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Exploration of Adolescent Health Services and Utilization in Mamuju District, West Sulawesi

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Abstract

Introduction: Eating habits and nutritional status among adolescents in Mamuju, West Sulawesi, showed that adolescents with unhealthy eating habits tend to have a higher incidence of overweight and obesity compared to those with healthy eating habits. This underscores the need for early nutrition education for adolescents. This study aimed to explore the types of health and nutrition services received by adolescents at primary healthcare services in Mamuju District, West Sulawesi.

Methods: An explanatory sequential mixed-methods design was used, combining cross-sectional and qualitative methods. The study involved 305 high school adolescents in Mamuju, selected through random sampling. Quantitative data were collected via surveys using structured questionnaires. Qualitative data were obtained from in-depth interviews with 8 key informants (health workers, teachers, and students) and focus group discussions (FGDs) with 8-10 participants per session, who were selected through purposive sampling to ensure diverse perspectives.

Results: The results showed that the majority of adolescents accessed healthcare services through the Puskesmas (99.3%), as its easy access reported by 92.2% respondents. However, most respondents (77.7%) were unaware of the types of healthcare services available at the Puskesmas. The most commonly received services were mental health counseling (9.9%) and nutrition education (5.9%).

Conclusion: These findings indicate the need for greater dissemination of information about available healthcare services through social media, as well as the strengthening of health and nutrition education programs for adolescents to support healthy lifestyles.

Keywords: adolescents; health services; primary healthcare; nutrition education; utilization.

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Introduction

Adolescent health is a critical aspect of developing high-quality human resources. Adolescents are in a transitional phase toward adulthood, during which their nutritional and health needs increase significantly. During this period, proper health and nutrition education is crucial to prevent various health issues such as anemia, malnutrition, and other non-communicable diseases. In Indonesia, efforts to improve the health and nutrition status of adolescents are carried out through various programs in primary

healthcare services, including Puskesmas and community-based health units (*Upaya Kesehatan Bersumber Daya Manusia/UKBM*).[1,2]

Currently, healthcare services focused on prevention are part of the health transformation in the first pillar, which is the transformation of primary healthcare services. This transformation is centered on primary healthcare and Community-Based Health Efforts (UKBM).[2] However, the effectiveness and implementation of this education still require further evaluation to ensure that adolescents receive optimal benefits.

Adolescents are one of the groups at high risk of experiencing nutritional problems.[3] One of the issues faced by Indonesian adolescents is micronutrient malnutrition, such as anemia, Chronic Energy Deficiency (CED), and obesity. According to 2018 Indonesian Basic Health Research, the prevalence of anemia among adolescents was 32%, or 3 to 4 out of 10 adolescents suffered from anemia. Other issues among adolescents included CED and obesity. The highest prevalence of CED risk among women of reproductive age was found in adolescents aged 15-19 years, reaching 36.3%. Additionally, the prevalence of overweight and obesity was 16.0% among adolescents aged 13-15 years and 13.5% among adolescents aged 16-18 years.[4]

A study conducted by Najdah N et al. (2024) on eating habits and nutritional status among adolescents in Mamuju, West Sulawesi, revealed that adolescents with unhealthy eating habits tend to have a higher incidence of overnutrition and obesity compared to those with healthy eating habits.[5] This is due to changes in eating patterns and a lack of physical activity (sedentary lifestyles). A lack of knowledge about nutrition leads to negative body image and eating behaviors that do not align with balanced nutrition in adolescents.[6] Furthermore, there is limited nutritional and health information available in schools, both through textbooks and regulations related to strengthening nutrition education and practices in schools.[7]

Previous research indicated that adolescents experiencing malnutrition, anemia, and obesity faced significant challenges that can negatively impact their academic achievement. In Indonesia, a study utilizing the Indonesian Family Life Survey (IFLS) 2014 found that individuals with higher education levels tend to consume healthier foods, suggesting a link between education and improved dietary choices.[8] Additionally, socioeconomic factors play a crucial role, as underprivileged students often have less access to educational materials and nutritious food, leading to lower academic performance.[9] Furthermore, obesity has been associated with lower academic performance, with factors such as teacher bias contributing to this disparity.[9] These findings underscore the importance of addressing nutritional deficiencies and promoting healthy lifestyles among adolescents to support their educational success.

This highlights the need for early nutrition education for adolescents. Nutrition promotion and education activities for adolescents were conducted in primary healthcare services and UKBM. Therefore, this study aimed to explore the types of health and nutrition services provided to adolescents at primary healthcare services in Mamuju District, West Sulawesi. It is expected that this research will provide evidence-based recommendations to improve the quality of health and nutrition education for adolescents in Mamuju District.

Methods

This research used explanatory sequential mixed-methods design, combining cross-sectional and qualitative methods. This approach allows the researchers to obtain more holistic data. The participants in this study were adolescents attending high school in Mamuju District. The sample consisted of 305 adolescents from high schools in Mamuju District, who were selected randomly. Quantitative data were collected through surveys using structured questionnaires.

For the qualitative method, data was obtained through in-depth interviews with 8 key informants (health workers, teachers,

and students) and focus group discussions (FGD) to explore the forms of health and nutrition education provided to adolescents in primary healthcare services in Mamuju District. The FGD involved between 8–10 participants to allow for in-depth group discussion while ensuring that every participant can contribute. The FGDs were arranged in a quiet, comfortable space for participants to discuss.

The participants in this study were adolescents attending high school in Mamuju District. All interviews and FGDs were conducted after obtaining informed consent from the respondents, ensuring they understood the purpose and procedures of the study, as well as their rights. The discussion was conducted for approximately 60 to 90 minutes. The researcher maintained confidentiality and anonymity of the data collected and ensure that the data was used only for research purposes. The study was conducted in Mamuju District from August to November 2024.

Quantitative data analysis was performed using descriptive statistical techniques to describe repondent demographic characteristics and relationships between variables. Qualitative data analysis was carried out using thematic analysis, where the researcher identified main themes from the in-depth interviews and group discussions.

Results

A total of 305 adolescents were participated in this study. Table 1 presents the distribution of a demographic overview of the respondents that is fairly balanced, particularly in terms of grade level and type of school. However, there are differences in the proportions of gender and specific age groups.

By age, the majority of respondents were 16 years old (39.7%), followed by 17 years old (33.4%) and 15 years old (9.1%). Respondents aged 18, 19, and 20 years had smaller proportions, at 12.8%, 3.0%, and 2.0%, respectively. By gender, most respondents were male (56.7%), while the remaining respondents were female (43.3%).

Table 2 provides an overview of the access and utilization of primary healthcare services by respondents. Most respondents (99.3%) visited Puskesmas as their primary healthcare service option, while only 0.7% used hospital services. Regarding the frequency of healthcare visits, most respondents (87.2%) accessed healthcare only when they were sick, 8.5% never visited healthcare services, while 1.6% and 2.7% reported visits every month or every three months, respectively.

The access to primary healthcare services was considered quite easy by most respondents (72.5%), followed by 19.7% who found it very easy. Wheres, total of 7.5% reported to have difficult access, while only 0.3% found it very difficult. This indicates that most adolescents in this study perceive that the infrastructure and location of the available healthcare facilities are supportive for regularly access. Regarding access, some informants also reinforced the information that many of them find access to primary healthcare services quite easy.

"For me, it's quite easy because it's close to my house." (Informant B)

"It's easy because it's close to my house. I can also ride a motorbike to get to the health center." (Informant D)

Meanwhile, informants who found access difficult cited the distance from their homes to the primary healthcare service and the lack of transportation as the main barriers.

"Actually, it's easy because the health center is close to the main road. But since my house is far from the health center, it becomes difficult. Especially when there is no motorbike to get there." (Informant A)

"My house is far, so I feel it's difficult to go to the health center." (Informant F)

Regarding special services for adolescents in healthcare facilities, 23% of respondents reported that such services were available, 6.2% said there were no specific adolescent services, and the majority (70.8%) were unaware of the existence of such services. This was

supported by in-depth interviews with several informants.

"I usually go to the health center, but I didn't know there was a special service for adolescents." (Informant A)

"I didn't know there was a special service for adolescents." (Informant F)

Table 2 also illustrates the types of healthcare services provided by primary healthcare facilities based on the collected data. Out of the 305 respondents, the majority (77.7%) were unaware of the available healthcare services. Among the remaining respondents who provided information, 30 respondents (9.9%) reporting that they received mental health service.

Routine health check-ups were accessed by 15 respondents (4.9%), while education on sexual and reproductive health was provided to 4 respondents (1.3%). Education on nutrition and healthy eating patterns was given to 18 respondents (5.9%), and only 1 respondent (0.3%) received counseling on the prevention of risky behaviors. Overall, despite some healthcare services being provided, most respondents were unaware of the available services at these facilities. This was reinforced by statements from informants.

"I usually get explanations about balanced nutrition. I usually get this at the health center. Also, about anemia." (Informant G)

The data on the types of healthcare services provided by healthcare facilities shows that the majority of respondents (77.7%) were unaware of the available services. Among those who were aware, mental health counseling was the most frequently mentioned (9.9%), followed by nutrition education and healthy eating patterns (5.9%), routine health check-ups (4.9%), sexual and reproductive health education (1.3%), and counseling on risk behavior prevention (0.3%). This data indicates the importance of improving accessibility, information, and utilization of adolescent-specific healthcare services, including education and counseling related to health issues that are relevant to them.

Table 1. Characteristics of Respondents

Variable	n (305)	%
Age (years)		
15	28	9,1
16	121	39,7
17	102	33,4
18	39	12,8
19	9	3,0
20	6	2,0
Gender		
Male	173	56,7
Female	132	43,3
Grade		
X	140	45,9
XI	140	45,9
XII	25	8,2
Type of School		
Senior High School (SMA)	161	52,8
Vocational High School (SMK)	144	47,2

Table 2. Access and Utilization of Primary Healthcare Services by Respondents

Access to Primary Healthcare Services	n (305)	%
Type of Healthcare Service Visited		
Puskesmas	303	99,3
Hospital	2	0,7
Frequency of Healthcare Visits		
Every month	5	1,6
Every three months	8	2,7
Only when sick	266	87,2
Never	26	8,5
Access to Primary Healthcare		
Very easy	60	19,7
Quite easy	221	72,5
Difficult	23	7,5
Very difficult	1	0,3
Special Services for Adolescents		
Available	70	23,0
Not Available	19	6,2
Don't know	216	70,8
Types of Healthcare Services Provided		
Mental health counseling	30	9,9
Routine health check-ups	15	4,9
Sexual and reproductive health education	4	1,3
Nutrition and healthy eating education	18	5,9
Risk behavior prevention counseling	1	0,3
Don't know	237	77,7

Discussion

The total of 99.3% of respondents visited Puskesmas as their primary healthcare service highlights the vital role of primary healthcare facilities in providing health services to the community, including adolescents. Puskesmas does not only serve as a treatment center but also as a promotive and preventive facility that can enhance public health holistically. However, the fact that the majority of respondents (87.2%) only accessed services when they were sick indicated that the health paradigm in Indonesia, including among adolescents, was still focusing on curative (treatment) rather than preventive (prevention) aspects.[10] Additionally, this may create an information gap that could hinder adolescents from accessing healthcare services that meet their needs, such as mental health, sexual, and reproductive health services, which are often key concerns during this developmental period.[11]

The scoping review conducted by Garney et al. (2021) indicated that at the individual level, the most frequently reported barriers to accessing adolescent healthcare services include a lack of knowledge about services and previous negative experiences with care, such as dissatisfaction with unmet treatment. Other barriers include difficulties in finding healthcare information, such as being unaware of the steps to seek care or follow-up schedules. Racial disparities and socioeconomic status also serve as barriers to accessing healthcare for adolescents.[12] Research by Pujiastuti et al. (2021) further explained that communication and information dissemination were the key factors contributing to the low access and utilization of healthcare services for adolescents.[13]

In terms of access to primary healthcare services, this study shows that the majority of respondents (72.5%) consider it was relatively easy to access these facilities. Most of the informants stated that they found it easy to access primary healthcare services because they were located relatively close to their homes. Those who found it difficult cited

distance and the lack of transportation to access healthcare facilities as the main reasons. This easy access may be influenced by factors such as the proximity of healthcare facilities, affordability of services, and availability of transportation.[12,14]

To meet the health and well-being needs of adolescents, access to high quality healthcare services for all adolescents is essential.[15] To meet the health and well-being needs of adolescents, access to quality healthcare services for all adolescents is essential. Adolescent health counseling covers various aspects, which aim to helping them cope with physical, emotional, and social health challenges. Some types of counseling commonly provided to adolescents include individual counseling focusing on adolescent mental health. Adolescent mental health is closely linked to their physical condition.[16]

In addition, the Indonesian government has launched the Adolescent Healthcare Services Program (*Program Pelayanan Kesehatan Peduli Remaja/PKPR)* as an effort to address various challenges and crises faced during adolescence.[17] This program is implemented in various healthcare facilities, including Puskesmas, which aim to improve the access and the quality of adolescence health services. Through PKPR, adolescents are encouraged to actively utilize health facilities, enhance their understanding and skills in preventing health issues, and engage directly in the planning, implementation, and evaluation of adolescent health services.[16,18,19] However, this study highlights that 77.7% of adolescents were unaware of the availability of specialized healthcare services for them. This indicates a significant information gap between healthcare facilities and adolescent groups. Specialized adolescent health services, such as mental health counseling, reproductive health, and sexual education, are crucial elements in supporting adolescent development and well-being.

One effective approach is the establishment and strengthening of school-based health efforts (*UKBM berbasis sekolah*), such as *Usaha Kesehatan Sekolah* (UKS), which provide on-site health services and serve as accessible points of care for students. These programs include activities such as health education, health services, and the promotion of a healthy school environment**.** Additionally, integrating peer education programs within schools can significantly improve adolescents' awareness and understanding of available health services.[20] Peer educators, who share similar backgrounds and experiences, can effectively disseminate health information and promote healthy behaviors among their peers.[21] This approach leverages existing social networks to enhance communication and encourage service utilization.

Comprehensive adolescent health services can help preventing health risks such as sexually transmitted infections (STIs), unintended pregnancies, and mental health disorders.[22] The lack of information and access to these services are often a major barrier for adolescents in utilizing available healthcare facilities.[23] This information gap can result in delayed intervention for health issues faced by adolescents, such as mental health disorders, STIs, and nutritional problems. Additionally, the lack of awareness about available services can hinder preventive measures that should be implemented early on.[14] In the long term, this can increase the burden of health and nutritional problems among adolescents and affect their quality of life.

Conclusion

This study concluded that the majority of adolescents in Mamuju District accessed healthcare services through the Puskesmas. However, many were unaware of the types of services available. The services received are mental health counseling and nutrition education, while other services such as routine health check-ups and sexual health education remain limited. This highlights the need for increased education and dissemination of information regarding health services for adolescent’s through social media and strengthening the function of UKS.

Ethics approval

This research has been reviewed and approved by the Bioethics Commission for Medical/Health Research, Faculty of Medicine, Sultan Agung Islamic University Semarang and cleared with letter of No.97/III/2024/Komisi Bioetik.

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