

The Correlation of Knowledge and Used of Vaginal Douching With Leucorrhoea Female Students of MTsN Batang Toru South Tapanuli District

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Abstract: Background: The worst health problems of female reproduction have reached 33% of the total burden of disease that affects women in the world. One of the symptoms of the occurrence of abnormalities or diseases of the reproductive organs is leucorrhoea. Leucorrhoea that affects is pathological leucorrhoea caused by infection in the vagina. World Health Organization states that 5% of teens in the world contracted Sexually Transmitted Diseases with leucorrhoea symptoms every year. There are several factors that affect the occurrence of leucorrhoea in women, especially in adolescents, such as lack of adolescent knowledge about leucorrhoea and used of vaginal douching. **Method:** This study aims to determine the correlation of knowledge and used of vaginal douching with leucorrhoea in female students of MTsN Batang Toru on 2017. The type of this research is analytic descriptive by using cross sectional approach. The population of this research were all female students class of 7th and 8th of MTsN Batang Toru South Tapanuli District as many as 259 respondents. Statistical tests performed using the Chi-square test with $\alpha = 0,05$. **Results:** The results of research by bivariate analysis shows that there was a relationship between knowledge and leucorrhoea ($p = 0,000$) and a relationship between used of vaginal douching with leucorrhoea ($p = 0,002$). **Conclusion:** From the results obtained, it is advisable to female student of MTsN Batang Toru to find more information and read books about leucorrhoea and its impact on reproductive health, especially for adolescents so that it can motivate themselves to know more about prevention.

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I. Introduction

One of the symptom of reproductive system disorder was leucorrhoea (fluor albus). One of the symptoms of disease in the reproductive organs was leucorrhoea. Leucorrhoea that gives impact was leucorrhoea pathology. Leucorrhoea pathology was infection in the vagina which is caused by fungi, bacteria, parasites and viruses (Prawirohardjo, 2011). Health problem regarding bad female reproductive system disorder has reached 33% of total diseases that attacking females all around the world. Based on the study regarding reproductive system health, there were about 75% of women in the world had had leucorrhoea, at least once in a life time and about 45% of the women could have leucorrhoea twice or more (NCBI, 2015).

World Health Organization (WHO) said that about 5% of teenagers in the world was infected by sexually transmitted diseases each year with leucorrhoea as the symptom, in United States about one of 8 teenagers. Women between 15 to 24 years old had leucorrhoea about 31,8%. It was in line with the result of survey of Survei Pusat Penelitian Kesehatan Universitas Indonesia (Health Research Centres of University of Indonesia) who cooperated with World Population Foundation Indonesia in 2011 found among 65% of teenagers had had leucorrhoea. It showed that female teenagers had potentially high to have leucorrhoea (Badaryati, 2012).

Generally in Indonesia about 75% of women had leucorrhoea at least once in a life time and a half of them had leucorrhoea twice or more. It associated to the humid weather that made Indonesian women easily had leucorrhoea, wherein humid weather made infected fungi to breed easier. Leucorrhoea risk occurred in female teenagers. Female teenagers had physiological changes especially reproductive organs. Some bad impacts would occur female in teenager's reproductive health, if they did not know about problems regarding reproductive organ. (Maghfiroh, 2015).

Mokodongan's study (2015) that conducted at 4 four high schools in Manado and Kotamobagu, found 41 respondents (64,1%) had bad knowledge of fluor albus. It was in line with Setyorini's study (2014), that found out the association between the level of knowledge of fluor albus and the incidence of flour albus in girl adolescents, from 200 respondents, the study found 74 respondents (37%) had lack of knowledge and 59 respondents (79,7%) of 74 respondents had fluor albus. Triyani's study (2013) conducted in SMPN 1 Salatiga

found from 135 respondents, there were 82 respondents (60,7%) who used vaginal cleansing soap, and about 72 respondents of the 82 respondents who using vaginal cleansing soap (53,3%) had fluor albus. It is in accordance with Mariza's study (2013) regarding the risk factors associated with fluor albus in female students of SMPN 1 in Kota Bandar Lampung, with 259 samples. The study found about 26 respondents (74,3%) of 35 respondents who used vaginal cleansing soap had fluor albus. It was in line with Soebachman's theory (2012), he said that female should always keep personal hygiene, especially genital hygiene and avoid the use of vaginal cleansing soap because vaginal cleansing soap could disturb the stability of vaginal pH.

It was important for the teenagers to know about the sign, symptom and the cause of leucorrhoea and to differentiate between physiologic leucorrhoea and pathological leucorrhoea so they could prevent, handle and check it soon if there were signs and symptom of abnormal leucorrhoea. The reproductive organ problems in teenagers especially leucorrhoea needed a serious attention. Although leucorrhoea generally did not endanger life, however pathological leucorrhoea that could not be solved could cause a serious consequences such as infertility, ectopic pregnancy, menstruation disorder, and cervical cancer (Rabiu, dkk, 2010). The teenagers' knowledge of reproductive health is a provision for teenagers in having a healthy attitude and responsible, but not all teenagers have enough information and correct regarding reproductive health. One of some efforts that is performed by the government to solve reproductive health in teenagers is by the program of Pusat Informasi dan Konseling Kesehatan Reproduksi Remaja (PIK-KRR or Information Centre and Counselling of Teenagers' Reproductive Health), however teenager's reproductive problem keeps on happening especially leucorrhoea.

Based on the data of Badan Pusat Statistik of Sumatera Utara in 2015 that the numbers of citizen with age >15 years old were about 9.351.041 people that consisted of 4.611.630 males and 4.739.411 females, about 75% of the females were teenagers that had leucorrhoea. Whereas in South Tapanuli District 2014, there are 274.905 teenagers and 45% of the teenagers had leucorrhoea (DINKES Provinsi Sumatera Utara, 2015).

Based on the prior survey that have been conducted on 16th of March 2017, the result of the interview by the researcher to 24 person of 259 total population of all female student at class VII and class VIII, 12 female students in class VII and 12 female students in class VIII of MTsN Batang Toru, actually all the female students (100%) had lack of knowledge of leucorrhoea, and about 22 of the students (91,67%) used vaginal cleansing soap. From 24 of the female students, 19 students (76,17%) had leucorrhoea, 14 students (58,33%) of the 19 students had pathological leucorrhoea based on complains; the amount of fluid a lot, viscous, yellow/greenish, smelling bad and itchy every day.

II. Material And Methods

This is a cross sectional study that was conducted data collection and the measurement variable of female students' knowledge of leucorrhoea and the using of vaginal cleansing soap and the variable of leucorrhoea incidence was only once at the same time. This study aims to analyse the association between female students' knowledge of leucorrhoea and the using of vaginal cleansing soap with the leucorrhoea incidence in female students of MTsN Batang Toru of Tapanuli Selatan District 2017.

Population in this study were all the female students in the class VII about 130 students and about 129 female students in class VIII, the total of population were 259 female students of MTsN Batang Toru of South Tapanuli District. The samples were female students in the class VII and in the class VIII that registered actively in MTsN Batang Toru of South Tapanuli District about 77 students. The samples were chosen from each class randomly by using random number wherein each unit of population has the same potential chance to be chosen as the samples (Notoatmodjo, 2015). The following table was the sample of each grade:

Table 1. The Numbers of Sample in Each Grade

No	Class	Populations	Count	Samples
1	Class VII-1	19	19 : 130 x 39	6
2	Class VII-2	26	26 : 130 x 39	8
3	Class VII-3	23	23 : 130 x 39	7
4	Class VII-4	20	20 : 130 x 39	6
5	Class VII-5	20	20 : 130 x 39	6
6	Class VII-6	22	22 : 130 x 39	6
7	Class VIII-1	20	20 : 129 x 38	6
8	Class VIII-2	23	23 : 129 x 38	7
9	Class VIII-3	20	20 : 129 x 38	6
10	Class VIII-4	18	18 : 129 x 38	5
11	Class VIII-5	24	24 : 129 x 38	7
12	Class VIII-6	24	24 : 129 x 38	7
Total		259		77

The study used primary data that taken from direct interview to the female students by using questionnaire and secondary data were taken from administration office of MTsN Batang Toru South

Tapanuli District associated to the overview of location, total numbers of all students, the numbers of classes in 2017 and other supporting data.

The instrument of the study was tested the validity and the reliability. The validity test used product moment correlation. The questionnaire was valid if the value of $r_{count} > r_{table}$ and vice versa. In the level of significance 95% for 30 samples wherein the value of r_{table} 0,361. Reliability of the data was tested by *Cronbach's Alpha* method. This method was used to analyse reliability of the measuring instrument from one measurement. The instrument was reliable if the value of $r_{count} > r_{table}$ wherein the value of r_{table} 0,60 (Notoatmodjo, 2015). The questionnaire trial was conducted to 30 respondents, they were the female students of MTs Nahdlatul Ulama Batang Toru.

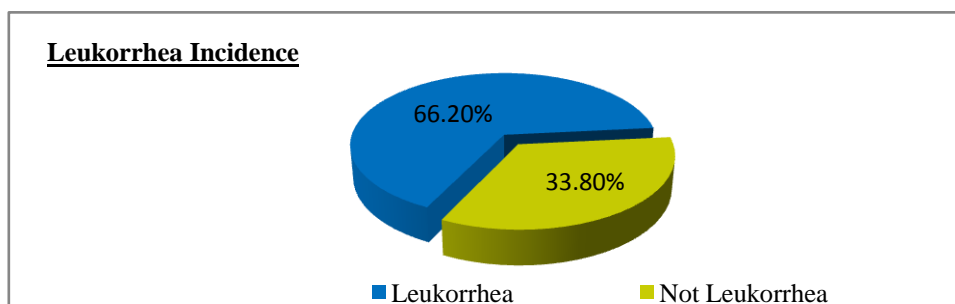
The data were analysed by univariate data analysis and bivariate data analysis. Univariate data analysis was used to find out the description of respondents distribution by making distribution frequency table. Based on the variables that examined then analysed descriptively. Whereas bivariate analysis was used to find out the association between variables by using *chi-square test* with the *p-value* (0,05). If the result of the test showed the value of $p < p\text{-value}$ (0,05) so the hypothesis was accepted, it meant that both variables statistically had a significant relation.

III. Result

Table 2. Distribution Frequency of Class, Knowledge, the Using of Vaginal Cleansing Soap and Leucorrhea Incidence in Female Students of MTsN Batang Toru South Tapanuli District 2017

No.	Characteristics	Frequency	%
1.	Class		
	VII	39	50,6
	VIII	38	49,4
	Total	77	100,0
2.	Female Students' Knowledge of Leucorrhea		
	Good	15	19,5
	Enough	20	26,0
	Lack	42	54,5
	Total	77	100,0
4.	The Using of Vaginal Cleansing Soap		
	Use	49	63,6
	Not Use	28	36,4
	Total	77	100,0
6.	Leucorrhea Incidence		
	Leucorrhea	51	66,2
	No Leucorrhea	26	33,8
	Total	77	100,0

Table 2. showed that about 39 female students (50,6%) of 77 respondents in class VII, mostly lack of knowledge about 42 female students (54,5%), mostly using vaginal cleansing soap about 49 female students (63,6%) and mostly having leucorrhea about 51 orang (66,2%).



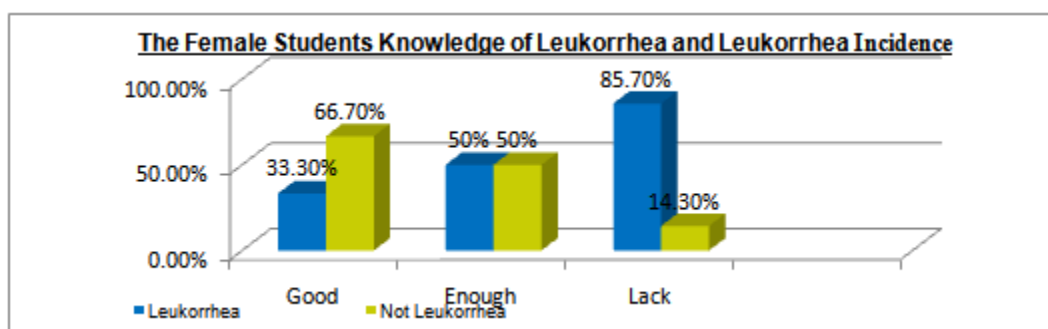
Picture 1. Percentage of Leucorrhea Incidence

Table 3. The Association between Knowledge and Leucorrhea Incidence in Female Students of MTsN Batang Toru South Tapanuli District 2017

Female Students Knowledge	Leucorrhea				Total		p value
	Yes		No		N	%	
	N	%	N	%			
Good	5	33,3	10	66,7	15	100,0	<0,001

Enough	10	50,0	10	50,0	20	100,0
Lack	36	85,7	6	14,3	42	100,0

Table 3. showed that 15 female students had good knowledge; about 5 of them (33,3%) had leucorrhoea and 10 of them (66,7%) had no leucorrhoea, 20 female students had enough knowledge; about 10 of them (50,0%) had leucorrhoea and 10 of them (50,0%) had no leucorrhoea and 42 female students had lack of knowledge; 36 of them (85,7%) had leucorrhoea and 6 of the them students (14,30%) had no leucorrhoea. The statistics test found the value of $p = <0,001$ the value of $\alpha = 0,05$ it meant that there was relation between female students knowledge and the leucorrhoea incidence.



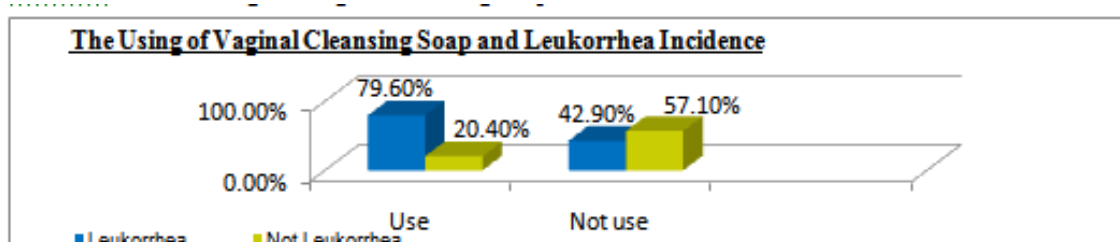
Picture 2. Percentage of Female Students Knowledge of Leucorrhoea and Leucorrhoea Incidence

Table 3. The association between the using of vaginal douching and Leucorrhoea Incidence in Female Students of MTsN Batang Toru South Tapanuli District 2017

The Using of Vaginal Douching	Leucorrhoea				p value	PR 95% CI
	Yes		No			
	N	%	N	%		
Yes	39	79,6%	10	20,4%	0,002	5,2 (1,873-14,438)
No	12	42,9%	16	57,1%		

Table 3. showed that 39 female students using vaginal douching (79,6%) had leucorrhoea and 10 of the 39 students (20,4%) had no leucorrhoea, whereas from 28 female students not using vaginal douching there were 12 female students (42,9%) that had leucorrhoea and 16 female students (57,1%) had no leucorrhoea. The statistical test was found the value of $p = 0,002$ and the value of $\alpha = 0,05$, it meant there was a relation between the using of vaginal douching and leucorrhoea incidence. The result of the analysis was also founded that the value of OR= 5,2 and 95% CI = (1,873-14,438), those meant that the female students who used vaginal douching had risk about 5,2 times greater to have leucorrhoea than female students who did not use vaginal douching.

Picture 3. The Percentage of Vaginal Douching and Leucorrhoea Incidence



IV. Discussion

The knowledge of leucorrhoea correctly will help in differentiating between normal leucorrhoea and pathological leucorrhoea to prevent the leucorrhoea incidence and to treat earlier. The result of the study showed that mostly the female students had lack of knowledge of leucorrhoea about 85,7%, whereas female students who had no leucorrhoea mostly the students had good knowledge about 66,7%. Statistically this study stated that there was a significant relation between knowledge of leucorrhoea and leucorrhoea incidence in female students of MTsN Batang Toru South Tapanuli District with the value of $p = < 0,001$ at the level of $\alpha = 0,05$.

It was in line with Sari (2014). The result of her study showed that there was a relation between knowledge and the incidence of pathological fluor albus with the value of $p\text{-value} = 0,001$ and OR = 4,469. So it can be concluded that female students who had lack of knowledge of leucorrhoea could cause the incidence of

leucorrhea. It was also in accordance with Setyorini (2014), her study entitled The Association between Level of Adolescents Girl Knowledge on Fluor Albus and the Incidence of Fluor Albus in SMK Negeri 3 Kabupaten Purworejo. The result of her study stated that there was a relation between the adolescents girl knowledge and the incidence of fluor albus in SMK Negeri 3 Kabupaten Purworejo with the value of $p=0,001$, and the numbers of incidence and fluor albus about 73,3%.

Based on the above discussion, according to the writer, knowledge was one of predisposition factors in creating female students' attitude. This factor came from within their selves that cause or motivate the female students to do something. It was important for the female teenagers to know about leucorrhoea, so they know about the signs, symptom of leucorrhoea, the cause, and could differentiate physiological leucorrhea and pathological leucorrhea so the teenagers could prevent earlier, solve it and check it soon if there were sign and symptom of abnormal leucorrhea.

Mostly female students used vaginal douching because they wanted their genitalia felt comfortable and smell fragrant. This was due to one trigger factor that a lot of ads appeared and showcased the benefits of each product so the female students was interesting to try using vaginal douching as their needs in daily life. The result of the study showed that mostly the female students who used vaginal douching had leucorrhea about 79,6%, whereas female students who did not use vaginal douching had no leucorrhea about 57,1%. Statistically this study stated that there was a significant relation between the using of vaginal douching and the leucorrhea incidence in female students of MTsN Batang Toru in South Tapanuli District with the value of $p = 0,002$ at the level of $\alpha = 0,05$.

Those were in accordance with the results of the Suryandari's study (2013). The findings of the study defined that about 33 respondents (21,5%) used vaginal cleansing soap had pathological leucorrhoea. There was a relation between the using of vaginal cleansing soap and the incidence of fluor albus with the value of $p\text{-value} = 0,01$. So it could be interpreted that the using vaginal cleansing soap could cause leucorrhoea. It was in line with Triyani (2013), her study entitled Association between the Using of Vaginal Cleansing Soap and the Incidence of Leucorrhoea in Female Students Class 2 in SMP N 1 Beringin Salatiga, with the value of $p\text{-value} = 0,000$ wherein female students who used vaginal cleansing soap had leucorrhoea about 72 respondents (53,3%).

Based on the above description, the female students should keep vaginal hygiene so the vaginal always kept healthy and avoid from many diseases. It was better to avoid using vaginal douching from chemical ingredients especially fragrant ingredient because fragrant ingredient could disturb the balance of flora in the vagina. If female students often used vaginal douching it could eliminate good bacteria in the vagina so it could reduce the acidity of the vaginal area, so the female students was easy to infected, because soap was generally alkaline with acidic vaginal pH. The effect will actually cause the fungus, so it would feel itchy around the genitalia. Some women especially female teenagers believed that using vaginal douching could give benefit and care genitalia. Even though cleaning the vagina with cleansing soap precisely gave negative impact. Cleaning the vagina need no special cleansing soap, just used clean water to avoid the incidence of leucorrhea.

V. Conclusion

Based on the findings, it could be concluded that knowledge of leucorrhea and the using of vaginal douching related to the leucorrhea incidence in female students of MTsN Batang Toru South Tapanuli District. It was suggested to the school staffs to improve the facility of reproduction health information in many performances to all the students through the utilization of information media such as adding book collection regarding reproduction health, or through counselling by the teachers at school. Public Health Office should activate more the programs in Puskesmas (the public health care centre) in performing health counselling especially reproduction health in the female teenagers group of schools around the area of work of the Puskesmas. Female teenagers should seek reproduction health information more actively from many sources and media, by achieving enough information female teenagers could improve their knowledge and change their attitude that previously using vaginal douching which disturbed vaginal pH became using clean water in cleaning their genitalia to avoid the leucorrhea incidence earlier.

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