

FACTORS ASSOCIATED WITH THE INCIDENCE OF LEUCORRHOEA IN ADOLESCENT GIRLS

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ABSTRACT

Leucorrhoea, a vaginal discharge that is experienced by adolescent girls. Leucorrhoea can interfere with daily activities, it caused by various factors including inadequate knowledge, inappropriate attitude in maintaining cleanliness of genitalia, frequency of using sanitary napkins for too long, communication patterns between parents and dysfunctional children, lack of information sources. The purpose of this research is to determine what factors are associated with the incidence of leucorrhoea in adolescent girls. The research design used a descriptive analytic study. The number of samples were 205 girls using proportional stratified random sampling technique. The results showed that there were five variables that have relationship with incidence of leucorrhoea ($p < 0.05$): knowledge, attitude, behavior, the communication pattern of parents and children, and the source of information; meanwhile no relationship between the use of sanitary napkins ($p > 0.05$). The conclusion that the variable has the most related to the incidence of Leucorrhoea was behavior. It is recommended that all related parties facilitate adolescents to behave healthy in preventing and handling pathological leucorrhoea, and for the health office to optimize health service programs for adolescents in schools.

Keywords: *adolescent girls; leucorrhoea; sanitary napkins*

INTRODUCTION

Reproductive health in adolescent girls is a condition related to reproductive health to sexual education, the goal is to maintain, prevent and restore the function of the reproductive organs from various kinds of disorders. (Maharani, 2020). Research data on women's reproductive health states that 75% of women in the world will experience Leucorrhoea at least once in their life and 45% of them can experience two or more times. This condition can be prevented with good vulva hygiene (Pribakti, 2010). The 2017 Indonesian Demographic and Health Survey (IDHS) data shows 12.9% of

women aged 15-19 have experienced leucorrhoea, and 11.9% of women with leucorrhoea have not graduated from high school (BPS, 2017).

The results of research by Kursani, et al. (2015) state that a low level of knowledge can affect the incidence of leucorrhoea compared to a high level of knowledge. The causes of low knowledge include lack of information and the perception of reproductive problems as a common problem. Nur's research results (2018) state that young women have a less supportive attitude, this happens because they have their own responses that personal hygiene genitalia is not important. Meanwhile, less personal genital hygiene will cause leucorrhoea.

The results of the research by Fachlevi, et al. (2017) The use of sanitary napkins all day can cause unwanted diseases, because of bacteria that arise in damp places. On average, school-age women are reluctant to replace because the toilets in their schools are smelly, dirty, and the water is not clear enough. Andirah's research results (2018) There are obstacles in communication patterns between parents and adolescents, including personal problems, lack of time, inadequate approach, low knowledge and economic factors. Sari's research results (2018) that the incidence of leucorrhoea is due to a lack of information sources. Information exposure greatly influences the actions taken.

Based on the results of existing research shows an increase in the incidence of Leucorrhoea in adolescent girls and many causes. Therefore, this study aims to determine the factors associated with the incidence of leucorrhoea in young women.

METHOD

This research is a quantitative study with a cross sectional analytical descriptive research method. This research begins by identifying the number of female population at MAN 8, East Jakarta. The population of students in MAN 8 East Jakarta was 434 students, the sampling used was proportional stratified random sampling, the sample according to the inclusion and exclusion criteria was 417 students. After the sampling count was carried out, the required number of respondents was 205 female students. The research was conducted in August-December 2020. The research was conducted at Madrasah Aliyah Negeri 8, East Jakarta.

The tool for collecting data uses a questionnaire and is distributed via google form. The instrument used in the study was carried out by the instrument test. In the implementation of the research, it was preceded by providing an explanation on the front sheet of the google form, if the respondent agreed and was willing, the respondent signed the informed consent on the link provided. In this study, respondents were protected with informed consent, anonymity, confidentiality, ethical clearance, and fairness. Data analysis used univariate and bivariate analysis (chi square).

Statement of Ethical Approval from the Health Research Ethics Commission of the Health Polytechnic of the Ministry of Health, Jakarta III No. KEPK-PKKJ3 / S.108 / XI / 2020 on 23 November 2020.

RESULTS AND DISCUSSION

The study results are shown in table 1 and table 2, as follows:

Table 1. Data on Characteristics of Respondents at MAN 8 East Jakarta in 2020 (n=205)

Variable	Category	Frequency	%
Age	Early Adolescence	189	92.2
	Late Adolescence	16	7.8
Mother's Education Level	Intermediate	36	39
Father's Education Level	High	169	61
	Intermediate	19	9.3
	High	186	90.7

Table 2. Factors Related to the Incidence of Leucorrhoea in Young Women at MAN 8, East Jakarta, 2020 (n=205)

Variable	category	Leucorrhoea				Total	OR	PValue	
		Normal Leucorrhoea		Abnormal Leucorrhoea					
		n	%	n	%				
Knowledge	High	43	35	80	65	123	100	3.466	0.028
	Low	22	26.8	60	73.2	82	100		
Attitude	Support	41	31.1	91	68.9	132	100	3.920	0.012
	Less Support	24	32.9	49	67.1	73	100		
Behavior Maintaining	Good	39	31.7	84	68.3	123	100	4.730	0.022

Cleanliness of Genitalia Tools	Bad	26	31.7	56	68.3	82	100		
Use of Bandages	Good	29	27.4	77	72.6	106	100	1.659	0.217
	Not good	36	36.4	63	63.6	99	100		
Parents and Children Communication Patterns	Effective	33	28.7	82	71.3	115	100	3.729	0.030
	Ineffective	32	35.6	58	64.4	90	100		
Resources	Enough	61	31.9	130	68.1	191	100	3.173	0.021
	Not enough	4	28.6	10	71.4	14	100		

Table 1 shows that the average age of respondents is in middle adolescence, in accordance with the theory of cognitive development according to Piaget in the mid-adolescence stage, the ability to solve problems with scientific methods is increased, likes to make their own decisions, and is involved with the community. In moral development, according to Kohlberd, in the middle adolescent stage, namely developing a series of self-morals, evaluating individual morals related to the morals of peers, family, and society. in mid adolescence have a clear attitude about self-care, one of which is the care of the feminine area (Carman & Terry, 2015). Education level of parents is average at higher education level.

Table 2 shows that most of the respondents who have a high level of knowledge (60%) and a low level of education (40%), the attitudes of the respondents are supportive (64.4%) and those who are less supportive (35.6%), the behavior of the respondents is good (60%).) and the bad (40%), respondents who have a good attitude towards using sanitary napkins (51.7%) and those who are not good (48.3%), the communication patterns of respondents are effective (56.1%) and those who are ineffective (43.9%), sufficient respondents getting information (93.2%) and those who did not get information (6.8%), the incidence of normal Leucorrhoea (31.7%) and abnormal leucorrhoea (68.3%).

Table 2 shows that the results of this study showed that out of 123 students with a high level of knowledge, 80 students (65%) had abnormal leucorrhoea. Furthermore, from 82 students with a low level of knowledge, another 60 students (73.2%) were suspected of having abnormal leucorrhoea. Based on the chi square test, it shows that there is a significant relationship between knowledge and the incidence of leucorrhoea in young girls (p-value = 0.028; OR 3.466). Respondents with a high

level of knowledge had a 3,466 times greater chance of experiencing normal leucorrhoea compared to respondents who had a low level of education.

The results of this study have a similarity with the results of previous research, namely research conducted by Kursani (2015) which states that there is a relationship between knowledge and the incidence of leucorrhoea (p value = 0.013). In addition, this study also has similarities with Yuniarti's (2015) study which states that there is a relationship between knowledge and the incidence of leucorrhoea in adolescent girls (p -value = 0.002).

This is in accordance with the theory that knowledge is everything that is known from the learning process and most of the knowledge is obtained through sensing. This learning process is influenced by various factors, namely the information contained and the socio-cultural conditions. People who already understand a material or behavior can explain, give examples, conclude, predict, and so on about what they learn (Notoatmodjo, 2014). This knowledge can be obtained from the mass media, parents, teachers, peers, sisters, to health workers (Anjan & Dwi, 2019).

However, the results of this study are not in accordance with the results of research by Darma et al. (2017), where the results of this study showed 16 people (35.6%) who had sufficient knowledge experienced normal leucorrhoea and 29 people (64.4%) experienced abnormal leucorrhoea. Then, 3 people (8.3%) had less knowledge of normal leucorrhoea and 33 people (91.7%) had abnormal leucorrhoea. Based on statistical tests, it shows that there is no relationship between knowledge and the incidence of leucorrhoea in adolescent girls, with a significant value obtained, namely the value of $p = 0.491$.

Based on research, theory, and previous journals that there is a relationship between knowledge and the incidence of leucorrhoea in young women. Therefore, the knowledge that exists in young women will greatly determine its application in the form of behavior. The role of parents, health workers, and the environment plays a very important role in increasing knowledge about leucorrhoea, so that young women can fulfill their reproductive health properly.

Table 2 shows that the results of this study showed that of the 132 students who had a supportive attitude, 91 students (68.9%) had abnormal leucorrhoea. Furthermore, 73 students who had a less supportive attitude, 49 students (67.1%) of

them experienced abnormal leucorrhoea. Based on the chi square test, it shows that there is a relationship between attitude and the incidence of leucorrhoea with a significance value (p-value = 0.012; OR 3,920). Respondents who had a supportive attitude had a 3,920 times greater chance of experiencing normal leucorrhoea compared to respondents who had a less supportive attitude.

The results of research supported by research conducted by Nur (2018), in this study stated that there was a relationship between attitude and the incidence of leucorrhoea (pvalue = 0.000). Then, this research is also supported by research conducted by Juliani (2018), in this study also states that there is a relationship between attitudes and the incidence of leucorrhoea (pvalue = 0.004). According to researchers, a supportive attitude is due to the influence of other people around them, including parents and peers. Because someone has the same attitude or is in line with the attitudes of those around him (Abugaza, 2019). The results of research conducted by Ilmiawati and Kuntoro (2017) state that the attitude of maintaining the cleanliness of the genitalia is the readiness to act in maintaining the cleanliness of the vulva of adolescent girls from abnormal leucorrhoea.

A good way to clean the vulva is from front to back, avoiding the use of fragrances and antiseptic soap continuously, because it can damage the balance of normal flora in the vagina, change underwear 2 to 3 times a day, use underwear that absorbs sweat like cotton, wash your hands before touching the vulva, and use a personal towel to clean the vulva.

The results of this study are not in line with research conducted by Lusiana (2019), where out of 65 respondents who had positive characteristics 42 people (64.6%) experienced abnormal leucorrhoea and 23 people (35.4%) had normal leucorrhoea. Furthermore, out of 57 people who had negative attitudes, 27 (47.4%) had abnormal leucorrhoea and 30 (52.6%) had normal leucorrhoea. Based on the chi square test, it shows that there is no relationship between attitude and the incidence of leucorrhoea, with a value of $p = 0.056$.

Based on research, theories and previous journals that there is a relationship between attitudes and the incidence of leucorrhoea with the incidence of leucorrhoea in young women. Attitude is very influential on the incidence of leucorrhoea. Attitude is a determining factor in maintaining and caring for the genitalia. Therefore, the

attitudes that exist in young women will determine how they apply in the form of behavior.

Table 2 shows that the results of this study showed that out of 123 students who had good genital hygiene behavior, 84 students (68.3%) had abnormal leucorrhoea. Then, out of 82 students who had bad hygiene behavior, 56 students (68.3%) had abnormal leucorrhoea. Based on the chi square test, it shows that there is a relationship between the behavior of maintaining the cleanliness of the genitalia with the incidence of leucorrhoea (pvalue = 0.022; OR 4.370). Respondents with positive behavior had a 4,370 times greater chance of experiencing normal leucorrhoea compared to respondents who had bad behavior.

The results of the study are the same as the results of research conducted by Nur (2018), in this study it shows that there is a relationship between the behavior of maintaining the cleanliness of the genitalia and the incidence of leucorrhoea in young girls (pvalue = 0.019). Then, the results of research conducted by Damayanti et al (2017), in this study showed that there was a relationship between the behavior of maintaining the cleanliness of the genitalia and the incidence of leucorrhoea (pvalue = 0.036).

This is due to the high level of knowledge of students, so that behavior tends to be good behavior in maintaining the genitalia properly. (Kursani et al, 2015). However, this study is not in line with the research conducted by Darma et al. (2017), in this study it showed that of 68 respondents who had adequate vaginal hygiene behavior, 15 (22.1%) experienced normal leucorrhoea and 53 people (77.9%) experience abnormal leucorrhoea. Then, of the 13 respondents who had bad genital hygiene behavior, 4 (30.8%) of them had normal leucorrhoea and 9 (69.8%) had abnormal leucorrhoea. Based on the results of the chi square test, it shows that there is no relationship between the behavior of maintaining the cleanliness of the genitalia with the incidence of leucorrhoea with a p-value = 0.491.

Based on the results of researchers, theories, and previous journals that there is a relationship between the behavior of maintaining the cleanliness of the genitalia and the incidence of leucorrhoea. Taking positive actions will have a good impact on women's reproductive health. Therefore, the behavior of maintaining the cleanliness of the genitalia in adolescent girls will determine the health and care of the genitalia.

Table 2 shows that, the results of this study found that among 106 students who had a good attitude to use sanitary napkins, 77 students (72.6%) of them experienced abnormal leucorrhoea. Then among the 99 students who had a bad attitude to use sanitary napkins, 63 students (63.6%) of them experienced abnormal leucorrhoea. Based on the results of the chi square test, it showed that there was no relationship between the use of sanitary napkins and the incidence of leucorrhoea with a significance value of $P\text{value} = 0.066$.

The results of this study are the same as the research conducted by Hasanah and Ismaniar (2018), the results show that the majority of respondents who use sanitary napkins experience abnormal leucorrhoea of 98.15%. With a significance value of $p\text{-value} = 0.434$, this indicates that there is no significant relationship between the use of sanitary napkins and the incidence of leucorrhoea in adolescent girls.

According to researchers, this may occur due to allergies to the ingredients contained in sanitary napkins, such as adhesives or other constituent materials, even though the respondents did not use sanitary napkins containing perfume. This is in accordance with the theory according to Verawati (2018) that allergies cause vulvar infections, this infection which causes bacteria or viruses that cause leucorrhoea to easily reproduce.

The results of this study are inversely proportional to the results of research conducted by Bahar et al. (2015), this study states that the majority of respondents with bad use of sanitary napkins experience abnormal leucorrhoea by 80%. With a $p\text{-value}$ of 0.000, there is a relationship between the use of sanitary napkins and the incidence of leucorrhoea. Because, using pads that are too long, the rolls of the fibers will become a breeding ground for bacteria that cause abnormal leucorrhoea.

In this study, it was explained that the use of bad pads will increase the temperature, humidity, and pH for a longer time, providing more potential time and allowing for bacteria that cause leucorrhoea to easily reproduce (Bahar, et al, 2015). Based on the results of researchers, theories, and previous journals that there is no relationship between the use of sanitary napkins and the incidence of leucorrhoea in adolescent girls. So that the use of good or bad pads will still experience abnormal leucorrhoea, but what determines is the material contained in the sanitary napkin, if it contains ingredients that create allergies it will cause vulvar infection.

Table 2 shows that the results of this study showed that out of 115 students who had an effective communication pattern between parents and children 82 students (71.3%) experienced abnormal leucorrhoea. Then, among 90 students who had ineffective communication patterns between parents and children, 58 students (64.4%) had abnormal leucorrhoea. Based on the results of the chi square test, it shows that there is a relationship between the communication patterns of parents and children with the incidence of leucorrhoea in young women with a p-value = 0.020 and OR 3.729. Respondents who have effective communication patterns have a 3,729 times greater chance of experiencing normal leucorrhoea compared to ineffective communication patterns.

The results of this study are the same as the results of research conducted by Sari (2018), the results show that there is a relationship between the communication patterns of parents and children with the incidence of leucorrhoea (pvalue = 0.006). Then the results of the research conducted by (Sadri, 2016), the results show that there is a relationship between the communication patterns of parents and children with the incidence of leucorrhoea (pvalue = 0.000).

According to the researchers, the respondents had an effective communication pattern because their parents often reminded them about maintaining the cleanliness of the genitalia, teaching how to clean the vulva properly and properly, and providing the facilities and infrastructure needed by the respondents. As well as democratic communication which makes the formation of effective communication patterns.

This is in accordance with Friedman's theory in Andirah (2018) which states that an effective communication pattern is where among family members there is value openness, mutual respect for feelings, thoughts, and attention, spontaneity, authenticity, and openness. Democratic communication that shapes communication patterns in the family becomes an effective communication pattern. However, this study is not in line with the results of research conducted by Anisa and Eny (2018), the results of this study indicate that there is no relationship between the communication patterns of parents and children with the incidence of leucorrhoea in adolescent girls (pvalue = 0.064).

Based on researchers, theories, and previous journals that there is a relationship between the communication patterns of parents and children with the incidence of leucorrhoea in young women. Effective communication patterns can increase knowledge to young women, therefore knowledge is very influential on adolescent behavior in the future. It is hoped that from the knowledge of young women can implement it into behavior so that it can fulfill good reproductive health.

Table 2 shows that, the results of this study showed that of the 191 students who received sufficient information about leucorrhoea, 130 (68.1%) had abnormal leucorrhoea. Then, of the 14 students who did not get information about leucorrhoea, 10 students (71.4%) had abnormal leucorrhoea. Based on the results of the chi square test, it shows that there is a relationship between the source of information and the incidence of leucorrhoea with a p-value = 0.042; OR 3.173. Respondents who received sufficient information sources had a 3,173 times greater chance of experiencing normal leucorrhoea compared to respondents who lacked information.

The results of this study are in accordance with the results of research conducted by (Sari, 2018), the results show that there is a significant relationship between the source of information and the incidence of leucorrhoea (pvalue = 0.000). The results of this study are also the same as the results of research conducted by Komariah (2018), the results show that there is a relationship between information sources and the incidence of leucorrhoea in young women (pvalue = 0.001).

According to researchers, currently information greatly influences the actions to be taken by a person. Information is needed by everyone, including young women. Information can be easily obtained from the internet, parents, peers, to health workers (Notoatmodjo, 2014). The results of Anjan and Dwi's research (2019) explain that the role of parents in health is to provide knowledge about health, one of which is about abnormal leucorrhoea. The family is the main environment for young women who play an important role in shaping behavior. However, the results of this study are not in line with the results of research by Anisa and Eny (2018), the results show that there is no relationship between sources of information and the incidence of leucorrhoea in young women with a p-value of 0.739. In this study, it is explained that information obtained either from the internet, parents, peers, or health workers will increase knowledge so that if they are often exposed to information, their level of knowledge will be high.

Based on the results of researchers, theories, and previous journals, it was stated that there was a relationship between sources of information and the incidence of leucorrhoea in young women. This information source will increase the knowledge of young women about reproductive health, one of which is about leucorrhoea. And it is expected that from the results of knowing, young women can implement it into their daily habits.

CONCLUSION

Factors related to the incidence of leucorrhoea in adolescent girls are knowledge, attitudes, behavior of maintaining cleanliness of genitalia, communication patterns of parents and children, and sources of information. Most of the respondents experienced abnormal (pathological) leucorrhoea. Most of the characteristics of respondents are in the criteria of middle adolescents with the average level of parental education at the high level of education. There is a significant relationship between knowledge, attitudes, behavior of maintaining the cleanliness of the genitalia, the communication patterns of parents and children, sources of information with the incidence of leucorrhoea in young women at Madrasah Aliyah Negeri 8, East Jakarta. The most significant relationship with the incidence of leucorrhoea in adolescent girls is the behavior of maintaining the cleanliness of the genitalia.

Based on the results of this study, it has an impact on efforts to improve health services by nurses to further increase motivation about knowledge of leucorrhoea, attitudes and behavior of maintaining cleanliness of genitalia, use of good and correct sanitary napkins, good communication patterns between parents and adolescents, and sources of information. to find information about leucorrhoea. The results of this study can be used as a learning process for the study of maternity nursing disciplines on reproductive health in young women, and nursing students can apply by providing counseling or providing information to young women about factors related to the incidence of leucorrhoea in young women.

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