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Utilizing Traditional Games in Physical Activity Education to Enhance Adolescent Mental Health: A Community Service Program at A Junior High School in Pontianak

Agustina Arundina Triharja Tejoyuwono¹, Ita Armyanti², Ery Hermawati³, Iit Fitrianingrum⁴

^{1,2,3,4} Tanjungpura University

Email: agustina.arundina@medical.untan.ac.id; ita.armyanti@medical.untan.ac.id; ery.hermawati@medical.untan.ac.id; iit.fitrianingrum@medical.untan.ac.id

ABSTRACT

Background: Adolescent mental health issues are increasingly prevalent and require preventive and promotive interventions that are engaging and culturally relevant. This community service activity focused on enhancing adolescent mental health through physical activity-based interventions using local traditional games and dance.

Purpose of the Study: The purpose of this community service was to improve students' understanding of mental health and promote psychological well-being through enjoyable physical activities rooted in local culture.

Methods: The subjects of the program were 41 students (23 female and 18 male). The methods used included interactive education on mental health, followed by group exercise using the traditional Jepin dance and traditional games such as tabak, kelereng, and "putting a pen into a bottle."

Results: The activity successfully increased student participation, enthusiasm, and social interaction while fostering teamwork and emotional regulation as reflected in student question-answer session and stakeholder feedback. The program demonstrated that culturally based physical activities can serve as an effective and enjoyable medium for improving adolescent mental health and strengthening community engagement, with strong stakeholder support and commitment.

Keywords

Adolescent mental health; Physical activity; Traditional games; Community engagement

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Corresponding Author: Agustina Arundina Triharja Tejoyuwono; Email: agustina.arundina@medical.untan.ac.id; Tanjungpura University

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Introduction

Adolescents are a vulnerable group prone to experiencing mental health problems. The environment surrounding adolescents plays an important role as a contributing factor to poor mental health conditions. Interactions with others within their social circle—such as classmates, playmates, partners, and parents—are major issues that influence adolescent mental well-being (Center for Reproductive Health, University of Queensland, 2022; Supini et al., 2024). In addition, adolescents need emotional stability and a sense of security, where a history or experience of bullying can increase the risk of mental disorders (Gintari et al., 2023; Rahma et al., 2024). A factor that is often overlooked in adolescent mental health is the tendency toward excessive thinking (overthinking) about the future and economic stability (Center for Reproductive Health, University of Queensland, 2022; Hidayat et al., 2024; Supini et al., 2024).

Commonly measured emotional mental disorders among adolescents include stress, anxiety, and depression. According to the 2022 Indonesia–National Adolescent Mental Health Survey (I-NAMHS), 34.9% of adolescents in Indonesia experienced mental health problems within the past 12 months, with the highest proportion found among female adolescents (35.1%), primarily related to anxiety disorders (26.7%) (Center for Reproductive Health, University of Queensland, 2022). A previous study among junior high school students in Pontianak found abnormal conditions in behavioral problems (17.4%), emotional mental problems (2.5%), and peer-related problems (14.9%), although most students remained within the normal category (Florensa et al., 2023). Furthermore, in a 2024 assessment of depression, stress, and anxiety using the DASS-Y instrument among 277 students from five public junior high schools in Pontianak, found that one school had the highest number of students identified with depression and stress.

These findings indicate the importance of implementing early and comprehensive interventions to address mental health problems among junior high school students. A psychological mentoring activity conducted among adolescents in Pontianak in 2024 showed a 40% increase in participants' knowledge after education sessions; however, no direct intervention model had yet been provided (Vidyastuti & Fachrezi, 2024). Therefore, it is necessary to develop an intervention method that is both appealing to adolescents and culturally relevant—one of which is through physical activity. All types of exercise have psychological effects; for instance, aerobic exercise can improve mood and cognitive function by increasing serotonin and endorphin production when performed regularly for 30 minutes a day. Another type, team sports, can enhance social skills and strengthen the sense of togetherness within a community, which is an essential aspect of adolescent social development and interpersonal satisfaction (Istyanto & Rahmi, 2023; Li et al., 2024).

Physical activity through traditional games can also serve as an approach that emphasizes local wisdom. In addition to providing physical health benefits, coordination, and motor skills, such activities can reduce stress levels, improve concentration, and promote happiness and well-being. Traditional games further contribute to strengthening social interaction, fostering solidarity, and managing emotions positively (Fitri et al., 2023; Nasrulloh et al., 2024). West Kalimantan itself has several traditional games—mostly outdoor activities that can be played individually or in groups—such as *gasing*, *lantak*, *tabak*, *galasing*, *gundu* (marbles), *balago*, *sepak sawut*, and *tapok beleg*. These games help develop physical and motor abilities in early childhood, enhance cognitive functions through activities requiring counting and word guessing, and nurture socio-emotional growth through group play, appreciation of achievement, and social interaction that values rules and mutual agreement (Lukmanulhakim, 2022). With proper implementation, this intervention is expected to create an ideal environment for adolescents to grow and develop in a healthy, emotionally stable, and mentally resilient manner in facing life's challenges.

Method

This community service activity applied interactive education and direct engagement methods involving 41 junior high students in Pontianak, located about 3.7 km from University in West Kalimantan. Conducted on September 10, 2025 from 07.30-10.00, the program—implemented in collaboration with the Faculty of Medicine's partner school. The program was implemented through several structured stages, beginning with coordination with the school and ending with reflection and program closure. The flow of activities and duration of each session are presented below:

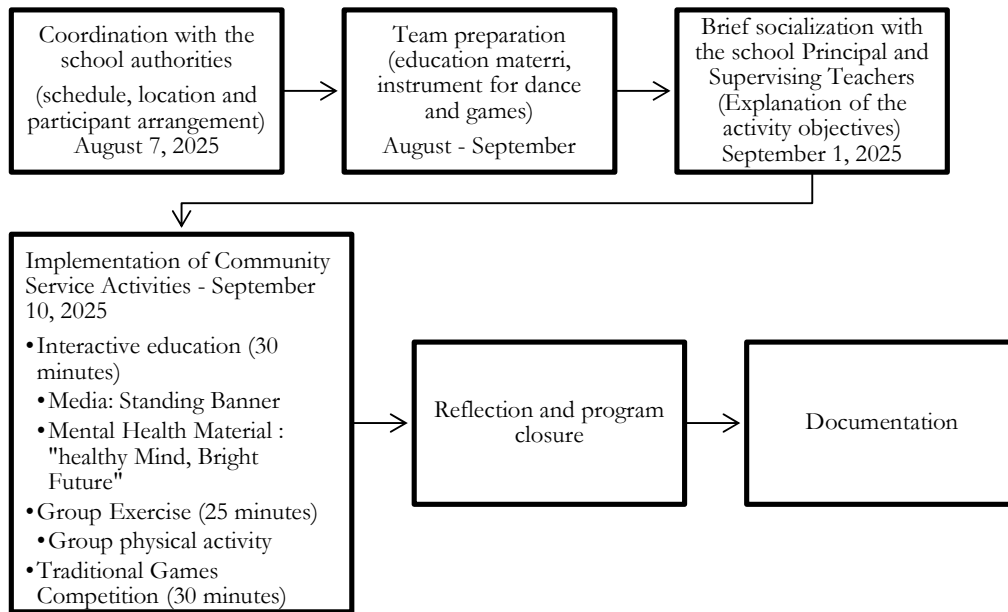


Figure 1. Stages of Community Service Program Implementation

The program was implemented through several types of activities, including a 30-minute interactive education session using educational media such as standing banners, 25 minutes of group exercise (joint gymnastics), and a 30-minute traditional game competition consisting of three types of games. At the end of the activities, a reflection session was conducted through direct question–answer interactions with students, along with feedback collection from the school regarding the program and its future development.



Figure 2. Educational Media “Healthy Mind, Bright Future”

Result

During the community service activity, a total of 41 students participated, consisting of 23 female and 18 male students. The participants were randomly selected, with the majority coming from grade 8 (26 students), followed by grade 9 (14 students), and only one student from grade 7. Prior to implementation, the team coordinated with the school administration and teachers to determine the activity schedule, participant involvement and technical arrangements. This was followed by preparation involving the full team, supported by Medical Student Association students, in developing mental health materials, selecting the types of physical exercises, and designing traditional games to be conducted. The preparation phase also included arranging and providing all necessary materials and equipment for the activities. Teachers and school staff also supported the implementation by assisting with student coordination and maintaining participation throughout the program. The activities were accompanied by the school principal, the curriculum coordinator teacher, and guidance and counseling (BK) teachers.

The activity began with a 30-minute interactive education session titled “*Healthy Mind, Bright Future*”, using a standing banner that contained information about adolescent mental health, common problems, signs and symptoms, and strategies for maintaining mental health issues. Students actively responded to questions during the session and shared their experiences related to school stress and daily activities. The standing banner was later handed over to the school as a health information resource for other students, serving as an indirect educational tool. The evaluation carried out was seen from the students' ability to answer questions directly during interactive education from the material provided, and 5 direct questions about identifying disorders from the signs and symptoms experienced and preventive measures that can be taken were answered correctly by the students.



Figure 3: Interactive Education

The activity continued with direct interaction through *Jepin* exercise, a traditional Malay dance from West Kalimantan that has evolved into a form of aerobic exercise due to its dynamic and rhythmic movements. Students were also invited to participate in traditional games, including *tabak*, *kelereng* (marbles), and the “putting a pen into a bottle” game. The entire community service activity was conducted over a total duration of approximately two hours.



Figure 4. Jepin Exercise

The group exercise session utilized the traditional Malay dance of Pontianak, West Kalimantan, known as *Jepin* exercise. This activity is a modified form of the traditional *Jepin* dance, performed for approximately 15 minutes over three song sets. The session continued with the *Gemu Fa Mi Re* exercise, originating from Maumere, Sikka, East Nusa Tenggara (NTT), which lasted about 10 minutes. The exercise was then followed by traditional games conducted in a marathon format, consisting of three types of games played by participants divided into four groups (10 students/group). Each group competed to complete one full set of games in the shortest time possible. These activities led to increased participation, enthusiasm, and confidence among students, along with more active peer interaction, improved cooperation, and reduced passivity during the dance exercise and traditional games.

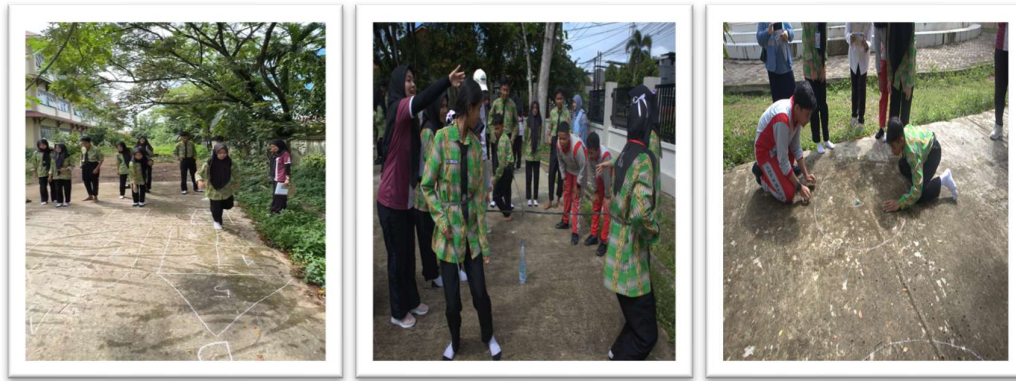


Figure 5. Traditional Games

Overall, the evaluation of the three activities indicates positive acceptance and perceived usefulness among stakeholders, particularly in supporting students' mental health. The principal stated, "this activity will be continued and become a school habit to support students' mental health." He also noted, "students need engaging activities to help reduce their academic burden." The school counsellor mentioned, "the material was easy for students to understand and applicable to their daily lives." She also added, "we plan to develop a school counselling program to address students' mental health issues more systematically." These findings highlight the importance of continued and structured efforts in addressing students' mental health needs through engaging school-based activities and supportive counseling initiatives. In response, the faculty is committed to providing ongoing assistance not only to students, but also to teachers and parents, to strengthen their capacity in early detection and effective management of students' mental health issues. These responses reflect initial improvements in awareness and institutional readiness.

Discussion

Addressing mental health problems among adolescents is essential, as these issues affect academic achievement, quality of life, and productivity. An intervention approach that enhances physical activity has shown positive effects in reducing mental health issues, improving social relationships, and ultimately influencing physical health. The implementation of a compulsory physical education curriculum with various types of physical activities is known to reduce anxiety, enhance self-esteem, self-confidence, and self-management, as well as promote relaxation through low-intensity physical activities (Li et al., 2024).

Dancing is one form of physical activity that can improve physical fitness and social ability, which in turn positively impacts mental health. The benefits of dancing depend on the type of dance; group dancing enhances coordination, balance, flexibility, and body strength (Bremer, 2007). Dancing also improves quality of life, social cognition, memory, and reduces distress, as it involves not only body movement but also music that stimulates interest and happiness (Fong et al., 2024; Lu et al., 2024). Traditional dance, as part of a nation's cultural identity, is important to preserve and also contributes to physical fitness. A study on traditional Greek dances, *Litos* and *Zonaradikos*, found that such dances improve leg strength, balance, flexibility, and reduce lower back pain (Douka et al., 2019). *Jepin* dance from West Kalimantan has many variations, including *Jepin Langkah Gersik Pantai*, which consists of 154 movement motifs combining structured movements of the head, body, hands, and feet (Slamet & Ismunandar, 2022) and *Jepin Tali Bui*, which features three movement patterns involving forward-backward and diagonal motions using a rope as a dance prop (Ulan et al., 2019). In this community service activity, the *Jepin* exercise was a modified version of *Jepin Langkah Gersik Pantai*.

The games *tabak* and *kelereng* are traditional games from West Kalimantan. *Tabak* is known by various names in other regions, such as *engklek* in Javanese, *dampu bulan* in Riau, and *Marsitekka* in Batak, among others. The game originated from the Dutch game *zondag-maandag*, in which players hop on one foot from one square to another (Lubis, 2016). It requires only chalk or charcoal to draw a pattern of 4×2 or 6×2 squares on the ground with a curved or cone-shaped roof. The term *tabak* also refers to the object used as a marker (*gacoan* or *kareweng*), a stone or piece of wood thrown into a specific box as a target (Siregar, 2025). This game trains strategic thinking, emotional control, and motor skills—particularly balance, body strength, and agility, which improve with repeated play (Darmawati & Widyasari, 2022).

Like other traditional games, the *kelereng* (marbles) game has largely been abandoned by today's adolescents, replaced by online games. *Kelereng* involves several players who create a circular or triangular pattern on clay or cement ground. The game can be played in several ways, such as flicking marbles to knock others out of the circle or tossing marbles toward a target, where the one closest to or within the boundary begins the game by striking opponents' marbles. The player who collects the most marbles wins. This game not only develops fine and gross motor skills but also fosters sportsmanship, as it requires interaction among peers and opponents, helping to strengthen social skills (Ngaisan et al., 2023).

Social and interactional skills are also fostered through the game of inserting a pen into a bottle, commonly played during Indonesia's Independence Day celebrations. This game involves 4–5 children using simple tools such as string, empty bottles, and pens or nails. Each player ties a string around their waist, with a pen hanging at the end, while the bottle is placed on the ground. The players must work together to insert the pen into the bottle simultaneously. This game requires communication, coordination, and patience among participants (Desa et al., 2023; Regar et al., 2024).

Thus, a physical activity–based approach through *Jepin* exercise and traditional games such as *tabak*, *kelereng*, and the pen-in-bottle game functions not only as a form of recreation but also as a medium for strengthening adolescents' mental, social, and physical health. These activities help revive local cultural values while serving as engaging and contextual intervention strategies to promote holistic adolescent well-being. However, a key limitation of this PKM activity is the absence of a structured quantitative evaluation, such as pre–post tests or participant satisfaction surveys (e.g., Likert scale). Consequently, the findings are based primarily on observational assessments of students' ability to answer questions and their participation during activities, which may limit objectivity and precision.

Conclusion

The community service activity conducted at Junior High School students in Pontianak successfully engaged 41 students (23 female, 18 male) from grades 7–9 in physical activities rooted in local culture. The program demonstrated that a physical activity–based approach through *Jepin* dance exercises and traditional games such as *tabak*, *kelereng*, and the “putting a pen into a bottle” game can serve as an effective strategy to support adolescent mental health. These activities helped reduce stress and anxiety while strengthening social skills, teamwork, and a sense of togetherness. In addition to providing physical and psychological benefits, they also contributed to preserving local cultural values that are gradually being forgotten. Evaluation through question–answer sessions and stakeholder reflection showed active student engagement, positive experiences and positive stakeholder support and commitment. Teachers and school staff also reported improved participation, reduced stress, and strong acceptance of the culturally based approach as supportive for adolescent mental well-being. The implementation of similar programs is recommended to be continued in school settings as a means of supporting adolescents' mental and social well-being holistically.

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Conflicts of Interest

The authors declare no conflict of interest

References

- Bremer, Z. (2007). Dance as a form of exercise. *Brithish Journal of General Practice*, 57(535), 166.
- Center for Reproductive Health, University of Queensland, & J. B. H. S. of P. H. (2022). *Indonesia – National Adolescent Mental Health Survey (I-NAMHS): Laporan Penelitian*. Pusat Kesehatan Reproduksi.
- Darmawati, N. B., & Widyasari, C. (2022). Permainan Tradisional Engklek dalam Meningkatkan Motorik Kasar Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(6), 6827–6836. <https://doi.org/10.31004/obsesi.v6i6.3487>
- Desa, A., Kec, K., Kab, B., Mandar, P., Matematika, F., Alam, P., & Makassar, U. N. (2023). Mempererat Tali Persaudaraan Melalui Ajang Lomba Sebagai Sarana Hiburan Untuk Anak-Anak di Desa Kaleok Kec. Binuang Kab. Polewali Mandar. *Jurnal Lepa-Lepa Open*, 3(2), 426–430.
- Douka, S., Zilidou, V. I., Lilou, O., & Manou, V. (2019). Traditional Dance Improves the Physical Fitness and Well-Being of the Elderly. *Frontiers in Aging Neuroscience*, 11(April), 1–9. <https://doi.org/10.3389/fnagi.2019.00075>
- Fitri, E., Sari, N., Julianti, R., Suherman, A., Budiana, D., Indonesia, U. P., Indonesia, U. P., & Jakarta, U. N. (2023). Traditional Games as a Tool for Improving Psychosocial Development: A Comparative Study of Structured and Progressive Learning Models. *Edu Sportivo*, 6(1), 1–15. [https://doi.org/10.25299/esijope.2025.vol6\(1\).18538](https://doi.org/10.25299/esijope.2025.vol6(1).18538)
- Florensa, Hidayah, N., Sari, L., Yousrihatin, F., & Litaqia, W. (2023). Gambaran Kesehatan Mental Emosional Remaja. *Jurnal Kesehatan*, 12(1), 112–117.
- Fong, A., Leslie, Y., Rachel, L. N., Claire, E. W., Kathryn, E. H., Helen, D., Fay, L., Gene, L., & Clifton, M. (2024). The Effectiveness of Dance Interventions on Psychological and Cognitive Health Outcomes Compared with Other Forms of Physical Activity : A Systematic Review with Meta - analysis. *Sports Medicine*, 54(5), 1179–1205. <https://doi.org/10.1007/s40279-023-01990-2>
- Gintari, K. W., Jayanti, D. M. D., Laksmi, I. G. A. P. S., & Sintari, S. N. N. (2023). Kesehatan Mental Pada Remaja. *Nursepedia*, 2(3), 167–183. <https://doi.org/10.55887/nrpm.v2i3.49>
- Hidayat, M., Indrawati, I., & Suri, M. (2024). Identifikasi Faktor-Faktor Penyebab Gangguan Jiwa pada Remaja di Rumah Sakit Jiwa. *Jurnal Akademika Baiturrahin Jambi*, 13(2), 338–348.
- Istyanto, F., & Rahmi, S. A. (2023). Manfaat Aktifitas Fisik Terhadap Kesehatan Mental Berbasis

- Narrative Literature Review. *Jurnal Kesehatan Madani Medika*, 14(02), 182–192. <https://jurnalmadanimedika.ac.id/JMM/article/download/351/213/>
- Li, Z., Li, J., Kong, J., Li, Z., Wang, R., & Jiang, F. (2024). Adolescent Mental Health Interventions : A Narrative Review of The Positive Effects of Physical Activity and Implementation Strategies. *Frontiers in Psychology*, 15(1433698), 1–11. <https://doi.org/10.3389/fpsyg.2024.1433698>
- Lu, J., Rahman, N. A. A., Wyon, M., & Shaharudin, S. (2024). The effects of dance interventions on physical function and quality of life among middle- aged and older adults : A systematic review. *PLoS ONE*, 19(4), e0301236. <https://doi.org/10.1371/journal.pone.0301236>
- Lubis, H. (2016). Zondag Maandag, Permainan Tradisional Beragam Nama dan semua umur. *Perpustakaan Digital Budaya Indonesia*. <https://budaya-indonesia.org/Zondag-Maandag-Permainan-Tradisional-Beragam-Nama-dan-semua-umur>
- Lukmanulhakim. (2022). Permainan Tradisional Bagi Anak Usia Dini di Kalimantan Barat. *Jurnal Visi Ilmu Pendidikan*, 14(1), 57–64. <https://doi.org/10.26418/jvip.v14i1.49334>
- Nasrulloh, A., Hermawan, H. A., Ihsan, F., & Yogyakarta, U. N. (2024). *Health Benefits of Traditional Games - A Systematic Review*. 2041, 843–856. <http://dx.doi.org/10.47197/retos.v59.107467>
- Ngaisan, N. C., Ayyubi, M. Al, Fajzrina, L. N. W., Aulia, R., Munawarah, Fadillah, C. N., & Zohro, N. P. (2023). Permainan Tradisional Kelereng dan Perannya dalam Mengembangkan Keterampilan Sosial ANak. *Jurnal Ilmiah Potensia*, 8(1), 103–113.
- Rahma, G., Hasnah, F., & Alhamda, S. (2024). Determinan Kesehatan Mental Pada Remaja Usia 11-18 Tahun di Kota Padang. *Jurnal Ilmu Kesehatan*, 8(2), 290–297. <https://doi.org/10.33757/jik.v8i2.1146>
- Regar, R., Lubis, H. A., Sahertiah, H., Siregar, D., Siregar, R., Nasution, I., Wahyudi, R., Arifin, Z., & Lubis, S. (2024). Analisis Perkembangan Fisik Motorik Anak Melalui Kegiatan Bermain (Studi Kasus Memperingati Hut Ri Ke-78 Di Desa Tamosu). *NUSANTARA: Jurnal Pengabdian Kepada Masyarakat*, 4(1), 226–232.
- Siregar, P. (2025). Main Tabak: Permainan Rakyat yang Dimainkan Anak-anak di Seluruh Negeri. *Borneo Review*. <https://borneoreview.co/main-tabak-permainan-rakyat-yang-dimainkan-anak-anak-di-seluruh-negeri/>
- Slamet, D., & Ismunandar. (2022). Struktur gerak tari jepin langkah gersik pantai Kota Pontianak Kalimantan Barat. *TACET: Jurnal Ilmiah Pendidikan Dan Kajian Seni*, 1(1), 28–37.
- Supini, P., Ryoga, A., Gandakusumah, P., Asyifa, N., & Nadzifah, Z. (2024). Faktor-Faktor yang Mempengaruhi Kesehatan Mental pada Remaja. *JERUMI: Journal of Education Religion Humanities and Multidisciplinary*, 2(1), 166–172. <https://doi.org/10.57235/jerumi.v2i1.1760>
- Ulan, Ismunandar, & Fretisari, I. (2019). Analisis Makna Tari Jepin Tali Bui Kalimantan Barat. *Jurnal Pendidikan Dan Pembelajaran Khatulistiwa*, 8(11), 1–9.
- Vidyastuti, & Fachrezi, M. Y. (2024). Program Pendampingan Psikologi Untuk Meningkatkan Kesehatan Mental Remaja Pada Forum Anak Kelurahan dan Kecamatan Pontianak Utara. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, 5(1), 400–406.