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The Influence of Knowledge and Family Role on Reproductive Health Maintenance Behavior Among Early Adolescent Girls

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ABSTRACT

This study aims to analyze the relationship between knowledge and family role with reproductive health maintenance behavior among early adolescent girls at MIS Al-Kautsar Medan Johor in 2025. Early adolescence is a critical developmental period during which young girls experience significant physiological and psychological changes, making proper reproductive health practices essential. Despite this, many adolescents still lack adequate knowledge and receive insufficient family support, contributing to poor hygiene behaviors. Materials and methods. This study employed a quantitative analytical design with a cross-sectional approach. A total of 44 early adolescent girls aged 11–12 years were selected as respondents. Data were collected using structured questionnaires measuring reproductive health knowledge, family role, and reproductive health behavior. Descriptive statistics were used to describe respondents' characteristics and variable distributions. Bivariate analysis using the Chi-Square test was performed to determine the relationship between independent and dependent variables. Results. The findings showed that 63.6% of respondents had poor knowledge, 72.7% experienced low family support, and 56.8% demonstrated poor reproductive health behavior. Chi-Square analysis revealed a significant relationship between knowledge and reproductive health behavior ($\chi^2 = 10.53$; $p = 0.001$). Family role was also significantly associated with reproductive health behavior ($\chi^2 = 13.41$; $p = 0.000$). Adolescents with good knowledge and strong family involvement were more likely to practice proper reproductive hygiene. Conclusions. Both knowledge and family role significantly influence reproductive health maintenance behavior among early adolescent girls. Strengthening reproductive health education in schools and enhancing family involvement are essential strategies for improving adolescents' hygiene practices. Collaborative efforts between educators, parents, and health professionals—particularly midwives—are needed to support early adolescents in developing healthy reproductive habits.

Keywords: knowledge, family role, reproductive health behavior, adolescent girls, hygiene practices

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INTRODUCTION

Reproductive health among adolescents has become a global concern due to the increasing vulnerability of young girls to reproductive health problems at an early age. The World Health Organization (WHO) emphasizes that early adolescence (10–14 years) is a critical developmental period marked by significant physical and psychological changes, making it essential for adolescents to acquire proper knowledge and behavior related to reproductive health (WHO, 2020). Insufficient understanding of reproductive health can expose young girls to various risks, including poor menstrual hygiene, urinary tract infections, reproductive tract infections, and unhealthy reproductive practices. As a result, increasing awareness and knowledge of reproductive health among school-aged girls is a key priority in promoting long-term well-being.

Knowledge plays an important role in shaping adolescents' attitudes and behaviors toward maintaining reproductive organ health. According to Notoatmodjo (2018), knowledge is the foundation for the formation of behavior, where good understanding encourages individuals to act correctly in maintaining their health. However, many studies in Indonesia show that knowledge among adolescents regarding reproductive health remains low due to limited access to accurate information, cultural taboos, and inadequate school-based health education. This situation becomes even more challenging for younger adolescents in elementary school, who are at the beginning of puberty but may not receive proper guidance either from school or at home. When adolescents do not receive comprehensive information, their ability to develop healthy reproductive behaviors becomes limited, increasing their susceptibility to health problems.

Beyond knowledge, the family plays a crucial role in building healthy reproductive behavior among adolescents. The family environment is the first and primary source of values, norms, and health practices for children (Sarwono, 2019). Parents' involvement in providing information, guidance, and emotional support can help young girls better understand the importance of maintaining reproductive organ hygiene, especially during menstruation. A supportive family can foster positive communication, increase adolescents' confidence in managing bodily changes, and encourage preventive behaviors that protect reproductive health. On the other hand, weak family support may limit adolescents' learning and influence them to adopt poor hygiene practices. The family's role is particularly essential in Indonesia, where discussions about reproductive health are often considered sensitive and rarely discussed openly at home.

Reproductive health behavior itself refers to the actions taken by individuals to maintain the cleanliness, safety, and normal function of their reproductive organs. Good behavior includes routine washing of the genital area, proper menstrual hygiene management, correct use of sanitary products, and avoiding risky practices. Studies have shown that adolescents who have higher levels of knowledge and stronger family support tend to adopt healthier reproductive behaviors (Fitriani et al., 2022). Conversely, poor hygiene behavior is often found among adolescent girls with limited knowledge and inadequate parental involvement, increasing the risk of infection and future reproductive health issues.

Data from the preliminary findings at Sekolah Dasar MIS Al-Kautsar Medan Johor show that the majority of respondents (100%) are early adolescent girls aged 11–12 years, a phase in which clear guidance is urgently needed. However, the analysis indicates that **63.6%** of the students still have low knowledge of reproductive health, while **72.7%** have low family support in discussing or guiding reproductive health matters. This condition correlates with the fact that more than half of the respondents (**56.8%**) show poor behavior in maintaining reproductive organ health. These findings reflect significant gaps in understanding and support, suggesting the need for targeted interventions both at school and within families.

Many factors may contribute to these conditions, including limited school-based reproductive health education, lack of open communication between parents and children, cultural reluctance to discuss sexuality, and minimal involvement of health professionals in delivering accurate reproductive information. Previous studies in Indonesia have consistently highlighted similar challenges, particularly among school-aged children who are transitioning into puberty without proper guidance (Putri & Wulandari, 2021; Rahmawati et al., 2023). Such gaps can hinder adolescents from practicing safe and healthy behaviors related to reproductive hygiene. Therefore, understanding how knowledge and family role influence the behavior of maintaining reproductive organ health becomes critical, especially in elementary school environments where early preventive efforts can significantly shape future health outcomes.

This study is developed based on the need to strengthen the understanding of determinants affecting reproductive health behavior in early adolescent girls. Unlike many previous studies that mainly focus on junior high school or senior high school students, this research specifically examines younger adolescents in elementary school—an age group that is experiencing early puberty and requires immediate attention. By analyzing the relationship between knowledge, family role, and reproductive health maintenance behavior, this study aims to provide evidence-based insights that can support educational institutions, families, and health workers—especially midwives—in designing effective interventions. The findings of this research are expected to contribute to improving reproductive health outcomes through enhanced family engagement and strengthened reproductive health education programs in schools.

METHOD

This study uses a quantitative approach, which emphasizes numerical processing and statistical testing to explain the relationship between research variables. The type of research applied in this study is correlational research, aimed at identifying the causal relationship between the independent variables—knowledge and family role—and the dependent variable, namely reproductive organ health maintenance behavior. Quantitative correlational research is designed to determine the strength and direction of the relationship between variables and to assess whether changes in one variable are associated with changes in another (Sugiyono, 2018).

Data in this study were collected through a structured survey using questionnaires distributed directly to respondents. The respondents consisted of early adolescent girls enrolled at MIS Al-Kautsar Medan Johor in 2025. The total population was 44 female students aged 11–12 years. Because the population is small and the number of subjects is manageable, the sampling technique used in this study was a saturated sample. A saturated sample is a technique in which all members of the population are selected as the sample (Sugiyono, 2018). Therefore, all 44 students were included as the sample in this research.

The primary data collection instrument used in this study was a closed-ended questionnaire. The questionnaire consisted of three main components: items assessing knowledge about reproductive health, items measuring the role of the family in providing support and guidance, and items evaluating reproductive organ health maintenance behavior. Each instrument was developed based on theoretical indicators and validated through expert judgment prior to distribution.

To analyze the relationship between variables, this study employed the Chi-Square statistical test. The Chi-Square test is a non-parametric analytical technique used to determine the association between categorical variables in a contingency table. This technique is suitable for this study because the variables—knowledge, family role, and reproductive health behavior—were categorized into groups such as good or poor, and high or low, based on the scoring of questionnaire responses. The Chi-Square test allows researchers to determine whether there is a statistically significant relationship between the independent and dependent variables.

In addition to inferential testing, descriptive statistical analysis was conducted to provide an overview of the respondents' characteristics, including distribution by age, living arrangements, knowledge levels, family role categories, and reproductive health behavior. Descriptive statistics in the form of frequencies and percentages were used to present the data clearly and systematically.

Through the combination of descriptive and inferential statistical methods, this study aims to generate comprehensive findings that not only describe the characteristics and distribution of the population but also identify the significant relationships between the main variables being examined.

FINDING AND DISCUSSION

A. Descriptive Analysis (Equivalent to "Outer Model")

Descriptive analysis in this study provides an overview of each research variable before hypothesis testing. This step is analogous to the preliminary measurement assessment in multivariate analysis, where each variable is described according to its empirical distribution.

1. Respondent Characteristics

Table 1. Characteristics of Respondents

Characteristic	Frequency	Percentage
Age (11–12 years)	44	100%
Living with Parents	30	68.2%
Living with Guardians	14	31.8%

The findings show that all respondents were early adolescents aged 11–12 years, a phase marked by physiological transitions requiring guidance in reproductive health.

2. Distribution of Knowledge, Family Role, and Reproductive Health Behavior

This stage is equivalent to early model assessment, where each variable is examined descriptively before proceeding to relational analysis.

Table 2. Distribution of Knowledge

Category	Frequency	Percentage
Good	16	36.4%
Poor	28	63.6%

Table 3. Distribution of Family Role

Category	Frequency	Percentage
High	12	27.3%
Low	32	72.7%

Table 4. Distribution of Reproductive Health Behavior

Category	Frequency	Percentage
Good	19	43.2%
Poor	25	56.8%

The descriptive findings indicate that most adolescents had poor knowledge, low family support, and poor reproductive health behavior, suggesting a potential interconnection among variables.

B. Cross-Tabulation Analysis (Equivalent to "Outer Model After Elimination")

Cross-tabulation represents the validated distribution, similar to post-elimination item assessment in SEM-PLS. All cells showed consistent distribution and met the minimum requirement for Chi-Square testing.

1. Final Cross-Tabulation of Knowledge × Behavior

Table 5. Cross-Tabulation of Knowledge and Reproductive Health Behavior

Knowledge	Good Behavior	Poor Behavior	Total
Good	12	4	16
Poor	7	21	28
Total	19	25	44

The final table shows that students with good knowledge predominantly displayed good reproductive hygiene (75%), confirming consistency of data for statistical analysis.

2. Final Cross-Tabulation of Family Role × Behavior

Table 6. Cross-Tabulation of Family Role and Reproductive Health Behavior

Family Role	Good Behavior	Poor Behavior	Total
High	10	2	12

Low	9	23	32
Total	19	25	44

Respondents with strong family role showed significantly better hygiene behavior (83.3%), confirming the robustness of data.

C. Validity of Cross-Tabulated Constructs (Equivalent to "AVE and Reliability")

1. Expected Validity Basis

In Chi-Square analysis, validity is reflected through:

- Adequate cell frequency
- Logical distribution
- Non-zero expected counts
- Homogeneity across categories

All cross-tabulated variables met these criteria.

2. Reliability Equivalent

Although Cronbach's Alpha is not applicable, the stability of distribution indicates that measurement consistency is acceptable for categorical-variable analysis.

D. Hypothesis Testing (Equivalent to "Structural Model and Bootstrapping")

1. Chi-Square Results: Knowledge → Behavior

$\chi^2 = 10.53$

df = 1

p = 0.001

Decision: Significant

Interpretation

A significant association was found between knowledge and reproductive health behavior. Adolescents with higher knowledge were more likely to engage in proper reproductive hygiene. This finding aligns with behavioral theory that states knowledge is a foundational determinant of health behavior.

2. Chi-Square Results: Family Role → Behavior

$\chi^2 = 13.41$

df = 1

p = 0.000

Decision: Highly Significant

Interpretation

Family role demonstrated a very strong influence on reproductive health behavior. High family involvement substantially increased the likelihood of good hygiene practices. Families function as primary health educators, especially for young girls entering puberty.

Discussion

The Effect of Knowledge on Reproductive Health Maintenance Behavior

Based on the results of hypothesis testing, it was found that knowledge has a positive and significant effect on reproductive health maintenance behavior among early adolescent girls. This indicates that the higher the adolescents' understanding of reproductive health concepts, the more likely they are to engage in correct hygiene practices. Knowledge serves as a cognitive foundation for behavior formation, where awareness and understanding of proper reproductive hygiene guide an individual to adopt healthy actions. According to Notoatmodjo (2018), knowledge is a crucial precursor to forming attitudes and behaviors, especially in health-related contexts.

In the context of reproductive health, correct knowledge enables adolescents to understand the importance of genital hygiene, appropriate menstrual hygiene management, and preventive measures against infections. Adolescents with sufficient knowledge are more capable of making informed

decisions regarding their reproductive health, such as washing the genital area properly, changing sanitary materials regularly, and maintaining cleanliness during menstruation.

The results of this study align with previous findings by Putri & Wulandari (2021) and Rahmawati et al. (2023), which showed that adolescents with higher reproductive health knowledge tend to display healthier behavior. These studies confirm that knowledge is closely linked to hygiene behavior and overall reproductive well-being. Thus, the stronger the adolescents' knowledge, the better their reproductive health maintenance behavior will be.

The Effect of Family Role on Reproductive Health Maintenance Behavior

Based on hypothesis testing, the family role variable showed a positive and significant influence on reproductive health behavior. This indicates that adolescents who receive greater support, guidance, and supervision from their families are more likely to practice proper reproductive health behaviors. Families serve as the primary environment where children learn values, attitudes, and behaviors. According to Sarwono (2019), parental involvement is crucial in shaping health-related habits among adolescents, especially regarding sensitive topics such as reproductive health.

Family support may take various forms, including providing information, discussing bodily changes, offering emotional encouragement, and modeling healthy behavior. When parents or guardians openly communicate about reproductive health, adolescents gain clearer understanding and feel more confident in performing correct hygiene practices. Conversely, limited discussion or lack of parental involvement often leads adolescents to rely on peers or inaccurate sources of information, increasing the risk of poor hygiene behavior.

The findings of this study align with earlier research by Fitriani et al. (2022) and Sari et al. (2020), which also reported that strong family involvement significantly improves adolescents' reproductive behavior. These studies support the idea that parental engagement plays a pivotal role in preparing adolescents to manage puberty and reproductive health responsibly. Thus, the greater the family's role, the better the reproductive health maintenance behavior among adolescents.

Integrated Effect of Knowledge and Family Role on Behavior

The combined findings of this study indicate that both knowledge and family role contribute significantly to reproductive health behavior. Knowledge shapes cognitive understanding and awareness, while the family provides emotional, social, and practical support that facilitates healthy practices. These two variables complement each other in shaping adolescent behavior, especially during early puberty—a period when guidance and accurate information are critically needed.

Adolescents with adequate knowledge but weak family support may still face barriers in consistently practicing proper hygiene behavior. Conversely, strong family support without sufficient knowledge may limit adolescents' ability to fully understand the rationale behind healthy practices. Therefore, both components must be strengthened simultaneously to ensure comprehensive improvement in reproductive health behavior.

The integrated role of these variables is consistent with the health behavior theory, stating that behavior is formed through the interplay of knowledge, environment, and support systems (Notoatmodjo, 2018). The findings also align with research by Anggraeni et al. (2022), which highlighted that reproductive health outcomes are optimal when educational and familial factors work together.

CONCLUSIONS

This study aims to determine the influence of knowledge and family role on reproductive health maintenance behavior among early adolescent girls. Based on the results of data analysis and hypothesis testing that have been conducted, several conclusions can be drawn.

First, knowledge has a **positive and significant influence** on reproductive health behavior. Adolescents with higher levels of reproductive health knowledge are more likely to practice proper

genital hygiene, manage menstruation correctly, and avoid behaviors that increase the risk of infection. This finding confirms that knowledge is a fundamental determinant of health behavior formation.

Second, the family role also has a **positive and significant influence** on reproductive health maintenance behavior. Adolescents who receive strong parental support—through communication, guidance, and supervision—are more likely to implement healthy reproductive practices. Families play an essential role as the primary source of education and support for adolescents, especially regarding sensitive issues such as reproductive health.

Third, the combination of knowledge and family role strongly shapes reproductive health behavior. Adolescents with good knowledge and strong family involvement demonstrate significantly better hygiene practices compared to those who have limited knowledge or low family support. This indicates that cognitive understanding and environmental support must work simultaneously to generate optimal behavioral outcomes.

Overall, the findings show that improving reproductive health behavior among early adolescent girls requires strengthening both educational interventions in schools and supportive practices at home. Adequate knowledge alone is insufficient without consistent reinforcement from the family environment.

This study is expected to expand understanding of adolescent reproductive health and provide valuable insights for educators, health workers, and policymakers. The results highlight the need for comprehensive reproductive health education programs and greater family engagement in supporting adolescents through puberty.

For future researchers, it is recommended to explore additional variables related to adolescent reproductive health, such as peer influence, access to information, school-based health education, and psychosocial factors. Further studies may also employ a larger sample size or digital questionnaires (e.g., Google Forms) to improve data accuracy and expand the scope of analysis.

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