

## EXPLORING ADOLESCENT MENTAL HEALTH ISSUES AND PRIMARY SERVICE NEEDS IN WETLAND AREAS: A MIXED-METHOD STUDY

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### ABSTRACT

Limited awareness and restricted access to mental health screenings and services persist, largely due to the demands of academic commitments. The aim of this study is to describe the mental health issues faced by adolescents and exploring primary service needs in the wetland areas of Pekanbaru, Indonesia. A convergent parallel mixed methods approach was employed. Quantitative data were gathered using the Strengths and Difficulties Questionnaire (SDQ) to assess the mental health status of 276 adolescents. Qualitative data were collected to explore adolescents' primary health service needs through FGD with 21 participants, including stakeholders, health providers, and adolescents. The survey revealed that 48.2% of adolescents experienced mental health problems, with 26.5% falling into the abnormal category. Qualitative findings indicated that adolescents often neglect their mental health and rarely seek professional help. There is a significant need for parental involvement in mental health programs, and the integration of these programs within schools and communities is deemed essential for comprehensive care. In conclusion, addressing the mental health needs of adolescents requires a multifaceted approach, parental involvement, and the integration of mental health programs within existing health and educational systems. Ensuring affordability and quality of care remains crucial for effective adolescent mental health services.

Keywords: *Adolescents; mental health; primary health service*



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### BACKGROUND

The third goal of the Sustainable Development Goals (SDGs) is to ensure healthy lives and promote well-being for individuals of all ages. Health and well-being are particularly crucial, for teenagers, who experience significant physical, psychological, and social changes that make them vulnerable to various health issues. Among the most common and complex health problems faced by adolescents are those related to nutrition, reproductive health, and mental health (Mohammad Juffrie et al., 2020; Solehati et al., 2022).

Prevalence issues among adolescents remains inadequately documented. In upper middle-income countries, the prevalence of mental health problems is reported at 26.4%, whereas in lower middle-income countries, it is significantly lower at 4.5%. Indonesia, in particular, has limited prevalence data (Erskine et al., 2023). This disparity suggests variations in detection and screening efforts aimed at identifying mental health problems in adolescents. Data from Indonesia shows that approximately 6% of teenagers aged 15 and older,

suffered mental health problems, including anxiety and depression (2018). The physical, psychological, social, and behavioral changes that occurs during adolescence require adaptation efforts and support from family members or close associates. When teenagers struggle to adapt, they may be at an increased risk of developing both mental and physical health issues (Kaligis et al., 2021), which adversely affect their development, productivity, and overall quality of life (Pandia et al., 2021).

Efforts to maintain and improve adolescent health have been promoted since 2003 at community health centers through PKPR (Youth Care Health Services) and adolescent posyandu services (community-based health units) (Afritia et al., 2020). These promotive and preventive initiatives encompass Healthy Living Skills Education (PKHS), adolescent reproductive health, mental health, prevention of nutritional deficiencies and drug abuse, physical activity, prevention of Non-Communicable Diseases (NCDs), and violence prevention among adolescents (Ali et al., 2019;

Duck et al., 2023). While outh posyandu services have addressed nearly all the physical and psychological health needs of teenagers, their effectiveness has been limited due to minimal engagement from the youth (Sekarsari et al., 2024.). Additionally, school activities and the sedentary lifestyle of teenagers are significant factors impeding the operation of youth posyandu services, as adolescents tend to spend more time at school and on electronic devices at home. The implementation of adolescent health activities in Riau Province through PKPR health centers has only reached 61%. In fact, there are districts/cities that do not organize any adolescent health activities (2021). A preliminary study conducted regarding the existence of youth posyandu in Pekanbaru City revealed that only one community health center out of the 21 existing centers has a youth posyandu. PKPR officers at community health center find challenges in engaging with teenagers because of their busy school schedules and the low level of youth participation in community activities. Adolescent health services can be enhanced by involving the school, allowing for activities such as health education and the distribution of iron supplement tablets to teenage girls to take place at school. The Community Health Center has developed an adolescent health screening tool that includes ongoing screenings of nutritional status, which are carried out at the beginning of new school year. However, screenings related to developmental and mental health problems among adolescents have not yet been implemented due to limited interaction time with adolescents, resulting in a scarcity of health data.

Health services in coastal areas are currently not designed to be easily accessible to adolescents, particularly regarding mental health. Online media can serve as a valuable strategy to enhance access for teenagers. Various studies have shown that knowledge, behavior, and attitudes increase after research is conducted on the use of online media as tool for of health education for teenagers (Sembada et al., 2022). However, this research was primarily conducted during the COVID-19 pandemic. In reality, many teenagers today face challenges in accessing essential services, especially since they often attend school throughout the day. Research conducted by Ertiana on youth health improvement programs through youth posyandu indicates that these programs can only be held outside of school hours (Ertiana et al., 2020). Today's teenagers can easily access a wide range of information, including about related topics. However, very few of these teenagers verify the accuracy of the information or ensure it comes from trusted sources (Karima et al., 2023). Misinformation can lead to risky behaviors among teenagers, such as carrying out extreme diets without consulting a nutritionist (Safitri et al., 2020), having exposure to risky sexual behavior which has an impact on teenage pregnancy (Ayuandini et al., 2023; Muthmainnah et al., 2023), and self-diagnosing mental health problems without professional counseling, adversely affecting teenagers' physical and mental health (Maskanah, 2022). Therefore, it is necessary to explore adolescent health issues and the needs of primary service in the wetland areas of Pekanbaru, Indonesia.

## METHOD

The research used a convergent parallel mixed methods approach which integrates quantitative and qualitative methods simultaneously while maintaining separate analyses and results for each. A quantitative descriptive design was implemented to identify the mental health status of adolescents in the wetland areas. Additionally, a qualitative research design using a case study approach was implemented to explore adolescent health service needs.

Data collection was carried out through Focus Group Discussions (FGDs).

## Participants

The population in the quantitative study included teenagers aged 13 to 18 years who lived in the wetlands of Pekanbaru City, Indonesia. The total number of participants was 276. Research respondents were determined using a total sampling technique.

This qualitative study involved six participants, including stakeholders and health service providers who met the inclusion criteria of having a direct role and understanding of adolescent health services. Additionally, a focus group discussion (FGD) was conducted with 15 adolescents to explore their perspectives as users of these health services, with the inclusion criterion of having received care at a health center.

## Research Instrument

The quantitative data collection was carried out using the Strengths and Difficulties Questionnaire (SDQ) instruments to assess adolescents' mental health. A qualitative instrument was employed, guided by a pre-prepared discussion guideline to ensure that the topics aligned with the research objectives.

Focus Group Discussions (FGDs) were conducted with stakeholders and adolescent health service providers, as they are directly involved in the policy and provision of health services to adolescents. The topics explored were related to the operation of adolescent mental health services, the obstacles faced, and the strategies implemented to overcome these challenges. In the three FGD that included adolescent participants, the discussion topics were centered on adolescent perspectives regarding mental health, the availability of health services—particularly mental health services—and the specific needs of adolescents.

## Validity and Reliability of the Instruments

The instrument used to obtain quantitative data is a standardized instrument, developed by Robert Goodman in 1997. The SDQ questionnaire in the Indonesian version, was standardized according to the Ministry of Health in 2022, with a Cronbach's Alpha reliability value of  $\alpha = 0.773$  (Oktaviana & Wimbari, 2014). Therefore, the researcher did not conduct test for validity and reliability. The level of heterogeneity, influenced by factors such as age, cognitive development, and the unequal distribution of demographic characteristics like gender, will affect the research results (Suratmini et al., 2024). The SDQ questionnaire consists of 25 questions that assess five subscales: emotional symptoms, behavioral problems, hyperactivity, peer relationship problems, and social behavior. Questions classified as strengths are prosocial behavior (item 1, 4, 9, 17, and 20), while those classified as difficulties include emotional symptoms (item 3, 8, 13, 16, and 24), behavioral problems (item 5, 7, 12, 18, and 22), hyperactivity (item 2, 10, 15, 21, and 25), and peer relationship problems (item 6, 11, 14, 19, and 23). Each question contains three answer options: Not true (0), Sometimes true (1), and Always true (2) which can be selected by marking the appropriate answer by respondents. The results from the SDQ questionnaire can be interpreted as normal, borderline, or abnormal.

## Data Collection

The quantitative data was collected through an online

questionnaire in collaboration with nurses from the Community Health Center nurses and supporting community health centers in Umban Sari district, a wetlands area of Pekanbaru. This study was conducted in wetlands, a suburban area characterized by settlements along banks of the Siak River, Pekanbaru City, Indonesia. Wetland communities are closely linked to socio-economic disparities, which significantly influence education and health outcomes (Syahza et al., 2025).

Qualitative data collection using the focus group discussion (FGD) method was carried out in classrooms and health posts at the Faculty of Nursing, Universitas Riau.

Data collection was conducted through a Focus Group Discussion (FGD) that lasted 84 minutes. Video cameras, audio recordings, and field notes were used to validate the data obtained from the FGD. The FGD was guided by a pre-prepared discussion guide to ensure that the topics aligned with the research objectives. The moderators and facilitators were the researchers themselves, who had prior experience in conducting qualitative research using FGD as a data collection method.

**Data Analysis**

Quantitative data analysis was conducted using univariate analysis on SDQ instruments to assess mental health in adolescents. Focus Group Discussion (FGD) data was obtained from recordings and field notes, which were then transcribed verbatim. The data analysis process was carried out systematically, following the steps outlined in the Colaizzi method. The coding process was performed using Open Code software version 4.03 to ensure that no data was missed during analysis. The results of coding obtained were then categorized based on the significance of the data, allowing for the identification of themes from the qualitative data.

**Trustworthiness**

To ensure the credibility and validity of the data, member checking was conducted by sharing with the participants for their confirmation.

**Ethical Consideration**

Researchers prioritize ethical considerations in this study by conducting an ethical review prior to data collection. The ethical review was submitted to the Ethics Committee of the Faculty of Nursing, Universitas Riau and received approval on June 25, 2024, under record number 961/UN19.5.1.8/KEPK.FKp/2024.

**RESULT**

**Respondent's Sociodemographic characteristics**

The results of a survey conducted on 276 teenagers in wetland areas using the SDQ instrument revealed demographic characteristics, including age and gender. The demographic characteristic data is presented in Table 1.

**Table 1. Frequency distribution of respondent characteristics**

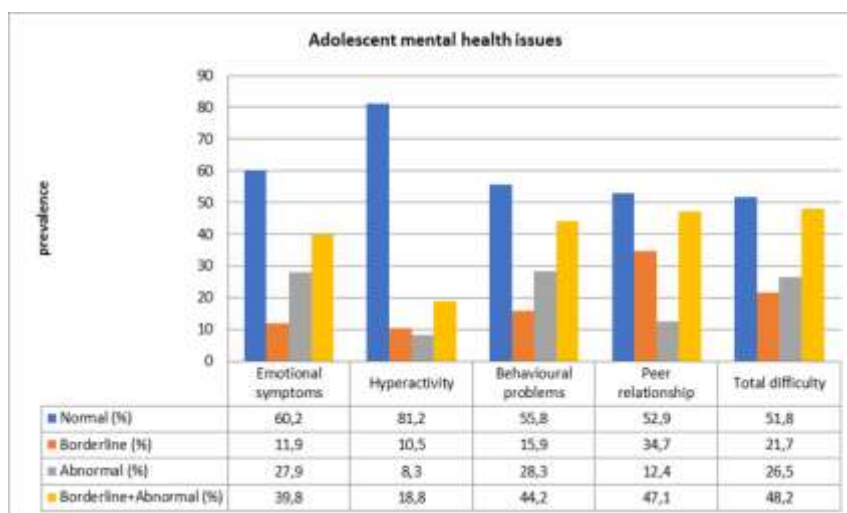
Characteristic	Frequency (n)	Percentage (%)
Age (year)		
- Early adolescence (11-13)	59	21,4
- Middle adolescence (14-17)	146	52,9
- Late adolescence (18-21)	71	25,7
Gender		
- Male	120	43,4
- Female	156	56,6
Total	276	100

The focus group discussion (FGD) participants included stakeholders and adolescent health service providers, such as the head of the health center, representatives from health services, officials from the National Population and Family Planning Agency (BKKBN), individuals responsible for school health and mental health programs, and adolescent health cadres. The participants' ages ranged in age from 33 to 49 years, with work experience varying from 4 to 16 years. The educational backgrounds of participants ranged from high school to master's degree. Meanwhile, participants from the other three FGD groups consisted of 5 male teenagers and 10 female teenagers, all of whom were in junior high or high school.

**Quantitative Results**

**Adolescent Mental Health Status**

The results of a survey examining the mental health status of adolescents showed that 48.2% of adolescents experienced borderline and abnormal mental health status. Among the emotional symptoms, 39.8% (110 individuals) were classified as having borderline and abnormal data. Hyperactivity was reported in 18.8% (52 individuals) of those with borderline or abnormal conditions. Additionally, behavioral problems were identified in 44.2% (122 individuals) of the total borderline and abnormal cases. Peer relationship issues affected 47.1% (130 people) of those categorized as borderline or abnormal (See Figure 1).



**Figure1. Adolescent mental health issues**

## Qualitative Results

The exploration of adolescent health service needs involved 21 participants who were divided into four FGD groups. The first group (F1) consists of healthcare stakeholders and providers of adolescent health services providers. The other three FGD groups included teenagers living in wetlands who have received health services from community health centers. The teenage participants involved 15 individuals who were divided into 3 groups: teenage boys aged = 13 to 18 years (F2), teenage girls aged 11 to 14 11-14 years (F3), and teenage girls aged 15 to 18 years (F4). Selected quotations are identified by the corresponding group codes.

All participants in the FGD perceived mental health problems were not yet prioritized in the same way as physical health problems, which often prompt teenagers to seek health services. Four key themes emerged regarding mental health issues: teenagers' lack of awareness regarding mental health problems; heavy reliance on significant others for support; expectations of online-based health services; and necessity for personalized and responsive care.

### Theme 1: Adolescents are unaware of mental health problems that can be sourced from negative emotions

This theme emerged from the statements of teenagers, showing they remain unaware of mental health issues.

*"That's not a problem because it hasn't reached the limit, (to what extent?) I don't know."* (P2, F4)

This shows their lack of understanding of boundaries and signs of mental health problems. Some teenagers also face significant challenges, as illustrated by one individual who shared:

*"I was once referred to a psychiatrist because I isolated myself in my room and did not do any activities, I was constantly prescribed medicine... has also been in ruqyah... even though it's not necessary."* (P3, F4)

In addition, negative emotional experiences, such as having problems with close friends, are also common.

*"I used to feel hurt because of friends, so I didn't trust people and it was difficult to make friends with others"* (P1, F3)

Ways to manage emotions also vary, ranging from holding anger to destructive behaviors,

*"If you're angry, just keep quiet,"* (P2, F2)  
*"I used to get angry and kick the glass until it broke."* (P4, F2)

Everyday problems such as, conflicts with friends or romantic partners, are often taken for granted

*"At least it's just a matter of fighting with a friend or a boyfriend."* (P3, F3)

### Theme 2: Relying Heavily on Significant Persons

Teens rely heavily depend on the important people in their lives for support. Participants frequently turned to their parents and closest friends, as revealed by one teenager,

*"Relying heavily on parents and closest friends."* (P2, F3)  
*"If there is a problem with stories involving friends and moms, then stories with moms are also picky."* (P1, F4)

However, not all teenagers feel comfortable sharing their stories with others. This reluctance is particularly evident among teenage boys, who often do not perceive communication with their fathers as necessary.

*"Don't tell anyone, keep it to yourself, and the problem is known to parents by themselves."* (P4, F2)

*"Didn't tell my father..."* (P3, F2)

Family as a significant person for teenagers has a very important role, especially in accompanying teenagers with mental problems. Families with teenagers who have mental problems can use Happy Spiritual Therapy interventions in addressing intolerance of uncertainty (Dwidiyanti et al., 2024).

### Theme 3: Expectations for Online-Based Healthcare Services

Teens express a strong preference for accessing health services online. They find it more convenient and more comfortable to get health information and education digitally. Feelings of shame and concerns about prestige are the main reasons for their preference for online services.

*"We need education from the health center, because so far it has been from Google (online from various resources)." (P1, F4)*

*"It's embarrassing to share stories, it feels awkward, so that you can be more open in telling stories."* (P2, F3)

*"It's embarrassing, it's easier online."* (P3, F4)

Many individuals acknowledge that they seldom receive education on reproductive health and frequently seek information independently.

*"Never get health education and find information by myself from google."* (P4, F4)

### Theme 4: The need for adolescent health services that ensure privacy, provide responsive and youth-friendly care.

The limited counseling facilities at the Primary Health Care in the community pose a significant barrier for adolescents to seeking assistance. This discomfort makes leads to reluctance in accessing counseling services at health centers, which ultimately hindering their ability to obtain the mental health support they need. Nurses at the Primary Health Care in the community revealed that:

*"Teenagers are not comfortable coming to the health center, because they are recognized by other visitors."* (P1, F1)

Stakeholders and adolescent health service providers agreed on the need to synchronize programs across agencies, especially those related to adolescent health.

*"Yes, they are mutually integrated. We want to integrate services with one another. Not now. This one is different on its own, so what is this one asking for? So we don't know that yet, it is not integrated yet"* (P1, F1)

Adolescent health services have a distinct character that sets them apart from other health services. Participants shared their experiences, emphasizing the need for a specialized strategy to effectively engage with adolescents.

*"Maybe we can think of such a future mind, who knows we have the opportunity for it. Maybe we need to think,*

*this teenager is a bit unique, yes, it is said that adults are not, children are not. So that we feel like if there is a problem, we want to be fast" (P3, F1)*

Adolescent health services that the participants envision should not only be integrated with various adolescent service institutions but also can provide comprehensive health databases for adolescents in cities and provinces. Additionally, participants expressed a desire for teachers and parents can also be involved in monitoring adolescent health. It would be even more beneficial if these services could be easily and quickly accessed online through a dedicated website, as noted by one of the participants.

*"If you use a website, I think it's better to have a website than an application, because teenagers, if you want to download an application, you have to download it first, but if it's a website, it's not" (P1, F1)*

If possible, adolescent health services can be accessible quickly and easily, while also prioritizing the privacy of adolescents. Adolescents tend to avoid involving their parents but still require information related to their problems. Based on the participants' experiences, adolescents are more inclined to seek anonymous consultations.

*"They look for it to friends, they ask what they are going to, and neighbors are also there. But not to parents. Because they know, if there are parents, this is the key to the commotion. He will be reprimanded and he will be blamed. So they are looking for doctors too, doctors themselves" (P2, F1)*

*"Yes, it means that we also have to anticipate. It could be that there are children who are very depressed, at that time they do not know where to go to find a talking partner. Well, if we have a call center, maybe we can help" (P1, F1)*

## DISCUSSION

Based on the results of a survey on adolescent mental health in wetland areas using the SDQ instrument, it was found that 48.2% of adolescents experience mental health problems categorized as either borderline or abnormal, with 26.5% falling into abnormal category. This prevalence is than that reported in a previous study conducted in West Java, Indonesia, which indicated a rate of 31.6% (Pandia et al., 2021). Variation in characteristics and socio-cultural factors impact the system's ability to address educational needs, value formation, and mental health (Conlon et al., 2019). One post-conflict area in Indonesia demonstrates that male adolescents are more exposed to community violence, but female adolescents exhibit a higher prevalence of mental health problems compared to their male counterparts (Fausiah et al., 2019). This indicates that gender is a significant factor influencing mental health issues among adolescents. The results of the exploration involving adolescent participants showed that many adolescents did not care about mental health problems, leading to emotional distress and negative behaviors received that had never been consulted with a health professional. There have been relatively few studies conducted on mental health services nationwide. However, a study on adolescent mental health screening that has been conducted in the United States reported that 56-79% of adolescents experiencing symptoms of mental disorders do not engage in the referral process or receive mental health services (Karcher et al., 2023). In the UK, adolescents are more likely to seek mental health services for issues related to drug use and eating disorders

(Edbrooke-Childs et al., 2023). While many countries prioritize the health of pregnant women, immunization, and nutritional fulfillment, while there are remains significant gap in the formulation and implementation of mental health programs for children (Kaku et al., 2022).

All participants from adolescent health providers agreed that adolescent mental health programs require to involve their parents, both to enhance their knowledge and to monitor the child's social environment. This is supported by the finding from the FGD with adolescent participants, which indicated that adolescents still rely on the presence of their parents or caregivers when accessing health services. Parental support can prevent and overcome social, emotional, and behavioral issues in adolescents by increasing parents' knowledge and confidence in handling their children's problems (Sanders et al., 2014). Community-based mental for adolescents are integrated with health initiatives in schools and in the community, encompassing screening, promotion, and intervention to provide more optimal outcomes (Fazel & Sonesson, 2023).

A review of adolescent mental health services that utilize messaging or texting (SMS) based interventions shows that adolescents are highly receptive to these services due to their accessibility, user-friendliness, and the positive outcomes reported in most studies. However, there are limitations to this service that must be considered during implementation, including cost, workflow, two-way communication, and the level of personalization and customization of the intervention. (MacDougall et al., 2021). Adolescents have expressed specific needs regarding accessibility, particularly in terms of affordability, coverage benefits, and the quality of care, which includes compassion, respect, and clinical competence. Young adults highlight the importance of affordability more frequently than teenagers and believe that their opinions should carry more weight than those of their parents when evaluating doctors (Wesevich et al., 2023).

This study included participants from diverse backgrounds, such as stakeholders, health providers, and adolescents, offering a comprehensive perspective on mental health service needs. However, since the study was conducted in the wetland areas of Pekanbaru, Indonesia, the findings may have limited generalizability to other regions.

## CONCLUSION AND RECOMMENDATION

The survey reveals a significant prevalence of mental health issues among adolescents in the wetland areas of Pekanbaru, with rates higher than those found in previous studies. Socio-cultural factors and family dynamics play a crucial role in these outcomes, and gender differences also influence mental well-being issues. Many adolescents neglect their mental health, rarely seeking professional assistance. This trend is consistent worldwide, highlighting a need for improved mental health services.

Effective adolescent mental health programs necessitate parental involvement to increase knowledge and monitor social environments. Integrating these programs within schools and communities is pivotal for comprehensive care. Adolescents also express a need for mental health services that guarantee anonymity and accessibility, which help them feel more comfortable seeking help. Addressing the affordability and quality of care remains crucial for improving adolescent mental health services.

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