

## Influence Factors of Reproductive Organ Maintenance Among Adolescent Girls in Coastal Areas

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### ABSTRACT

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Adolescent girls are vulnerable to reproductive health problems such as vaginal discharge and reproductive tract infections, which are triggered by poor maintenance of their reproductive organs. This may further impact adolescents' quality of life and productivity. Adolescents in coastal areas tend to have limited sources of information, parental support, and inadequate health facilities related to adolescent reproductive health. This study aims to determine the factors that influence the behavior of maintaining reproductive organs among adolescent girls in coastal areas in the Buluspesantren District. Method: This research uses quantitative methods with a cross-sectional approach. The research population was 859 adolescent girls in coastal regions of Buluspesantren District and a total sample of 96 respondents were selected through purposive sampling. Data were analyzed univariate, bivariate, and multivariate. There is a relationship between the availability of facilities and infrastructure ( $p$ -value=0.049) and attitudes ( $p$ -value=0.012) with reproductive organ maintenance behavior among adolescent girls in coastal areas in Buluspesantren District. The most influential factor is attitude ( $p$ -value = 0.018) with Odds Ratio (OR)=3.004. Adolescent girls with a positive attitude are 3.004 times more likely to have good reproductive organ maintenance behavior than adolescent girls with a negative attitude. Adolescent girls need to get information on reproductive organ maintenance from various trusted sources so that they have a positive attitude toward reproductive organ maintenance behavior.

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## INTRODUCTION

Around 1.2 billion adolescents around the globe are between the ages of 10 and 19, according to WHO data from 2018. According to the 2021 Youth Profile, there are around 46 million adolescents in Indonesia, or 17% of the country's overall population of 270,203,917 (UNICEF, 2021). Problems of primary concern in developing countries relate to sexual and reproductive health (Az-zuhra et al., 2021). This is proven by the highest incidence of Reproductive Tract Infections (ISR) in the adolescent age group (35%-42%) (Ginting et al., 2018). Reproductive Tract Infection (ISR) is an infection that can lower fertility and interfere with sexual activity. It is brought on by introducing and growing infectious organisms (viruses, fungi, bacteria, and parasites) into the reproductive system (Irviana et al., 2022).

The prevalence of reproductive tract infections in Indonesia due to lack of hygiene in the genital organs is 90-100 cases per 100,000

population per year (Angrainy et al., 2021). The health of adolescent girls' reproductive organs tends to be prioritized because female reproductive organs are more complex than male reproductive organs, and the health risks they pose are also more significant (Juliana et al., 2018). The reproductive organs most susceptible to infection are the vulva, vagina, cervix, and uterus (Irviana et al., 2022). According to data from the 2015 Central Java Indonesian Family Planning Association (PKBI) Survey, young women's understanding of reproductive health issues is still lacking (Maryani et al., 2020).

One key component that promotes public health is sanitation. In Indonesian society, the primary issues with sanitation are the lack of clean water, uncontaminated latrines, improper waste disposal, and inadequate housing. It can be challenging to maintain personal hygiene and environmental sanitation in coastal areas (Pakpahan & Savitri, 2022; Rinaldi et al., 2023; Suwanti, 2019).

The southern coastal region of Central Java is one of the areas where awareness of sexual education and reproductive health is still lacking (Pratiwi & Winoto, 2020). Adolescents in coastal areas tend to need more knowledge about reproductive health. This is because teenage health services and counseling are typically inaccessible in coastal areas, which causes poor knowledge and information regarding adolescent reproductive health (Diarti, 2016).

Teenagers in coastal areas receive inadequate parental assistance since most parents view it as inappropriate to advise on reproductive health. In addition to parents, the majority of young women feel that talking to their parents about reproductive health concerns is inappropriate and embarrassing because they worry about receiving criticism or punishment. (Belayneh & Mekuriaw, 2019; Romlah et al., 2021). Adolescents experience emotions of guilt, anxiety, and improper hygiene habits during menstruation as a result of their inadequate knowledge of the physiology of menstruation and lack of emotional support during menarche (Betsu et al., 2023; Chandra-Mouli & Patel, 2017). It was further reported that instead of seeking medical consultation, girls tend to skip school, self-medicate, and refrain from social interactions (Chandra-Mouli & Patel, 2017).

Previous research reported that coastal areas in Kebumen rarely received socialization about reproductive health. Most people still consider it taboo to provide sexual and reproductive health education to their teenage children. Buluspesantren District is a sub-district in Kebumen Regency, Central Java Province, located in the coastal area adjacent to the Indian Ocean (Pratiwi & Winoto, 2020).

The coastal area in Buluspesantren District consists of 3 villages: Brecong Village, Setrojenar Village, and Ayamputih Village. The settlement circumstances in this area are typically densely populated, with dwellings close to one another, uncovered household waste disposal sites, and waste reservoirs near wells or water sources. The majority of residents in these three villages are farmers; others are laborers, carpenters, market traders, livestock breeders, and fishermen. In the three communities, youth posyandu is not operating at its utmost. This frequently results in young women maintaining their reproductive organs in inadequate or even inappropriate behavior. A preliminary study on young women in Buluspesantren District's coastal areas revealed that these women have experienced vaginal discharge and itching in the feminine area, have not followed proper

menstrual hygiene practices, and do not know how to clean their genitals correctly. Therefore, research was conducted to determine the factors influencing reproductive organ maintenance behavior among young women in coastal areas in the Buluspesantren District.

## METHOD

This research uses a quantitative research design with a cross-sectional approach. The independent variables in this research are age, exposure to information, availability of facilities and infrastructure, knowledge, attitudes, and parental support. Meanwhile, the dependent variable in this research is young women's reproductive organ maintenance behavior. This research was conducted in October – November 2022 in coastal areas (Brecong Village, Setrojenar Village, and Ayamputih Village) in Buluspesantren District, Kebumen Regency. The population in this study were all young women living in coastal areas (Brecong Village, Setrojenar Village, and Ayamputih Village) in Buluspesantren District, totaling 859 people. The number of samples was determined using a purposive sampling technique, and a sample of 96 respondents was obtained.

Data was collected using a questionnaire prepared by researchers, and validity and reliability tests were carried out. Univariate analysis using the frequency distribution test, bivariate analysis using the chi-square test, and multivariate analysis using the logistic regression test. This research has received ethical approval from the Health Research Ethics Commission (KEPK) Faculty of Health Sciences, Universitas Jenderal Soedirman, with Permit Number 879/EC/KEPK/X/2022.

## RESULTS

Table 1 shows that the education level of respondents' fathers was mostly primary education (51.0%), working as a farmer (55.2%), most mothers had primary education (71.9%), and housewives (56.3%). Most respondents were from low socioeconomic status (61.5%). Most respondents experienced one reproductive health problem (50.0%), and 26 respondents (27.1%) had a history of more than one reproductive health problem. The most frequently experienced reproductive health problem is vaginal discharge. Most respondents' sources of information came from direct and indirect sources (46.9%).

**Table 1. Frequency distribution**

Variable	n	%
<b>Father's education level</b>		
Basic Education	49	51.0
Secondary Education	31	32.3
Higher Education (Diploma/Bachelor's Degree)	16	16.7
<b>Father's occupation</b>		
Trader	2	2.1
Farmer	53	55.2
Civil servants	6	6.3
Self-employed	19	19.8
Others (not working, construction workers, maintenance specialists, carpenters, tailors, laborers)	16	16.7
<b>Mother's education level</b>		
Basic Education (SD-SMP)	69	71.9
Secondary Education (SMA)	21	21.9
Higher Education (Diploma/Bachelor's Degree)	6	6.3
<b>Mother's occupation</b>		
Trader	17	17.7
Farmer	14	14.6
Civil servants	6	6.3
Self-employed	3	3.1
Housewife	54	56.3
Others (tailors, laborers)	2	2.1
<b>Economic status</b>		
Low (< IDR 1,500,000/ per month)	59	61.5
Medium (between IDR 1,500,000 to IDR 2,500,000 per month)	30	31.3
High (between IDR 2,500,000 to IDR 3,500,000 per month)	7	7.3
<b>History of reproductive health problems one reproductive health problem</b>		
Itching of the feminine area	13	13.6
Vaginal discharge	48	50.0
Symptoms of Urinary Tract Infection	2	2.1
<b>More than one reproductive health problem</b>		
Itching in the feminine area/vagina with an intense smell/vaginal discharge/symptoms of a urinary tract infection	26	27.1
<b>Other</b>		
There is not any	7	7.3
<b>Resources</b>		
<b>Direct</b>		
Parents/Teachers/Peers/Health workers	38	39.6
<b>Direct and Indirect</b>		
Parents/teachers/peers/health workers/social media/print media	45	46.9
<b>Other</b>		
Never	13	13.6

Based on Table 2, the results of the latest multivariate analysis of logistic regression modeling show that attitude has the most influence on the behavior of maintaining reproductive organs in young women (p-value=0.018, odds ratio=3.004). This means that

young women in coastal areas with a positive attitude have 3.004 times the influence to maintain their reproductive organs well compared to young women in coastal areas with a negative attitude.

**Table 2. Logistic regression test results**

Variable	p-value	p-table	OR	95.0% C.I. for OR	
				Lower	Upper
Knowledge	0.205		1.795	0.726	4.438
Availability of Facilities and Infrastructure	0.069	0.05	2.307	0.937	5.683
Parental Support	0.112		2.057	0.846	5.004
Attitude	0.018		3.004	1.205	7.488

## DISCUSSION

The study's findings indicate that attitude is critical to young women's reproductive organ maintenance behavior in Bulus Pesantren District's coastal districts. The results of this study strengthen earlier studies, which show that there is an influence on attitudes toward genital hygiene among adolescent girls during menstrual periods (Berampu et al., 2022; Yadav et al., 2018). Attitude influences psychological aspects because a positive attitude will stimulate teenagers to realize good behavior (Kartika, 2018).

Young women's attitudes serve as a precedent or reflection of the actions that will be taken to preserve the health of reproductive organs (Kartika, 2018; Zayanti et al., 2017). Even though the majority of young women (52.1%) have positive attitudes, many of them still have unfavorable attitudes toward many elements of maintaining reproductive organs, Unusual vaginal discharge (smelly, itchy, hot, burning), strong vaginal odor, itching in the female area, urinary tract infections, and even cervical cancer can all be driven on by these unfavorable perceptions (Francis et al., 2016; Mathiyalagen et al., 2017; Pakpahan & Savitri, 2022; Sumarah & Widyasih, 2017). Some of the teenagers in this study acknowledged that they had dealt with issues related to their reproductive health, whether these were merely vaginal discharge or included symptoms of urinary tract infections, itching in the feminine area, or a strong odor coming from their vagina.

Most teenagers' parents have primary education (SD-SMP) and low economic status. Parents are the source of information related to reproductive health, which teenagers most often mention. In their research, Rasheed & Afolabi (2021) found that mothers with secondary and higher education could better support their daughters. The impact was that their children had positive attitudes, which led to the formation of good reproductive organ care behavior. Respondents admitted that they tend to be closer to mothers than fathers, especially when discussing reproductive health. Young women will not be ashamed or afraid to ask their mothers about reproductive health. Mothers as parents are usually one of the first sources of direct information obtained by respondents. Teachers, peers, medical professionals, social media, print media, and health workers are other information sources Sychareun et al. (2020). These factors can influence teenagers' attitudes and understanding of maintaining reproductive

organs. In addition, teens may become less motivated or self-aware to maintain their reproductive organs as a result of inadequate parental support, a lack of information, and a lack of facilities and infrastructure (Betsu et al., 2023; Chandra-Mouli & Patel, 2017). Furthermore, the results of previous qualitative research indicate that teachers provide more detailed biological information about menstruation to adolescents than family members during menarche. However, both teachers and family members spoke positively about menstruation to adolescent girls (Kpodo et al., 2022).

The results of the latest multivariate analysis of logistic regression modeling show that attitude influences reproductive organ maintenance behavior. However, the analysis results also show that knowledge, the availability of facilities and infrastructure, and parental support can influence or control attitudes. A person's behavior is influenced by attitude. However, a person's attitude does not determine how they behave. For an attitude to become a real action, supporting factors or enabling conditions are needed, including the availability of facilities and infrastructure, availability of funds, as well as support from other parties such as family, especially parents, school, environment, and peers (Mohammed & Larsen-Reindorf, 2020; Pakpahan et al., 2021; Sahiledengle et al., 2022; Stoilova et al., 2022).

Age is considered one of the factors that influences a person's behavior. A person's knowledge and cognitive patterns about behavior will grow with age, leading to better behavior (Solehati et al., 2018). However, this study found no evidence of a significant correlation between young women's reproductive organ maintenance practices in Bulus Pesantren District's coastal districts and their age. This demonstrates that having more maturity than someone their age does not ensure better behavior.

The findings of this study support earlier research that found no relationship between age and young women's vulva hygiene practices (Kartika, 2018). This is because there was little to no age difference between the study's teenage participants (early and middle teenage categories). As a result, there was little variation in the teens' level of knowledge regarding vulva hygiene behavior, ultimately leading to nearly identical vulva hygiene behavior. Nonetheless, some studies indicate a correlation between age and teenage reproductive organ care practices (Trisnalia, 2018).

Information exposure did not impact young women's reproductive organ maintenance

practices in Bulus Pesantren District's coastal districts. These findings are consistent with a study by Azzura et al. (2022), which demonstrates that information exposure does not influence teenagers' reproductive organ care practice.

The study's findings contradict previous findings that a person's behavior is influenced by the information they are exposed to. Both direct and indirect sources can provide information. Direct sources include friends, family, the environment, and health professionals. Indirect sources include books, brochures, advertisements, and other mass media (Khasanah, 2021; Purba & Rahayu, 2021). Teens are likely to utilize their personal experiences as something they know and believe to shape behavior if they are never exposed to facts (Azzura et al., 2022).

According to Belayneh and Mekuriaw (2019), most women feel uncomfortable talking about menstruation-related topics because it is taboo and because young women lack access to sufficient knowledge. Teenage girls typically obtain information about reproductive health through friends, specific institutions, and family members, particularly mothers, who serve as the primary information source (Belayneh & Mekuriaw, 2019).

According to this study, young women who have been exposed to information need to take better care of their reproductive organs. According to the data, 43 respondents (51.8%) had knowledge exposure but did not maintain their reproductive organs properly. According to Emilia et al. (2019), information received by an individual will be interpreted based on their distinctive psychological state. An individual has the freedom to accept or reject the information they receive because it may raise anxiety if it disputes their ability to defend themselves. These findings support studies that indicate education does not influence menstrual hygiene practices (Kurniasih, 2022). However, according to other research, knowledge influences menstrual hygiene practices (Hamidah et al., 2021).

The study's findings indicate that the availability of infrastructure and facilities does not significantly influence young women's reproductive organ maintenance behavior. These outcomes support earlier research (Humairoh et al., 2018), which demonstrated that the infrastructure and facility availability did not affect teenage girls' vulva hygiene practices (Humairoh et al., 2018).

According to data, 43 participants (44.8%) needed more access to facilities and infrastructure. This occurs because most

respondents have poor economic status and occasionally need more facilities. The lack of tissue for use at home, bathrooms that are not cleaned at least twice a week, travel tissue, sanitary napkin/pantyliner stock for travel, packaging for sanitary napkin waste at home, individual towels for each family, and clean running water from the faucet are among the facilities that respondents reported lacking.

The lack of these facilities can be attributed to several reasons, including the majority of respondents' belief that tissue is not necessary at home or when traveling, their confession that they do not have time to clean their bathrooms regularly, their belief that sanitary napkin waste can be disposed of in public restroom trash cans without needing to be wrapped, their preference to buy when traveling if necessary, and their admission that they are accustomed to discarding used sanitary napkin waste near their homes or yards, sharing bath towels with other family member, and draw water from the well.

Parental support does not affect the reproductive organ maintenance behavior of young women in Buluspesantren. This result differs from previous research that found that parental support influences menstrual hygiene behavior (Ningrum & Indriyanti, 2018).

Teenagers' personalities and behaviors are shaped mainly by their parents, significantly influencing how children behave regarding their health (Ningrum & Indriyanti, 2018). Given their role as primary educators and their intimate bond with children, mothers can facilitate the transfer of knowledge on the proper care of reproductive organs. Adolescents will not feel ashamed or reluctant to question their mothers. This may benefit young women's knowledge, attitudes, and menstrual hygiene practices (Sychareun et al., 2020).

Nonetheless, the majority of the young women in this study acknowledged that their parents, particularly their mothers, hardly ever informed them about reproductive organs and sexually transmitted diseases. Teachers and social media are often the sources of information they learn about this. Although parents' emotional and financial support for helping young women maintain their reproductive organs is already good, the majority of their informational support is still not enough.

This study has not examined peer pressure and the role of schools. Since the study was cross-sectional, it was challenging to conclude a cause-and-effect relationship.

## CONCLUSION

Most of the participants were aged 16-19 years (late adolescent), from low family economic status, had experienced vaginal discharge, had been exposed to information on maintaining reproductive organs, facilities, and infrastructure for maintaining reproductive organs were available, had good knowledge, had a positive attitude, had good parental support and good reproductive organ maintenance behavior. The factor that most influences the behavior of maintaining reproductive organs among young women in coastal areas in Buluspesantren

District is an attitude, after being controlled by knowledge, availability of facilities and infrastructure, and parental support.

Community health centers must ensure that the implementation of health programs related to adolescents runs optimally, such as providing health education, adolescent counseling, and a healthy environment that supports the maintenance of adolescent reproductive health. Next, young women are expected to seek and collect information about proper and correct maintenance of reproductive organs from various trusted sources (for example, health workers, official websites, and teachers).

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