ORIGINAL RESEARCH ARTICLE

# Adolescent Perceptions of the Integrated Health Service Post (Posyandu Remaja) in Depok, Indonesia: A Cross-Sectional Evaluation Using the CIPP Framework

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## ABSTRACT

**Background:** Adolescent reproductive and mental health remain critical public health challenges in Indonesia. The Posyandu Remaja (Adolescent Integrated Health Post) was established to address these needs, yet evidence on adolescents' perceptions of its implementation quality remains limited. The objective was to evaluate adolescent perceptions of Posyandu Remaja implementation quality in Depok City using the Context-Input-Process-Product (CIPP) evaluation framework.

**Methods:** A cross-sectional study was conducted among 142 adolescents aged 10-19 years in Depok, West Java. A validated 62-item researcher-developed questionnaire assessed four CIPP dimensions using a 5-point Likert scale. MANOVA (Pillai's Trace) examined differences across age, sex, and education level.

**Results:** All CIPP dimensions received highly favorable ratings: Product (4.27), Input (4.26), Context (4.22), and Process (4.19). MANOVA revealed no statistically significant differences across demographic subgroups (all $p>0.05$), with small effect sizes ($\eta^2=0.019$-$0.025$). Notable gaps included low cadre availability, irregular personal attendance, and limited openness in discussing mental health.

**Conclusion:** Adolescents perceived Posyandu Remaja favorably across all dimensions, demonstrating high acceptability and equity across demographic groups. Strengthening peer engagement, cadre availability, and interactive participation strategies are recommended to translate positive perceptions into measurable health outcomes.

**Keywords:** Posyandu Remaja, CIPP model, adolescent health, program evaluation, Indonesia

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## INTRODUCTION

Adolescence represents a critical developmental period during which multiple health risks including mental health disorders, risky behaviors, and reproductive health challenges often emerge, particularly in contexts with limited social and health system support.[1] Inadequate support during this critical developmental window can precipitate behavioral issues, premenstrual syndrome, and unintended pregnancy. Robust economic modelling confirms that interventions to address these specific risks generate high benefit-cost ratios, solidifying the argument for such investments as a cornerstone of sustainable development policy.[2] Globally, inadequate sexual and reproductive health literacy (SRHL) and a high burden of untreated mental health conditions represent two interconnected and critical threats to adolescent well-being in low-and middle-income countries (LMICs). A scoping review of the evidence from Sub-Saharan Africa reveals profound SRHL gaps, characterized by poor knowledge, an inability to apply that knowledge to practice, and limited access to accurate information, which collectively contribute to high rates of early sexual activity, unintended pregnancy, and sexually transmitted infections (STIs).[3] Concurrently, as highlighted in an editorial perspective, adolescents in these regions face a vast mental health treatment gap and systemic barriers including stigma, discrimination, and a critical lack of data and investment.[4] The convergence of these issues creates a systemic problem that jeopardizes the health, development, and lifelong potential of an entire generation.

In Indonesia, adolescents aged 10-19 years number approximately 44.3 million, representing 16.1% of the total national population.[5] The well-being of this large youth population is a critical national concern, as evidenced by alarming rates of violence. Data from the Online Information System for Women and Child Protection (*Sistem Informasi Online Perlindungan Perempuan dan Anak*) reported 16,106 cases of child abuse nationwide in 2022.[6] Compounding these vulnerabilities, limited access to comprehensive sexuality education and adolescent-responsive reproductive health services perpetuates cycles of risk,[7] potentially leading to poor health decision-making, unintended pregnancies, and the spread of sexually transmitted infections (STIs).[8,9] At the local level, Depok City reflects similar adolescent health challenges.

In Depok City, a high-density urban center bordering Jakarta, adolescents aged 10 to 24 years constitute 23.2% of the total population.[10] Local statistics reveal that 27.87% of all registered marriages in Depok involve individuals below the legal age of marriage, classifying them as early marriages (Depok City Central Bureau of Statistics).[11] In terms of STI cases, for instance new AIDS cases, Depok ranks as the fourth highest city in West Java with 110 recorded cases. This figure significantly exceeds those of comparable cities such as Tasikmalaya, which reported 58 cases.[12] The city's commitment to achieving HIV/AIDS elimination by 2030 underscores the urgency of addressing youth-related transmission risks.[13] Additional concerns include the persistent risk of anemia among adolescent girls resulting from suboptimal iron tablet supplementation coverage of only 46.3% in West Java and 45.2% nationally.[14] Critically, mental health remains deprioritized in Depok's local health policy, despite robust evidence that adolescence is a peak period for the onset of mental health disorders.[15,16]

In response, Indonesia has implemented the Adolescent Integrated Health Service Post (*Posyandu Remaja*), a community-based platform designed to deliver coordinated health promotion, counselling, and basic services targeting adolescents. However, the program's implementation faced significant barriers, including low adolescent participation due to a lack of awareness and school schedule conflicts, compounded by volunteers' insufficient health knowledge and difficulty engaging wider peer networks, as well as operational challenges stemming from the competing priorities of student volunteers and the stretched capacity of primary health center staff.[17] These factors have contributed to suboptimal impacts on adolescent reproductive and mental health outcomes.[18,19] Consequently, despite its national rollout and integrative design, the initiative has not yet realized its full public health potential. A critical evidence gap remains, despite the nationwide implementation of Posyandu Remaja, limited evidence exists regarding adolescents' perceptions of the program's implementation quality.[20] Previous studies in Indonesia have examined pilot adolescent health initiatives, yet these evaluations often focused on specific program components rather than comprehensive assessments of program implementation from adolescents' perspectives.[17] In particular, evaluations using structured program evaluation frameworks such as the CIPP (Context, Input, Process, Product) model remain scarce, especially in urban settings like Depok. Moreover, existing Adolescent Integrated Health Service Post evaluations studies have predominantly employed qualitative or mixed-methods approaches from provider or programmatic perspectives, with limited quantitative assessment of adolescent perceptions using validated instruments and statistical analysis.[19,21-24]

Therefore, this study aims to evaluate adolescents' perceptions of the Posyandu Remaja program and its implementation quality in Depok City using the Context-Input-Process-Product (CIPP) evaluation framework. Findings will inform evidence-based refinement of community-level adolescent health programming in urban Indonesian settings.

## METHODOLOGY

**Study Design:** This cross-sectional study evaluated adolescent perceptions of the implementation of an

adolescent health program at Integrated Health Posts in Depok, West Java, Indonesia, using the CIPP model (Context, Input, Process, Product).

**Setting and Participants:** This study targeted adolescents aged 10-19 who had attended the Adolescent Integrated Health Post (*Posyandu Remaja*) in Depok at least once. Potential participants were invited through digital flyers distributed by cadres (peer educators/staff) of the health posts via social media and community networks. While this approach enabled broad reach, it is acknowledged that reliance on digital recruitment may introduce selection bias; therefore, the findings may not fully represent adolescents in the region. To mitigate potential social desirability bias inherent in self-administered surveys, participants were assured of anonymity and strict confidentiality, ensuring that individual responses could not be traced back to them. To be eligible for inclusion, adolescents were required to be fluent in Bahasa Indonesia, possess adequate literacy to complete the self-administered instrument, and have access to an internet-enabled device. Individuals with cognitive impairments preventing comprehension or those who were non-fluent in Bahasa Indonesia were excluded. Eligible adolescents who provided informed consent completed a structured Google Forms questionnaire. Due to the absence of a pre-existing sampling frame (i.e., no complete registry of eligible adolescents), convenience sampling was employed to recruit participants meeting these criteria. The use of convenience sampling limits the generalizability of findings to adolescents with similar characteristics and access to digital platforms. No analytical adjustments were made for the non-probability sampling approach; therefore, inferential statistics should be interpreted with caution regarding the broader adolescent population in Depok.

**Variables:** The Dependent Variables (DVs) were the mean scores for each of the four CIPP dimensions: Context, Input, Process, and Product. The Independent Variables (IVs) included demographic characteristics: age (categorized into early adolescence [10-13 years], middle adolescence [14-16 years], and late adolescence [17-19 years]), sex (male, female), and education level (elementary, middle, or senior high school). These cut-offs align with Indonesian Ministry of Health classifications for adolescent health service delivery.

**Sample Size:** Using G*Power 3.1 (University of Düsseldorf), the required sample size was calculated for a MANOVA (Pillai's trace) to assess the multivariate effects of the *Posyandu Remaja program*. With an effect size ($f^2(V)$) of 0.1 (small-to-medium), $\alpha = 0.05$, power $(1-\beta) = 0.90$, 3 groups, and 4 dependent variables, the analysis indicated a minimum sample size of 102 participants.[25] The effect size was informed by prior CIPP-based program evaluations employing MANOVA to compare perceptions across demographic groups, which have consistently reported small-to-medium multivariate effects for group-level differences in CIPP dimension perceptions.[26] As no CIPP-based adolescent health program evaluation using MANOVA was identified in the literature, this represents a limitation of the sample size assumption. To ensure the study was sufficiently powered for all demographic subgroup comparisons, the calculation was performed based on the most conservative scenario involving the independent variable with the highest number of levels.

**Measurement/Instruments:** The instrument consisted of three main sections. Section I and II collected demographic and contextual information, including age (in years), sex (male/female), highest level of education attained (elementary school, middle school, or senior high school), current status (still in school, graduated, employed, or unemployed), subdistrict of residence, and duration of participation in the *Posyandu Remaja* (<6 months, 6-12 months, or >12 months).

Section III comprised a researcher-developed questionnaire was designed to evaluate adolescent perceptions of the *Posyandu Remaja Program*, comprising 62 items divided into four CIPP model dimensions: Context (15 items), Input (15 items), Process (15 items), and Product (17 items). The instrument utilized a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Validity testing was conducted by distributing the questionnaire to 30 respondents with characteristics matching the target population but recruited from a different geographical region (Jakarta).[27] The validity of each item was assessed using item-total correlation, where the Pearson correlation between each item score and the total score of its respective construct was calculated. The validity of each item was assessed by comparing the observed correlation coefficient against the critical threshold (r-critical = 0.361). All items exhibited statistically significant validity ($r > 0.361$, $p < 0.05$), confirming their appropriateness for further analysis.

Reliability assessment through Cronbach's alpha yielded robust results across all constructs. The Context scale achieved $\alpha = 0.922$, Input $\alpha = 0.946$, Process $\alpha = 0.935$, and Product $\alpha = 0.956$, all substantially exceeding the 0.70 reliability threshold.[28] These results confirm the instrument's high internal consistency for measuring each CIPP dimension.

**Data Collection:** Data were collected between November 15 and December 20, 2025, via a structured, self-administered Google Forms questionnaire aligned with the CIPP model (Context, Input, Process, Product). Eligible participants, adolescents aged 10-19 who had attended a Posyandu Remaja in Depok at least once were recruited through digital flyers disseminated by cadres via social media and community networks. The questionnaire, administered in Bahasa Indonesia, used a 5-point Likert scale. To safeguard participant privacy, identities remained anonymous, and all information was handled with confidentiality. Participants were notified that their participation

was optional and that they might withdraw from the study at any point without justification.

**Data Analysis:** The collected data were cleaned, and entered into MS Excel, then exported to IBM SPSS Statistics version 27 for analysis. Missing data were assessed during the cleaning phase. Participants with incomplete questionnaire responses were excluded from the final analysis. Descriptive statistics including means, standard deviations (SD), and frequency distributions with percentages were computed for all variables across the four CIPP dimensions (Context, Input, Process, Product). To examine differences in the multivariate means of these four dimensions across of age groups (early, middle, and late adolescent), education level (elementary, middle, senior high school) and gender (male, female), a multivariate analysis of variance (MANOVA) was conducted. Prior to analysis, assumptions were checked: Levene's Test confirmed homogeneity of variance for individual dependent variables (all $p > 0.05$), and multicollinearity was deemed acceptable; however, Box's M indicated a violation of homogeneity of covariance matrices ($p < 0.001$). Consequently, Pillai's Trace was utilized as the primary test statistic due to its robustness to this violation. No formal sensitivity analysis was performed to exclude specific subgroups (e.g., participants with very short participation duration), as the inclusion criteria were based solely on attendance regardless of duration, and the sample size was deemed sufficient for the primary exploratory analysis. Statistical significance was set at p-value <0.05.

**Ethical approval and study registration:** Ethical approval for this study was granted by the Health Research Ethics Committee (Komisi Etik Penelitian Kesehatan, KEPK) of Universitas Prima Indonesia, Medan, under Protocol No. 070/KEPK/UNPRI/X/2025 (National Registration No. 12710125). As this was a cross-sectional study without an experimental intervention, the study protocol was not pre-registered on OSF or PROSPERO.

## RESULTS

The participant selection process is detailed in (Figure 1). A total of 174 adolescents accessed the online questionnaire. After screening, 32 responses were excluded due to incomplete data. Consequently, the final sample included 142 respondents, which exceeded the a priori minimum sample size of 102. All respondents met the inclusion criteria: aged 10-19 years and having attended a Posyandu Remaja in Depok at least once.

**Participant Characteristics:** As summarized in Table 1, the majority of respondents were female (76.1%, n = 108). Age distribution was nearly uniform across early (33.1%), middle (32.4%), and late (34.5%) adolescence. In terms of education, nearly half of the participants were enrolled in senior high school (47.2%, n = 67). Importantly, the majority of the sample reported high physical accessibility, with 90.1% (n = 128) residing within walking distance of the Posyandu site. Health screening was the most frequently attended activity (71.8%), and the primary motivation was to gain knowledge about reproductive and mental health (67.6%).

**Table 1: Demographic and Adolescent Health Post related participation characteristic of study participants (N=142)**

| Variables | Participants(%) |
|---|---|
| **Sex** | |
| Female | 108 (23.9) |
| Male | 34 (76.1) |
| **Age Group** | |
| Early Adolescence (10-13 years) | 47 (33.1) |
| Middle Adolescent (14-16 years) | 46 (32.4) |
| Late Adolescent (17-19 years) | 49 (34.5) |
| **Educational Level** | |
| Elementary School | 32 (22.5) |
| Middle School | 43 (30.3) |
| Senior High School | 67 (47.2) |
| **Duration as Posyandu Member** | |
| <6 months | 76 (53.5) |
| 6-12 months | 30 (21.1) |
| >12 months | 36 (25.4) |
| **Frequency of Attendance** | |
| Rarely | 34 (23.9) |
| Occasionally | 57 (40.1) |
| Monthly | 51 (35.9) |
| **Ever Served as Cadre** | |
| Yes | 45 (31.7) |
| No | 97 (68.3) |
| **Most Frequently Attended Activity** | |
| Health education | 25 (17.6) |
| Counselling | 9 (6.3) |
| Health screening | 102 (71.8) |
| Skills training | 4 (2.8) |
| Others | 2 (1.4) |
| **Main Source of Information About Posyandu Remaja** | |
| School/teacher | 17 (12) |
| Peers | 34 (23.9) |
| Family/parents | 68 (47.9) |
| Others | 23 (16.2) |
| **Accessibility to Posyandu Location** | |
| Near (walkable) | 128 (90.1) |
| Medium (≤15 min by vehicle) | 12 (8.5) |
| Far (>15 min by vehicle) | 2 (1.4) |
| **Primary Reason for Participation** | |
| Learn about reproductive & mental health | 96 (67.6) |
| Following peers | 5 (3.5) |
| Parental instruction | 28 (19.7) |
| To obtain benefits* | 10 (7) |
| Others | 3 (2.1) |

*Certificates, incentives, etc.

**CIPP Domain Evaluations:** Overall, participants expressed highly favorable perceptions of the Posyandu Remaja program across all four CIPP dimensions. As illustrated in (Figure 2), the Product dimension received the highest average rating (mean = 4.27), followed by Input (mean = 4.26), Context (mean = 4.22), and Process (mean = 4.19). All domain mean scores were well above the scale midpoint of 3.0, indicating a consistently positive evaluation of the program.

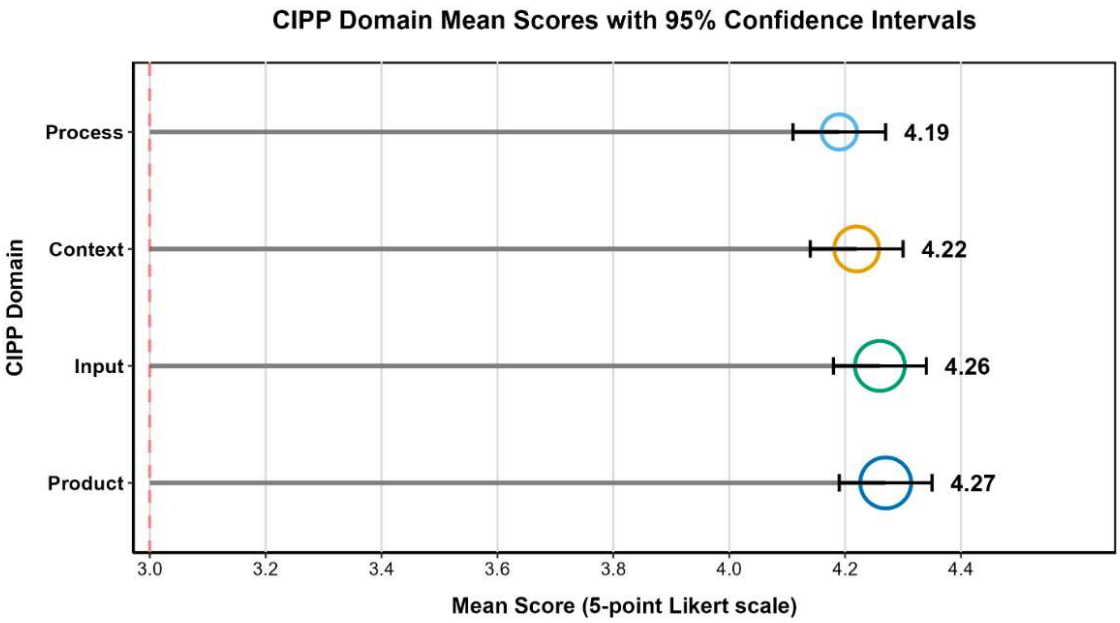


Figure 1: Comparison of mean CIPP domain scores

**Table 2: Mean ratings and standard deviations obtained for the Context construct**

| Context | Mean | SD | 95%CI |
|---|---|---|---|
| 1. I need information about mental and reproductive health. | 4.44 | 0.690 | 4.33-4.56 |
| 2. The topics covered in Posyandu Remaja activities are relevant to current adolescent issues. | 4.32 | 0.7 | 4.21-4.44 |
| 3. Posyandu Remaja activities help me understand the psychological problems I face. | 4.14 | 0.795 | 4.01-4.27 |
| 4. This program is relevant to the needs of adolescents in my community. | 4.34 | 0.673 | 4.23-4.45 |
| 5. I believe Posyandu Remaja is important for maintaining adolescent health. | 4.65 | 0.548 | 4.56-4.74 |
| 6. Posyandu Remaja provides a safe space for discussing mental health. | 4.26 | 0.75 | 4.14-4.39 |
| 7. Posyandu Remaja provides information I rarely get at school. | 4.23 | 0.805 | 4.1-4.37 |
| 8. My parents support my participation in Posyandu Remaja activities. | 4.55 | 0.69 | 4.43-4.66 |
| 9. My friends are also interested in participating in Posyandu Remaja activities. | 4.06 | 0.857 | 3.91-4.20 |
| 10. The schedule of Posyandu Remaja activities fits my available free time. | 4.14 | 0.822 | 4-4.28 |
| 11. My local environment (RT/RW/school) supports the existence of Posyandu Remaja. | 4.51 | 0.627 | 4.41-4.62 |
| 12. Information on reproductive health is delivered while considering local culture. | 4.11 | 0.773 | 3.98-4.24 |
| 13. The Posyandu Remaja program considers the different needs of male and female adolescents. | 4.3 | 0.722 | 4.18-4.42 |
| 14. I feel my opinions are valued during Posyandu Remaja activities. | 4.3 | 0.616 | 4.19-4.40 |
| 15. The Posyandu Remaja program helps build my self-confidence as an adolescent. | 4.3 | 0.763 | 4.18-4.43 |
| Column Means | 4.22 | - | - |

**Table 3: Mean ratings and standard deviations obtained for the Input construct**

| Input | Mean | SD | 95%CI |
|---|---|---|---|
| 1. Cadres explain materials using easy-to-understand language. | 4.36 | 0.7 | 4.24-4.47 |
| 2. Cadres possess adequate knowledge about mental and reproductive health. | 4.32 | 0.68 | 4.20-4.43 |
| 3. Cadres demonstrate friendly and open attitudes. | 4.46 | 0.66 | 4.36-4.57 |
| 4. Cadres are capable of providing basic counseling to adolescents with problems. | 4.26 | 0.72 | 4.14-4.38 |
| 5. The number of cadres is sufficient to serve participants. | 4.13 | 0.75 | 4.01-4.26 |
| 6. The venue for activities is clean, safe, and comfortable. | 4.49 | 0.6 | 4.39-4.59 |
| 7. Facilities (chairs, tables, stationery, etc.) are adequate for activity implementation. | 4.37 | 0.75 | 4.25-4.50 |
| 8. Educational media (posters, videos, etc.) are engaging and easy to understand. | 4.18 | 0.78 | 4.05-4.31 |
| 9. Materials used are regularly updated to reflect adolescent development. | 4.20 | 0.73 | 4.08-4.33 |
| 10. The Posyandu Remaja program receives support from schools and community health centers. | 4.43 | 0.72 | 4.31-4.55 |
| 11. There is collaboration with professional personnel (midwives, psychologists, counselors). | 4.24 | 0.76 | 4.11-4.37 |
| 12. The program has adequate funding for routine implementation. | 4.15 | 0.79 | 4.02-4.28 |
| 13. Activities are supported by local government. | 4.30 | 0.68 | 4.18-4.41 |
| 14. Promotion of activities (flyers, brochures, social media, etc.) is conducted effectively. | 4.17 | 0.75 | 4.04-4.29 |
| 15. Cadres regularly attend training to improve their competencies. | 4.27 | 0.76 | 4.14-4.39 |
| Column means | 4.26 | - | - |

**Table 4: Mean ratings and standard deviations obtained for the Process construct**

| Process | Mean | SD | 95%CI |
|---|---|---|---|
| 1. Activities are conducted regularly according to the scheduled plan. | 4.24 | 0.8 | 4.11-4.37 |
| 2. I always receive advance notice before activities begin. | 4.31 | 0.76 | 4.18-4.44 |
| 3. I attend every Posyandu Remaja activity regularly. | 3.86 | 0.97 | 3.70-4.02 |
| 4. Activities start and proceed on time and in an orderly manner. | 4.23 | 0.73 | 4.10-4.35 |
| 5. I actively participate in discussions and Q&A sessions during activities. | 3.82 | 0.95 | 3.67-3.98 |
| 6. Cadres provide participants with opportunities to express their opinions. | 4.27 | 0.76 | 4.15-4.40 |
| 7. Materials are presented in an engaging and easy-to-understand manner. | 4.33 | 0.72 | 4.21-4.45 |
| 8. Activities use varied methods (discussion, games, simulations, videos, etc.). | 4.08 | 0.85 | 3.94-4.22 |
| 9. Cadres and participants interact well during activities. | 4.32 | 0.69 | 4.20-4.43 |
| 10. I find the atmosphere of the activities enjoyable and not boring. | 4.23 | 0.7 | 4.12-4.35 |
| 11. There is evaluation or reflection at the end of each activity. | 4.07 | 0.81 | 3.94-4.21 |
| 12. Activities proceed according to the work plan. | 4.16 | 0.66 | 4.05-4.27 |
| 13. Every activity is documented (photos, videos, reports, attendance lists). | 4.35 | 0.71 | 4.23-4.46 |
| 14. Cadres model healthy behaviors. | 4.42 | 0.67 | 4.31-4.53 |
| 15. Posyandu Remaja encourages me to become more open in sharing personal problems with others. | 4.2 | 0.79 | 4.07-4.33 |
| Column means | 4.19 | - | - |

**Table 5: Mean ratings and standard deviations obtained for the Product construct**

| Process | Mean | SD | 95%CI |
|---|---|---|---|
| 1. I have become more aware of the importance of maintaining mental and reproductive health. | 4.44 | 0.65 | 4.33-4.54 |
| 2. I know how to manage mild stress and anxiety. | 4.16 | 0.71 | 4.04-4.28 |
| 3. I maintain a balance between study, rest, and leisure to support my mental health. | 4.33 | 0.66 | 4.22-4.44 |
| 4. I understand the risks of unhealthy sexual behaviors. | 4.41 | 0.62 | 4.31-4.51 |
| 5. I hold a positive attitude toward the importance of self-care. | 4.42 | 0.62 | 4.32-4.53 |
| 6. I have started adopting healthy habits (balanced diet, exercise, avoiding late nights). | 4.27 | 0.77 | 4.15-4.40 |
| 7. I feel more confident after participating in Posyandu Remaja activities. | 4.19 | 0.78 | 4.06-4.32 |
| 8. I am willing to consult cadres or health workers when I have problems. | 4 | 0.86 | 3.86-4.14 |
| 9. I am more open to discussing mental health issues with friends. | 3.99 | 0.92 | 3.83-4.14 |
| 10. I can distinguish accurate from inaccurate health information on social media. | 4.29 | 0.66 | 4.18-4.40 |
| 11. I encourage my friends to join Posyandu Remaja activities. | 4.31 | 0.76 | 4.18-4.44 |
| 12. Posyandu Remaja has changed my perspective on early marriage. | 4.24 | 0.84 | 4.10-4.38 |
| 13. I initiate discussions with peers about living healthily and maintaining reproductive health. | 4.38 | 0.7 | 4.26-4.50 |
| 14. I care more about the health of my peers. | 4.27 | 0.74 | 4.14-4.39 |
| 15. I want Posyandu Remaja to continue being held regularly. | 4.5 | 0.58 | 4.40-4.60 |
| 16. I am better able to recognize signs of stress or psychological pressure in myself. | 4.18 | 0.74 | 4.06-4.31 |
| 17. I care more about peers who are experiencing mental health problems. | 4.29 | 0.67 | 4.29-4.18 |
| Column means | 4.27 | - | |

**Table 6: Multivariate Tests of CIPP Dimensions by Demographic Characteristics**

| Independent Variable | *P* | *F* | $df_1$ | $df_2$ | *p* | Partial $\eta^2$ |
|---|---|---|---|---|---|---|
| Age Group | 0.049 | 0.805 | 8 | 258 | 0.598 | 0.024 |
| Sex | 0.025 | 0.815 | 4 | 128 | 0.518 | 0.025 |
| Education Level | 0.037 | 0.610 | 8 | 258 | 0.769 | 0.019 |

Abbreviations: P = Pillai's Trace; df = degrees of freedom; p = p-value; Partial $\eta^2$ = partial eta squared

Despite the high overall scores, a detailed analysis of the Context dimension (Table 2) revealed that while agreement was strongest regarding the program's importance for adolescent health and parental support, peer interest received the lowest rating. For the Input dimension (Table 3), participants rated the physical and interpersonal aspects most favorably, specifically the venue's comfort and safety and the friendliness of cadres. Perceived limitations in cadre availability received the lowest ratings in this domain. In the Process domain (Table 4), the highest ratings were observed for cadre modeling of healthy behaviors and activity documentation. However, actual behavioral engagement received the lowest ratings, specifically regarding regular personal attendance and active participation in discussions.

The Product dimension (Table 5) reflected strong perceived impact, with the highest agreement regarding the desire for the program's continuation and increased awareness of mental and reproductive health importance. Slightly lower, yet still positive, scores were observed for the willingness to consult health workers and openness in discussing mental health with peers.

**Subgroup Comparisons:** Multivariate analyses

(MANOVA) using Pillai's Trace (Table 6) revealed no statistically significant differences in the combined CIPP dimensions across age groups (V = 0.049, F = 0.805, p = 0.598), sex (V = 0.025, F = 0.815, p = 0.518), or education level (V = 0.037, F = 0.610, p = 0.769) (Table 6). Importantly, the effect sizes for these differences were small ($\eta^2$ = 0.019-0.025), indicating that the lack of significance was not just a statistical artifact but reflected a genuine, negligible practical difference in perceptions between demographic subgroups. In accordance with established MANOVA interpretation protocols, univariate follow-up tests were not conducted given the non-significant omnibus results,[29] indicating that program perceptions were consistent across all demographic subgroups.

## Discussion

This study employed the CIPP (Context, Input, Process, Product) evaluation model to assess the adolescent perception on the implementation of the *Posyandu Remaja* (Adolescent Integrated Health Post) program in Depok, West Java, with a specific focus on its role in supporting adolescent awareness of mental and reproductive health. Our findings indicate that adolescents hold consistently favourable perceptions across all four CIPP dimensions Context (mean = 4.22), Input (4.26), Process (4.19), and Product (4.27) with all domain means well above the neutral midpoint (3.0) of the 5-point Likert scale. Critically, MANOVA results confirmed no statistically significant differences in these perceptions across age group, sex, or educational level (all p >0.05).

The Context dimension suggested robust alignment between program content and adolescent needs. The strongest agreement was with the perceived importance of *Posyandu Remaja* for adolescent health (mean = 4.65) and the high level of parental support (mean = 4.55). This finding resonates with Haromaini N et al. (2023), whose study in rural Indonesia also identified family as a critical enabler of adolescent health engagement, particularly in discussions on sensitive topics like early marriage and reproductive health.[18] This finding is also consistent with others evidence showing that family support significantly correlates with adolescent participation in community health services such as integrated health post programs, where adolescents with supportive families exhibit higher attendance and health-seeking behavior than those without such support.[30] The high rating for parental support is especially significant given Indonesia's collectivist cultural context, where family approval often associated with health service utilization.[31] However, the lower score for peer interest (mean = 4.06) suggests a gap between parental and peer social support. This aligns with research on adolescent health behavior that identifies peers as a complex and sometimes inconsistent source of encouragement in health programs, as they also tend to prefer playing outside instead of attending the health related program.[32] Taken together, these findings underscore the need to view adolescent engagement through a multilayered social support lens. Parental support serves as a critical foundation within collectivist contexts but strengthening peer engagement mechanisms for example through youth-led discussions, peer training, and structured peer education may bridge the current gap and potentially enhance the Posyandu Remaja program's perceived impact on adolescent health behavior. Such integration is echoed in the global adolescent health literature, where interventions that combine family involvement, peer support, and culturally relevant messaging consistently produce more robust engagement outcomes.[20,33]

The Input domain was rated highly, reflecting a program that provides a physically and psychologically safe space. The venue's cleanliness and comfort (mean = 4.49) and cadres' friendly, open attitudes (mean = 4.46) are foundational for creating an adolescent-friendly health service. The venue environment (comfortable, non-stigmatizing, and non-judgement) aligns with evidence showing that adolescents are more likely to engage with health services when they perceive the setting as welcoming and safe.[34] Similarly, the high ratings for cadre friendliness and openness reflect a supportive interpersonal climate that may help reduce psychological barriers to care. Qualitative research from Ethiopia found that fear of stigma and negative attitudes from providers as well as community were major barriers that discouraged adolescents from accessing sexual and reproductive health services.[7] However, the lowest-rated input item concerned cadre availability (mean = 4.13). This is a critical operational bottleneck that echoes a known implementation challenge in Indonesia's volunteer-driven *Posyandu Remaja* model, where cadres' competing priorities (e.g., school) limit their availability.[17] Furthermore, other study reported similar structural challenges in different region (Pekalongan), where the number of cadres did not meet technical guidelines and was limited by competing priorities such as school.[19] Our quantitative findings support a qualitative study indicating that this is an issue that must be addressed for the program to scale effectively.

To address cadre availability and potentially enhance program sustainability, strategies from successful volunteer community health worker (CHW) models in low- and middle-income countries (LMICs) could be adapted. A population-based retrospective cohort study in rural Uganda, for instance, demonstrated high retention among volunteer CHWs, with most exits attributed to logistical reasons (e.g., relocation, new jobs) rather than role-related factors, suggesting the importance of consistent management, supervision, and non-financial incentives like recognition and peer support to maintain motivation.[35] Similarly, a systematic review of CHW programs in LMICs identified enabling factors for scaling and sustainability, including effective training, supervision, community

integration, and health system alignment, while barriers such as weak management and insufficient incentives led to attrition.[36] In Indonesia, leveraging the unique tiered social system (e.g., *Rukun Tetangga/Rukun Warga, gotong royong* mutual assistance) has facilitated successful community- and home-based palliative care through empowered volunteers (kaders) and collaborations with organizations like the Indonesian Cancer Foundation (ICF), achieving high community participation and equitable access despite geographic challenges.[37] Furthermore, Paundria Sari WRK and Sugeng PP (2024) reported that in settings where adequate resources, funding, and facilities were secured, adolescent health service implementation was deemed effective and successful.[38] Integrating such approaches such as recruiting and training more cadres from local networks, providing ongoing supervision linked to primary health centers, and incorporating social recognition could mitigate availability issues in *Posyandu Remaja,* fostering long-term volunteer retention and program scalability.

The Process dimension reveals a striking paradox. While cadres are seen as positive role models (mean = 4.42) and activities are well-organized, adolescents themselves report low levels of their own regular attendance (mean = 3.86) and active participation in discussions (mean = 3.82). This "participation gap" appears to be less a failure of program quality and more a reflection of behavioural activation. It mirrors a universal challenge in adolescent mental health, where a lack of perceived self-efficacy and fear of embarrassment inhibit help-seeking, even in supportive environments.[39] In our study, this is further reflected in the Product dimension, where willingness to consult health workers (mean = 4.00) and openness in discussing mental health with peers (mean = 3.99) were the lowest-scoring outcomes. This suggests that while Posyandu Remaja is perceive as providing a safe external space, it may need more structured, skills-based components (e.g., role-playing, group problem-solving) to build adolescents' internal capacity for engagement and help-seeking a recommendation supported by a recent meta-analysis on universal mental health interventions for adolescent.[40] Furthermore, integrating digital health interventions (DHIs), which emphasize accessibility, anonymity, personalization, and continuous monitoring through tools like self-assessment apps, AI-based emotion analysis, and chatbots, could effectively address these gaps by fostering emotional self-awareness, cognitive restructuring, motivational reinforcement, and behavioral change, as highlighted in a recent integrative review of behavior change approaches in adolescent mental health.[41]

The Product dimension provides the evidence of the program's perceived value. The high agreement that the program contributed to an improvement in their understanding of the importance of mental and reproductive health (mean = 4.44) directly addresses a critical gap in Indonesia, where systematic reviews have documented profound deficits in adolescent sexual and reproductive health literacy in LMIC regions likes in Indonesia.[3] The strongest endorsement, however, was the desire for the program's continuation (mean = 4.50). This suggests a strong indicator of perceived utility and a clear mandate from the target population for institutional investment and sustainability. These finding consistent with successful community-based models in North Carolina, USA, where teen-centered services led to a 12.5% increase in adolescent reproductive health service utilization.[42] Furthermore, to further strengthen the overall product dimension, the program can consider placing more emphasis on comprehensive sexuality education (CSE). This aligns with a previous meta-analysis studies on CSE programs for children and adolescents, which demonstrated significant overall effects, particularly on cognition, abstinence, knowledge, self-efficacy, attitude, and intention, while effectively delaying sexual onset and reducing pregnancy risks, underscoring the need for incremental, long-term CSE implementation from childhood through adolescence to foster informed decision-making and positive health outcomes.[43]

The non-significant MANOVA findings are themselves a key result. The absence of differences across age, sex, and education level suggest that Posyandu Remaja operates as a universal, not a targeted, intervention. It appears to transcend the developmental heterogeneity of adolescence (ages 10-19), appears to avoid gendering reproductive and mental health as "female-only" issues, and is perceived to communicate effectively across a wide literacy spectrum from elementary to senior high school students. This universality is a major strength, as it may enhances the program's equity and scalability without the administrative complexity of segmentation. Evidence suggests that such approaches can help address structural barriers to access and uptake that are often tied to socioeconomic, gender, or age differences.[44] Evidence from Thailand also shows that universal access to sexual and reproductive health services delivered through district health systems led to negligible gaps between urban and rural areas as well as between the richest and poorest wealth quintiles.[45]

## Strength and Limitations

This study presents several strengths. First, the sample size (N = 142) exceeded the a priori minimum required for the multivariate analysis, ensuring adequate statistical power to detect effects. Second, the evaluation employed the standardized Context-Input-Process-Product (CIPP) framework, providing a comprehensive and systematic assessment of the program's implementation dimensions. Third, the researcher-developed instrument demonstrated high internal consistency and validity, ensuring reliable measurement of the constructs. Finally, the study encompassed a diverse demographic range, covering

early, middle, and late adolescence as well as various educational levels, which allowed for an assessment of the program's universality across different developmental stages.

However, despite these strengths, the study has several limitations. First, the Discussion draws predominantly on international evidence due to the limited published CIPP evaluations of adolescent health programs in Indonesia; the scarcity of local literature represents a contextual limitation. The use of convenience sampling through digital flyers and community networks by cadres may have introduced selection bias. The cross-sectional design limits our ability to establish causality or measure actual improvements in health literacy over time. Additionally, the study sample exhibited a significant sex imbalance, with 76.1% of participants being female. This skew may reflect a selection bias where female adolescents are more responsive to health program invitations or more engaged in community health initiatives. Furthermore, data collection via a self-administered online questionnaire relied on participants' honesty, literacy level, and internet access, which may have introduced social desirability bias and excluded adolescents without digital access. The evaluation itself relied entirely on self-reported perceptions rather than objective measures of knowledge or behavioural change

## Conclusion

In conclusion, adolescents reported favourable perceptions of the Posyandu Remaja in Depok across all CIPP dimensions, suggesting high acceptability and potential utility in supporting adolescent health awareness. Its favourable reception appears to be associated with strong community alignment, a supportive environment, and skilled cadres. However, as this study relied on cross-sectional, perception-based data, it cannot definitively conclude that the program causally improves health literacy or behavioral outcomes. Instead, it establishes a strong foundation of acceptability which is a prerequisite for program success.

To translate these positive perceptions into impact, programmatic actions should address the specific gaps identified in this study. These include strengthening peer engagement mechanisms to address low interest, ensuring adequate cadre availability, and adopting more interactive, youth-centered activities to boost participation rates. Strengthening cadre capacity and fostering active participation may be key to scaling impact.

Future research should employ longitudinal designs to verify if high acceptability leads to sustained health improvements over time. Additionally, future evaluations should incorporate objective measurements of health literacy and behavioral outcomes to complement these self-reported perceptions, providing a more comprehensive assessment of the program's true efficacy

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**Availability of Data:** The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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## References

1. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, et al. Our future: a Lancet commission on adolescent health and wellbeing. Lancet. 2016 Jun 11;387(10036):2423-2478. DOI: https://doi.org/10.1016/S0140-6736(16)00579-1 PMid:27174304 PMCid:PMC5832967

2. Sheehan P, Sweeny K, Rasmussen B, Wils A, Friedman HS, Mahon J, et al. Building the foundations for sustainable development: a case for global investment in the capabilities of adolescents. Lancet. 2017 Oct 14;390(10104):1792-1806. DOI: https://doi.org/10.1016/S0140-6736(17)30872-3 PMid:28433259

3. Amanu A, Birhanu Z, Godesso A. Sexual and reproductive health literacy among young people in Sub-Saharan Africa: evidence synthesis and implications. Global Health Action. 2023;16(1):2279841. DOI: https://doi.org/10.1080/16549716.2023.2279841 PMid:38010100 PMCid:PMC10795590

4. Editor. Closing the global gap in adolescent mental health. Nat Med. 2024;30(2):309-310. DOI: https://doi.org/10.1038/s41591-024-02846-6 PMid:38378824

5. BPS-Statistics Indonesia. Population by Age Group and Sex. 2022. Available from: https://sensus.bps.go.id/topik/tabular/sp2022/188/1/0 [Accessed December 26, 2025]

6. Ministry for Women's Empowerment and Child Protection. Government Agency Performance Accountability Report. January 29, 2024. Available from: https://ppid.kemenpppa.go.id/uploads/informasi/publik/berkala_1747215110.pdf [Accessed March 6, 2026]

7. Sidamo N, Kerbo A, Gidebo K, Wado YD. Exploring Barriers to Accessing Adolescents Sexual and Reproductive Health Services in South Ethiopia Regional State: A Phenomenological Study Using Levesque's Framework. AHMT. 2024;15:45-61.

DOI: https://doi.org/10.2147/AHMT.S455517 PMid:38562442 PMCid:PMC10984202

8. Maimunah S. Importance of Sex Education from the Adolescents' Perspective: A Study in Indonesia. Open Journal for Psychological Research. 2019;3(1):23-30. DOI: https://doi.org/10.32591/coas.ojpr.0301.03023m
9. Navarro-Prado S, Tovar-Gálvez MI, Sánchez-Ojeda MA, Luque-Vara T, Fernández-Gómez E, Martín-Salvador A, et al. Type of Sex Education in Childhood and Adolescence: Influence on Young People's Sexual Experimentation, Risk and Satisfaction: The Necessity of Establishing School Nursing as a Pillar. Healthcare (Basel). 2023 Jun 6;11(12):1668. DOI: https://doi.org/10.3390/healthcare11121668 PMid:37372786 PMCid:PMC10298691
10. Department of Communication and Informatics, Depok City. Analysis of People's Welfare in Depok City Districts 2024 [in Indonesian]. 2024. Available: https://ppid.depok.go.id/wp-content/uploads/2025/08/Kesejahteraan-2024.pdf [Accessed December 26, 2025]
11. Lewoleba KK, Mulyadi M, Satino S, Wadillah L. Prevention and Mitigation of Child Marriage for Adolescents and Karang Taruna in Limo Village, Depok City. PSENAPENMAS. 2021:137-144. DOI: https://doi.org/10.24912/psenapenmas.v0i0.14981
12. BPS-Statistics Jawa Barat Province. Jawa Barat Province in Figures 2025. BPS-Statistics Jawa Barat Province; 2025. Available from: https://jabar.bps.go.id/id/publication/2025/02/28/d906b36c4b300ab77908dfe2/provinsi-jawa-barat-dalam-angka-2025.html [Accessed March 6, 2026]
13. Feru Lantara. Depok City Government Targets HIV/AIDS-Free by 2030. ANTARA News Agency. November 2023. Available from: https://www.antaranews.com/berita/3843378/pemkot-depok-targetkan-bebas-hiv-aids-pada-2030 [Accessed January 5, 2026]
14. Health Policy Development Agency, Ministry of Health of the Republic of Indonesia. 2023 Indonesia Health Survey in Figures. Ministry of Health of the Republic of Indonesia. Available from: https://www.badankebijakan.kemkes.go.id/ski-2023-dalam-angka/ [Accessed January 5, 2026]
15. Sangadji EAS, Ayuningtyas D. Analysis of the Implementation of Mental Health Policy at Kedaung Health Center, Sukatani Health Center and Limo Health Center in Depok City. IHPA. 2021;6(3):185-191. DOI: https://doi.org/10.7454/ihpa.v6i3.4689
16. Lukoševičiūtė-Barauskienė J, Žemaitaitytė M, Šūmakarienė V, Šmigelskas K. Adolescent Perception of Mental Health: It's Not Only about Oneself, It's about Others Too. Children. 2023;10(7):1109-1109. DOI: https://doi.org/10.3390/children10071109 PMid:37508606 PMCid:PMC10378269
17. Al Aufa B, Sulistiadi W, Nurmansyah MI, Syiroj ATR, Koire II. Using the Reach, Effectiveness, Adoption, Implementation, Maintenance Framework in the Evaluation of Community-Based Adolescent Care Pilot Program. Kesmas: National Public Health Journal. 2020;15(4):175-181. DOI: https://doi.org/10.21109/kesmas.v15i4.3812
18. Haromaini N, Ningsih WT, Nugraheni WT. Description of Knowledge and Attitudes of Adolescent Girls Regarding Early Marriage in Karanglo Village, Kerek District. Jurnal Kesehatan Masyarakat. 2023;11(1):132-137. DOI: https://doi.org/10.14710/jkm.v11i1.35431
19. Febriyanti RF, Priharwanti A, Wahyuningsih, Yuniarti. Evaluation of the Adolescent Posyandu in the Working Area of Puskesmas Wonokerto I, Pekalongan Regency. Journal of Health Science. 2025;18(03):238-246. DOI: https://doi.org/10.33086/jhs.v18i03.6302
20. Rose-Clarke K, Bentley A, Marston C, Prost A. Peer-facilitated community-based interventions for adolescent health in low- and middle-income countries: A systematic review. PLoS One. 2019 Jan 23;14(1):e0210468. DOI: https://doi.org/10.1371/journal.pone.0210468 PMid:30673732 PMCid:PMC6343892
21. Rosita R, Wijaya M, Fortuna P. CIPP Model of Youth Care Health Service in Bandung City. Jurnal Dunia Kesmas. 2021;10(2):205-212.
22. Ningsih FPE. The Achievement of National Standard of Teenage Health Care Service at Teenage Integrated Service Post in Surabaya. JAKI. 2018;6(1):40-45. DOI: https://doi.org/10.20473/jaki.v6i1.2018.40-45
23. Wahid L, Indraswari R, Shaluhiyah Z, Widjanarko B. Description of the Implementation of Adolescent Posyandu in Panggung Kidul Village, North Semarang District. Jurnal Kesehatan Masyarakat. 2020;8(4):557-563.24.
24. Gayatri NMS, Sugianto MA, Putri KFA. Evaluation of Adolescent Posyandu Program in the Working Area of UPTD Puskesmas Abiansemal I. JS. 2024;3(1):135-148. DOI: https://doi.org/10.36002/js.v3i1.2948
25. Faul F, Erdfelder E, Buchner A, Lang AG. Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. Behavior Research Methods. 2009;41(4):1149-1160. DOI: https://doi.org/10.3758/BRM.41.4.1149 PMid:19897823
26. Khaksar M, Kiany GR, ShayesteFar P. Using a CIPP-Based Model for Evaluation of Teacher Training Programs in a Private-sector EFL Institutes. Language Teaching Research Quarterly. 2023;38:65-91. DOI: https://doi.org/10.32038/ltrq.2023.38.04
27. Perneger TV, Courvoisier DS, Hudelson PM, Gayet-Ageron A. Sample size for pre-tests of questionnaires. Qual Life Res. 2015;24(1):147-151. DOI: https://doi.org/10.1007/s11136-014-0752-2 PMid:25008261
28. Taber KS. The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. Res Sci Educ. 2018;48(6):1273-1296. DOI: https://doi.org/10.1007/s11165-016-9602-2
29. Field AP. Discovering Statistics Using IBM SPSS Statistics. 6th edition. Sage; 2024.
30. Rohmayani S. Factors Associated with Adolescent Participation in Attending Youth Posyandu in Karya Jaya Village. ISJNMS. 2024;3(06):1262-1272. DOI: https://doi.org/10.54402/isjnms.v3i06.419
31. Cipta DA, Andoko D, Theja A, Utama AVE, Hendrik H, William DG, et al. Culturally sensitive patient-centered healthcare: a focus on health behavior modification in low and middle-income nations-insights from Indonesia. Front Med (Lausanne). 2024 Apr 12;11:1353037. DOI: https://doi.org/10.3389/fmed.2024.1353037 PMid:38681051 PMCid:PMC11047771
32. Masturoh, Siswati, Setyatama IP. The Role of Posyandu for Adolescents on Adolescent Behavior in Stunting Prevention. jk. 2024;17(3):308-316. DOI: https://doi.org/10.23917/jk.v17i3.6884
33. Pine AE, Baumann MG, Modugno G, Compas BE. Parental Involvement in Adolescent Psychological Interventions: A Meta-analysis. Clin Child Fam Psychol Rev. 2024 Sep;27(3):1-20. DOI: https://doi.org/10.1007/s10567-024-00481-8 PMID: 38748300 PMCID: PMC11486598
34. Jakobsson C, Sanghavi R, Nyamiobo J, Maloy C, Mwanzu A, Venturo-Conerly K, et al. Adolescent and youth-friendly health interventions in low-income and middle-income countries: a scoping review. BMJ Glob Health. 2024 Sep 5;9(9):e013393. DOI: https://doi.org/10.1136/bmjgh-2023-013393 PMid:39242132 PMCid:PMC11381706
35. Hobbs AJ, Manalili K, Turyakira E, Kabakyenga J, Kyomuhangi T, Nettel-Aguirre A, et al. Five-year retention of volunteer community health workers in rural Uganda: a population-

based retrospective cohort. Health Policy Plan. 2022 Apr 12;37(4):483-491. DOI: https://doi.org/10.1093/heapol/czab151 PMid:34922343 PMCid:PMC9006062

36. Pallas SW, Minhas D, Pérez-Escamilla R, Taylor L, Curry L, Bradley EH. Community Health Workers in Low- and Middle-Income Countries: What Do We Know About Scaling Up and Sustainability? Am J Public Health. 2013;103(7):e74-e82. DOI: https://doi.org/10.2105/AJPH.2012.301102 PMid:23678926 PMCid:PMC3682607

37. Eng V, Sudoyo AW, Nuhonni SA, Hendrianto K. Indonesia's Unique Social System as Key to Successful Implementation of Community- and Home-Based Palliative Care. JCO Global Oncology. 2023;(9):e2200290. DOI: https://doi.org/10.1200/GO.22.00290 PMid:37290020 PMCid:PMC10497302

38. Paundria Sari WRK and Sugeng PP. Evaluation of the Adolescent-Friendly Health Services Program at Sukapakir Community Health Center, Bandung City Using the CIPP Model Perspective. CoPAR. 2024;1(2):40-60. DOI: https://doi.org/10.26593/copar.v1i2.7710.40-60

39. Radez J, Reardon T, Creswell C, Lawrence PJ, Evdoka-Burton G, Waite P. Why do children and adolescents (not) seek and access professional help for their mental health problems? A systematic review of quantitative and qualitative studies. Eur Child Adolesc Psychiatry. 2021;30(2):183-211. DOI: https://doi.org/10.1007/s00787-019-01469-4 PMid:31965309 PMCid:PMC7932953

40. Yani DI, Chua JYX, Wong JCM, Pikkarainen M, Shorey S. The Effects of Universal Educational Interventions in Improving Mental Health Literacy, Depression, and Anxiety Among Adolescents: A Systematic Review and Meta-Analysis. Int J Ment Health Nurs. 2025 Feb;34(1):e13494. DOI: https://doi.org/10.1111/inm.13494 PMid:39710627

41. Hong SH, Chun TK, Nam YJ, Kim TW, Cho YH, Son SJ, et al. Digital Mental Health Interventions for Adolescents: An Integrative Review Based on the Behavior Change Approach. Children (Basel). 2025 Jun 13;12(6):770. DOI: https://doi.org/10.3390/children12060770 PMid:40564728 PMCid:PMC12191568

42. Sotolongo J, House LD, Swanson S, Davis SEH. Integrated Community Strategies for Linking Youth to Adolescent Reproductive Health Services: A Case Study. Journal of Adolescent Health. 2017;60(3):S45-S50. DOI: https://doi.org/10.1016/j.jadohealth.2016.11.026 PMid:28235435 PMCid:PMC6518400

43. Kim EJ, Park B, Kim SK, Park MJ, Lee JY, Jo AR, et al. A Meta-Analysis of the Effects of Comprehensive Sexuality Education Programs on Children and Adolescents. Healthcare (Basel). 2023 Sep 11;11(18):2511. DOI: https://doi.org/10.3390/healthcare11182511 PMid:37761708 PMCid:PMC10530760

44. Greenberg MT, Abenavoli R. Universal Interventions: Fully Exploring Their Impacts and Potential to Produce Population-Level Impacts. Journal of Research on Educational Effectiveness. 2017;10(1):40-67. DOI: https://doi.org/10.1080/19345747.2016.1246632

45. Panichkriangkrai W, Topothai C, Saengruang N, Thammatach-Aree J, Tangcharoensathien V. Universal access to sexual and reproductive health services in Thailand: achievements and challenges. Sex Reprod Health Matters. 2020 Dec;28(2):1805842. DOI: https://doi.org/10.1080/26410397.2020.1805842 PMid:32895033 PMCid:PMC7887962