or diarrhea, alongside fatigue and strong food cravings. Emotionally, individuals may experience mood changes, anxiety, irritability, and low mood. These symptoms typically start a few days before menstruation and may persist through its early stages. The intensity of these symptoms varies, with some individuals experiencing mild discomfort and others finding their daily routines significantly affected.

Recognizing the effects of premenstrual symptoms is crucial for fostering inclusive education. When educators are aware of how these symptoms—such as mood swings, fatigue, and physical discomfort—affect students, they can adapt their approach to create a more empathetic and accommodating learning environment. This understanding helps to ensure that all students, regardless of their menstrual health experiences, feel supported and included. Moreover, addressing these challenges directly contributes to students' overall well-being, allowing them to manage both their physical and emotional health more effectively during school hours. Such support can improve focus, reduce stress, and enhance academic participation.

II. STRATEGIES FOR SUPPORT

Educators can adopt several strategies to assist students dealing with premenstrual symptoms. Flexible seating arrangements, access to rest areas, and understanding during physical education classes can significantly ease discomfort. Teachers can also incorporate mental health check-ins or mindfulness activities that offer emotional relief during class time. Providing access to school counselors and allowing short breaks Hypotheses "Students who participate in regular physical education periods will experience improved mood and reduced stress levels compared to those who do not."Physical education periods will have a positive impact on students' mood, particularly in terms of increased energy and enthusiasm. "The type and intensity of physical activity during PE periods will influence students' mood, with high-intensity activities leading to improved mood and low-intensity activities leading to relaxation."

- Key Words Physical symptoms: Cramping, bloating, fatigue, and breast tenderness physical activities.
- Emotional symptoms: Mood swings, irritability, and anxiety Participation and performance.

III. REVIEW OF LITERATURE

Although menstruation is a natural and normal biological process, some women experience premenstrual syndrome (PMS), which may involve symptoms such as fatigue, breast tenderness, and acne. In more severe cases, where symptoms interfere with everyday functioning, the condition is classified as premenstrual dysphoric disorder (PMDD), affecting approximately 3 to 8% of women. Menstrual cramps, also known as dysmenorrhea, are commonly felt as abdominal pain that may radiate to the back and upper thighs, especially during the initial days of menstruation. Severe or disabling menstrual pain is not typical and may indicate underlying conditions like endometriosis. These menstrual health issues can have a significant impact on women's overall well-being and quality of life, and appropriate medical intervention can lead to substantial improvements.

There are widespread cultural misconceptions suggesting that menstruation inherently causes mood swings, depression, or irritability, or that it is a painful, shameful, or impure experience. Often, normal emotional fluctuations in women are incorrectly linked to the menstrual cycle. Although existing research in this area is not robust, evidence suggests a minor increase in mood variability during the luteal and menstrual phases, with more stability during other parts of the cycle. Hormonal shifts, particularly in estrogen and progesterone levels, influence various physiological systems including the brain, metabolism, and musculoskeletal system. These hormonal changes can lead to subtle physical effects and observable variations in women's athletic capabilities, including strength and both aerobic and anaerobic performance.

Mood swings experienced during the menstrual cycle, especially in the premenstrual (luteal) and menstrual phases, can have a significant impact on physical activity levels. Fluctuations in hormone levels—particularly estrogen and progesterone—affect neurotransmitters like serotonin and dopamine, which in turn influence mood, energy levels, and motivation. As a result, individuals may feel more fatigued, irritable, or emotionally unstable, which can reduce their desire or ability to engage in regular physical activity. These mood-related symptoms can also contribute to decreased exercise performance, lower endurance, and less willingness to participate in team or group sports due to reduced concentration or heightened emotional sensitivity.

In a study published in the *Journal of Sports Science & Medicine*, researchers found that emotional symptoms such as irritability, anxiety, and mood instability negatively correlated with physical performance and participation, especially during the late luteal and early menstrual phases (Janse de Jonge, 2003). Similarly, the American College of Obstetricians and Gynecologists (ACOG) notes that premenstrual symptoms, including mood changes, can lead to decreased physical activity and increased sedentary behavior due to both psychological and physical discomfort.

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Adolescents often experience a wide range of physical and emotional responses to menstruation, shaped by biological changes, personal experiences, and cultural attitudes. Many girls report feelings of confusion, embarrassment, or anxiety when they first begin menstruating, especially if they lack accurate information or support. Common physical symptoms such as cramps, fatigue, bloating, and headaches can make menstruation uncomfortable and sometimes distressing. Emotionally, adolescents may feel irritable, moody, or overwhelmed due to hormonal changes that affect brain chemistry and mood regulation.

Social stigma and silence around menstruation in some cultures can deepen feelings of shame or isolation. For many, the fear of visible leaks, teasing, or lack of access to menstrual products at school adds to the emotional burden. However, with proper education and supportive environments, many adolescents gradually gain confidence in managing their periods and view menstruation as a normal part of growing up.

These physical and emotional changes can affect adolescents' academic performance, self-esteem, and social interactions. For some, the experience of menstruation can be distressing, especially in environments where menstrual health is stigmatized or poorly supported. However, proper education, open communication, and access to menstrual health resources can help adolescents manage these changes in a healthy way.Mayo Clinic. (2023).

➢ *Menstrual Cramps*.

Physical activity can impact menstrual cycle characteristics and reproductive health:

- A study of high school girls (n=168) found high levels of exercise tied to anovulatory cycles and slightly extended cycle length (>750 kcal/week activity) .
- Regular moderate exercise—especially avoiding overly strenuous training—can support uterine function, whereas excessive training may lead to irregular or missed cycles (common in athletes)

IV. METHODOLOGY

This study employed a mixed-methods approach to investigate the impact of menstrual symptoms on students during physical education periods.

➢ *Participants*

- Age range: 13 to 16-

➢ *Data Collection*

- Surveys/questionnaires: To gather data on physical and emotional symptoms, participation rates, and academic performance**.**
- Interviews/focus groups: To gather qualitative insights on students' experience

➢ *Data Analysis*

- Quantitative data: Analyzed using statistical methods (e.g., descriptive statistics, inferential statistics)
- Qualitative data: Analyzed using thematic analysis or content analysis

➢ *Procedure*

- Consent were obtained from participants

✓ Surveys and interviews conducted in a confidential and comfortable setting. This methodology section outlines the research design, participant selection, data collection methods, and analysis procedures. These findings suggest that premenstrual symptoms can have a notable impact on students' experiences during PT periods. The results support the need for: Educators' awareness and understanding of premenstrual symptoms

✓ Implementation of supportive measures to accommodate students' needs. The insights gained from this study can inform strategies to promote inclusive and supportive physical education environments.

- Elaborate discussion on the data obtained:

✓ Interpretation Most students (95%) participate regularly in PT periods, showing general engagement.

✓ Mood swing and Cramps were experienced by 98% of the participants and Second common symptom was bloating experienced by 30% of the participants and 27% of the participants experienced headache during periods and they prefer to stay out doors, around 2% of the participants experienced no symptoms.

✓ Majority experience at occasional difficulty they attend pt period,

✓ Most discomfort is mild to average.

✓ A few experience very bad discomfort, which may need intervention.

✓ Emotionally Exhaustion, anger, and anxiety are prominent.

✓ Only 1 student feels motivated. Students feel that they need support, while some feel no support is needed.

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V. RESULTS

The study revealed that students experiencing menstrual symptoms during PT periods: have higher levels of physical discomfort but they prefer to do lighter activity and they need support from teachers.

Student feel they are relaxed being outdoor and lighter physical activity than being in the class rooms

Except for 2% of the students others feel discomfort and they really needed support. Few proposed ideas could be included in order to comfort the childtren without much difficulties. Flexible Participation Options: Offer alternative activities or modifications to accommodate students' physical and emotional needs. Awareness and Education: Provide education and awareness about premenstrual symptoms among students, teachers, and staff. Supportive Environment: Create a supportive environment where students feel comfortable discussing their needs and concerns. Individualized Support: Provide individualized support and accommodations for students experiencing severe symptoms. Teacher Training: Provide teachers

VI. CONCLUSION

This study emphasizes the interconnectedness of the menstrual cycle, mood fluctuations, and physical activity, especially in adolescents. Menstruation, while a normal physiological process, often leads to a range of physical and emotional changes. These include discomfort such as cramps and fatigue, as well as emotional shifts like irritability or sadness, which can influence a young person's daily activities and engagement in exercise or sports.

Hormonal changes throughout the menstrual cycle play a significant role in these variations, affecting both mood and physical performance. Recognizing these impacts is vital for creating supportive and understanding environments, particularly in educational settings, where adolescents can manage their experiences without judgment or disruption.

Promoting awareness, encouraging open conversations, and providing appropriate resources are key to breaking down menstrual stigma. With the right support systems in place, adolescents can maintain both their physical activity and emotional well-being throughout all phases of the menstrual cycle.

Out door activity provide comfortable environment but physical activity may affect the mental and physical health.

RECOMMENDATIONS

Studies can be done based on the type of physical activity which does not affet the uterine health by understanding the tender young children. Study can be done to elaborate on the types of difficulty and role of hormones involved in the emotional changes and to frame the ctivityt to to reduce the stress and to improve the mental and emotional health.

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