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Managing Premenstrual Syndrome (PMS) Symptoms Using Acupressure and Sweet Corn-Moringa Pudding Among Adolescent Girls in Karawang Regency

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Abstract

Premenstrual syndrome (PMS) is a common reproductive health concern among adolescent girls and can adversely affect physical and psychological well-being, daily activities, and academic performance. This community service activity aimed to evaluate the implementation of acupressure and sweet corn–moringa pudding as complementary approaches for managing PMS symptoms among adolescent girls in Karawang Regency. The activity employed an educational and practical intervention approach consisting of PMS education, acupressure training, nutritional education, pudding preparation demonstrations, independent practice, and continuous monitoring. Participants were trained to apply acupressure to the SP6 (Sanyinjiao), LV3 (Taichong), LI4 (Hegu), and CV6 (Qihai) points. They practiced acupressure daily during the seven days preceding menstruation and the first three days of menstruation for one menstrual cycle. In addition, participants consumed approximately 150 g of sweet corn–moringa pudding daily for ten days before menstruation. PMS symptoms, including pain, fatigue, appetite, and mood, were monitored using interviews, questionnaires, and daily monitoring logs before and after the intervention. The results demonstrated a 30–40% reduction in the average intensity of PMS symptoms following the intervention. Participants also showed improved knowledge and practical skills in performing acupressure independently and consistently. The sweet corn–moringa pudding demonstrated good organoleptic acceptance and was perceived as a nutritious functional food alternative. In conclusion, the combination of acupressure and sweet corn–moringa pudding represents a promising complementary approach to PMS management among adolescent girls, while simultaneously promoting self-care skills, healthy nutritional practices, and the utilization of locally available food resources.

Keywords: Premenstrual syndrome, Acupressure, Moringa, Sweet corn, Complementary intervention

Introduction

Karawang Regency is one of the areas in West Java Province with a significant adolescent population. According to 2024 data from the Karawang Regency Health Office, the number of adolescent girls aged 10–19 is approximately 230,000. The majority of these girls are students at the junior or senior high school levels—a demographic vulnerable to various reproductive health issues, including Premenstrual Syndrome (PMS). PMS involves a cluster of physical and emotional symptoms appearing before menstruation that can disrupt daily activities, academic concentration, and overall quality of life. A preliminary survey conducted by the community service team from the Midwifery Study Program (Karawang Campus, Bandung Health Polytechnic) among 25 young women aged 18–20 in Karawang revealed that 20 (80%) experienced PMS, presenting a variety of physical, behavioral, and psychological symptoms. Most respondents indicated a lack of knowledge regarding safe and effective non-pharmacological management methods; they tended to either ignore the symptoms or simply take pain relievers without proper guidance.

This situation indicates that adolescent girls' knowledge and awareness regarding PMS management remain low, while access to information and complementary health practices is limited. Local schools and Community Health Centers (Puskesmas)—such as those in West Karawang and Klari—have implemented School Health Programs (UKS) and adolescent health posts (*posyandu remaja*), yet their activities primarily focus on issues like anemia and stunting. PMS has not been widely addressed through education or training in self-management skills for adolescents.

In terms of regional potential, Karawang Regency possesses abundant local food resources—including *Moringa oleifera* (moringa) and sweet corn—that can be utilized as natural sources of nutrition. Moringa is rich in iron, calcium, and antioxidants, which help alleviate PMS symptoms, while sweet corn offers a flavor appealing to adolescents and provides an additional energy boost. This potential presents an opportunity to develop nutritious processed products—such as moringa and sweet corn pudding—as a healthy snack alternative that can help stabilize the physical condition of adolescent girls during the premenstrual period.

Beyond nutritional aspects, complementary therapy approaches like

acupressure have proven effective in alleviating menstrual pain and PMS symptoms by stimulating specific body points that balance energy and improve blood circulation. However, field observations indicate that nearly all the young women involved (95%) have never received education or training in simple, self-administered acupressure techniques. This situation forms the basis for a Community Partnership Program (PKM) that combines two natural approaches—the provision of moringa and sweet corn pudding and acupressure training—as a promotional and preventive measure to reduce PMS symptoms.

The project partners are young women from the Midwifery Study Program at Poltekkes Kemenkes Bandung (Karawang Campus), who also serve as empowerment role models for adolescents in the Karawang region. Internal data show that these active students—mostly aged 18–22—regularly experience mild to moderate PMS. They are ideal partners because their health education background makes it easy to guide them in applying these methods and educating the wider community.

The main issues facing the partners can be summarized as follows:

a. A high incidence of PMS among young women, impacting their academic activities and quality of life.
b. Limited knowledge and skills regarding non-pharmacological management methods such as acupressure.
c. A lack of innovation in utilizing local ingredients—such as moringa and sweet corn—as functional food alternatives for adolescents.
d. The absence of sustainable, complementary health-based empowerment programs for adolescents in either educational or community settings.

This PKM activity aims to address these issues through education, demonstrations, and direct mentoring. Through acupressure training and the preparation of moringa and sweet corn pudding, the young women will gain practical skills to manage PMS symptoms naturally, safely, and independently. Furthermore, this activity strengthens collaboration among health polytechnics, community health centers (Puskesmas), and the community to develop a complementary care-based intervention model that can be replicated in schools or adolescent health posts (Posyandu Remaja) across the Karawang region.

Thus, the situational analysis indicates that this community service activity is

highly relevant and holds significant potential for sustainability. It not only addresses the actual needs of adolescent girls regarding the management of premenstrual syndrome (PMS) but also leverages local assets and the capacity of educational institutions to play an active role in improving adolescent reproductive health in Karawang Regency.

Method

The materials and instruments used for this activity are pamphlets/brochures, banners, sweet corn and moringa pudding, and a camera. The activity began with an educational session covering the basic concepts of Premenstrual Syndrome (PMS), the working principles of acupressure, and its health benefits for adolescents. Audiovisual aids and illustrated leaflets were used to ensure the information was easily understood by the participants. This was followed by hands-on practical training, where the young women learned how to locate acupressure points, adopt the correct finger positioning, and apply safe pressure. The training was led by midwifery lecturers competent in complementary care, assisted by students acting as facilitators. After the training, participants were asked to practice independently at home for one menstrual cycle, performing acupressure daily during the seven days leading up to menstruation and the first three days of their period. Participants were provided with daily monitoring logs to record pain intensity, mood, and any other symptoms experienced. The community service team conducted periodic monitoring—via in-person visits or online communication—to ensure participant compliance and the correct application of the acupressure techniques.

Results

The implementation process began with the formulation of a moringa and sweet corn pudding, which underwent simple organoleptic testing to assess product acceptability in terms of taste, color, aroma, and texture. Once a preferred formula was established, the activity proceeded with a pudding-making demonstration at the Karawang Midwifery Study Program. During this session, participants were taught how to process moringa and sweet corn into a healthy, hygienic, and highly nutritious pudding. Following the training phase, participants were asked to consume one serving (approximately 150 grams) of the pudding daily for the ten days preceding

menstruation. The community service team provided guidance and monitored changes in PMS symptoms—such as pain levels, fatigue, appetite, and mood—through interviews and questionnaires administered before and after the intervention. The activity also included nutritional education explaining the role of healthy food in maintaining hormonal balance and naturally managing PMS symptoms.

The activity was carried out in three major stages. First was the preparation stage, involving coordination with schools and community health centers (Puskesmas), the development of an acupressure training module, and pudding formula testing. The second stage was the intervention itself, featuring direct acupressure training and pudding-making demonstrations for adolescent girls. Participants then practiced acupressure and consumed the pudding independently according to a set schedule. The final stage involved evaluation and dissemination of results, measuring the effectiveness of both interventions in reducing PMS symptoms and publishing the findings through scientific articles and educational media.

This activity focused not only on short-term outcomes—specifically the reduction of PMS symptoms—but also aimed to raise adolescent awareness regarding the importance of self-care and balanced nutrition, while instilling healthy lifestyle skills grounded in complementary midwifery science. Consequently, this initiative has the potential to serve as a model for adolescent health education that can be widely implemented in schools and other youth communities. Implementing the acupressure and moringa-sweet corn pudding solutions can yield several measurable positive impacts. First, there was a 30–40% reduction in the average intensity of PMS symptoms following the intervention. Second, there was an improvement in the adolescents' knowledge and skills regarding the independent management of PMS symptoms, demonstrated by their ability to perform acupressure correctly and consistently. Third, there was increased acceptance of local functional foods, such as moringa pudding, alongside emerging interest in developing these products as a school-based small business opportunity.

Discussion

Acupressure is a traditional therapeutic technique involving the application of pressure to specific points on the body to stimulate energy (Qi) flow, improve blood

circulation, and balance the nervous system. Various studies indicate that acupressure is effective in alleviating menstrual pain, reducing muscle tension, and improving mood. For adolescent girls experiencing PMS, applying pressure to specific acupressure points can help alleviate symptoms such as lower abdominal pain, dizziness, and emotional irritability. In this initiative, acupressure therapy serves as a primary solution offered to adolescent girls. The procedure involves stimulating key points directly linked to the reproductive system and hormonal balance: SP6 (Sanyinjiao) on the inner ankle, LV3 (Taichong) on the dorsum of the foot, LI4 (Hegu) between the thumb and index finger, and CV6 (Qihai) on the lower abdomen. These points were selected for their physiological roles in enhancing pelvic blood circulation, reducing uterine muscle contractions, and balancing estrogen and progesterone levels.

Through this activity, adolescent girls can understand and practice acupressure as a self-care skill to manage PMS symptoms. Previous research by the proposing team demonstrated that acupressure therapy reduces menstrual pain intensity by up to 35% and significantly improves mood. Consequently, this approach is expected to serve as an effective, safe, and sustainable non-pharmacological intervention for adolescents. Another component is the innovation of Sweet Corn and Moringa Pudding—a functional food developed as a natural supplement to help alleviate PMS symptoms. Moringa leaves (*Moringa oleifera*) are recognized as a "superfood" due to their exceptionally high nutrient content—including iron, calcium, magnesium, vitamin A, and B-complex vitamins—which play a vital role in hormonal balance and bodily metabolism. Deficiencies in iron and magnesium are known to be primary causes of fatigue, muscle pain, and mood swings in adolescent girls experiencing PMS.

Additionally, sweet corn serves as a source of complex carbohydrates, vitamin B1, and dietary fiber, which help stabilize blood sugar levels and thereby reduce the risk of drastic mood swings during menstruation. Moringa and sweet corn are processed into pudding due to the dish's soft texture, flavor appeal among teenagers, and ease of digestion. The choice of pudding also aims to ensure broad acceptance and offers potential for development into a healthy food product tailored to school-aged adolescents.

Previous research indicates that regular consumption of moringa can boost hemoglobin levels, improve hormonal metabolism, and alleviate premenstrual symptoms such as

lethargy and irritability. A 2024 study by a team of lecturers from Poltekkes Kemenkes Bandung also found that moringa pudding was well-received by adolescents and was effective in boosting energy and reducing PMS complaints after two weeks of consumption. Consequently, this solution is expected to serve as an innovative alternative that is not only healthy but also creates opportunities for healthy food entrepreneurship among adolescents. Acupressure and moringa-sweet corn pudding are designed to work synergistically and complement one another. Acupressure focuses on managing physical and emotional symptoms through body stimulation and natural relaxation, while moringa-sweet corn pudding works to improve nutritional status and hormonal balance from within the body. Combining the two is expected to yield more optimal and sustainable results.

Conclusion

Based on the results of the community service activity involving an acupressure intervention and the provision of moringa-sweet corn pudding to adolescent girls, the following conclusions can be drawn:

1. Intervention Effectiveness: The combination of acupressure therapy (targeting points SP6, LV3, LI4, and CV6) and the consumption of moringa-sweet corn pudding was synergistically effective in reducing PMS symptom intensity by 30–40%, particularly regarding physical pain, fatigue, and mood stability.
2. Capacity Building: The activity successfully enhanced the knowledge and self-care skills of adolescent girls in managing PMS symptoms through non-pharmacological means, specifically by applying acupressure techniques correctly and consistently.
3. Product Acceptance: The moringa-sweet corn pudding demonstrated high acceptability (organoleptic acceptance) among adolescents as a healthy, hygienic, and highly nutritious functional food (rich in iron, magnesium, and fiber).
4. Long-term Impact: Beyond health benefits, the activity fostered awareness of balanced nutrition and offered economic potential through the development of locally-based healthy food products within the school environment.

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