



# Health Education-Based Effectiveness of Health Belief Model on Vulva Hygiene Behavior in Prevention of Vaginal Discharge for Pregnant Woman

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## Abstract

**BACKGROUND:** Leucorrhoea can endanger pregnancy and result premature labor. Health education (HE) is needed for good vulva hygiene behavior.

**AIM:** This study aims to explain the effectiveness of HE based on the Health Belief Model (HBM) on vulva hygiene behavior in the prevention of leucorrhoea in pregnant women.

**METHODS:** The first stage of research was the literature study, expert discussion, and development of an intervention module. The participants were pregnant women in the second trimester. The instrument is the researcher. An interview guide with a questionnaire. Qualitative data analysis. The second stage of research used the quasiexperimental design (pre- and post-test design). The independent variable is HE based on the HBM. The dependent variable is the behavior of vulva hygiene in the prevention of vaginal discharge for pregnant women. An interview guide with a questionnaire. Qualitative data analysis. The second stage of research used the quasi-experimental design (pre and post-test design) The number of participants in each group was 30 participants. Research at the Kedungdoro Public Health Center in Surabaya from December 2019 to October 2020.

**RESULTS:** The first stage of research showed that several trimester II pregnant women performed vulva hygiene correctly and some did not know how to do vulva hygiene, some did not do vulva hygiene. The module consists of four themes. The Health Education (HE) experimental group based on the HBM was effective on vulva hygiene behavior in preventing vaginal discharge in pregnant women with  $p = 0.000$ . The HE control group based on the HBM was not effective on vulva hygiene behavior in preventing vaginal discharge in pregnant women with  $p = 0.083$ . The results of the pre-test of vulva hygiene behavior in the prevention of vaginal discharge in the non-intervention group and the intervention group were not different with  $p$  of  $0.488 > 0.05$ . In the post-test of vulva hygiene behavior in the intervention group and the non-intervention group, there was a difference with  $p$  of  $0.000 < 0.05$ . Through HE based on the HBM, it can increase the confidence of each individual to behave healthily, in the form of the prevention and use of health facilities. The HBM is the main framework for healthy behavior. This gives HBM a function as a preventive or preventive model. The behavior of vulva hygiene in preventing vaginal discharge in pregnant women between the experimental group and the control group was a significant difference.

**CONCLUSION:** Vulva hygiene behavior in the prevention of leucorrhoea in the experimental group pregnant women before and after receiving HE based on the HBM experienced a significant increase before and after measurement.

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## Introduction

Vulva hygiene is the behavior of maintaining the external genitals (vulva) to maintain the cleanliness and health of the genitals and to prevent infection. These behaviors include wiping from the vagina toward the anus using clean water, without using antiseptics, drying with a dry towel or dry tissue, washing hands before cleaning the female area (Darma, 2017) [1]. The female reproductive organs need special attention. The open shape makes it easy for germs to enter through the vaginal opening. Healthy intimate bodies and organs can also trigger trust (Mumpuni, 2013) [2]. Personal hygiene for pregnant women is hygiene performed by pregnant women to reduce the possibility of infection because a dirty body contains many germs. Pregnancy is a life

process for a woman, wherewith this process changes occur which include physical, mental, psychological, and social changes.

Physical needs for pregnant women are needed, including oxygen, nutrition, personal hygiene, clothing, elimination, sexual, mobilization and body mechanics, pregnancy exercise, rest/sleep, immunization, traveling, preparation for lactation, preparation for baby birth, monitoring the well-being of baby, discomfort and how to deal with it, repeat visits, work, and danger signs in pregnancy. Health for pregnant women to get healthy mothers and children as long as the mother is pregnant. This can be done, among others, by paying attention to personal hygiene in pregnant women themselves, to reduce things that can hurt pregnant women, such as prevention of infection. In pregnancy, there is an increase in the hormones estrogen and progesterone. Increased

levels of the hormone estrogen cause an increase in water and mucus levels in the cervix, in addition to increasing glycogen by superficial mucus epithelial cells in the vaginal wall so that vaginal secretions increase. Glycogen is a food source for microorganisms in the vagina, so an increase in the level of the hormone estrogen ultimately increases the risk of pathological vaginal discharge. Most women who are pregnant do not complain about the symptoms of vaginal discharge they suffer. This can happen because he is not bothered. However, if this continues to be allowed continuously, such vaginal discharge can endanger your pregnancy. Not only that but the vaginal discharge can also result in premature labor. Leucorrhoea during pregnancy can also cause the membranes to break long before their time (Putri, 2013) [3]. The composition of the vaginal flora is very dependent on a person's hygiene. A similar opinion was expressed by Putri (2013) [3] who stated that there was a relationship between the hygiene behavior of external genitalia organs and the type of vaginal discharge in pregnant women aged 11–24 weeks gestation.

## Methods

The first stage of research was literature study, expert discussion, and development of an intervention module. Participants were pregnant women in the second trimester. The instrument is the researcher himself. An interview guide with a questionnaire was made, the questionnaire has been tested for validity and reliability. Qualitative data analysis was used. The second stage of research used a quasi-experimental design (pre- and post-test design). The independent variable is HE based on the Health Belief Model (HBM). The dependent variable is the behavior of vulva hygiene in the prevention of vaginal discharge for pregnant women. An instrument with a questionnaire was made, the questionnaire has been tested for validity and reliability. Data was collected through pre-test, intervention, and post-test. The number of participants in each group was 30 participants. Research was done at the Kedungdoro Surabaya Community Health Center in December 2019 - October 2020 [4].

## Results and Discussion

### Description of research locations

This research was conducted at the Kedungdoro Health Center, Surabaya City Health Office. Kedungdoro Puskesmas is located in a densely populated area in the middle of the city of Surabaya. Puskesmas Kedungdoro is located at Jl. Kaliasin Gang

Pompa No. 79-81, Tegalsari, Surabaya. DI Puskesmas Kedungdoro consists of outpatient care.

### Research Phase I

In the first stage, research was done with a qualitative research design with an exploratory descriptive approach. The sample in this first phase of research amounted to six people and was taken using the purposive sampling method. The researcher as the main instrument in this study was tasked with exploring, describing, and interpreting the knowledge or information obtained by pregnant women about the behavior of vulva hygiene in the prevention of leucorrhoea. Data analysis was obtained from the results of observations, interviews, and discussions with several trimester II pregnant women in the Kedungdoro Health Center, Surabaya City Health Office. The stages carried out by the researcher were as follows: Literature Study, Field Study, and Module Compilation (Table 1).

**Table 1: Characteristics of participants**

Characteristics	Group		Intervention		Homogeneity
	Non-intervention		Intervention		
	Freq	(%)	Freq	(%)	
Age					
< 25 years	4	13.3	5	17	0.516
25–35 years	23	76.7	20	67	
> 35 years	3	10	5	16	
Education					
Basic	2	6.7	4	13.3	0.23
Middle	26	86.7	20	67	
High	2	6.7	6	19.7	
Profession					
Working	5	16.7	4	13.3	0.478
Not working	25	83.3	26	86.7	
Parity					
Primigravida	9	30	15	50	0.22
Multigravida	21	70	15	50	

### Research Phase II

The results showed that the age of the participants was mostly 25–35 years (76.7%). Most of the participants' education was intermediate, namely, 86.7%. Most of the participants did not work (83.3%). The parity category indicated that most were multigravida (70%). Meanwhile, in the intervention group, it was seen in terms of age, education, occupation, and parity. The results showed that the age of the participants was mostly 25–35 years (67%). Most of the participants' education was intermediate, namely, 67%. Most of the participants did not work (86.7%). The parity category indicates that half are multigravida (50%) (Table 2).

**Table 2: Normality test**

Variable	p-value	Description
Vulva hygiene behavior before treatment	0.071	Normal
Vulva hygiene behavior after treatment	0.063	Normal

Based on the analysis of the one-sample Kolmogorov–Smirnov test data, the sig value of the vulva hygiene behavior variable before treatment was 0.071, meaning that sig >0.05, the data were normally distributed. In the vulva hygiene behavior variable after treatment of 0.063 means sig >0.05, the data are

normally distributed. Because the data are normally distributed, paired, and t independent parametric tests can be performed.

**Table 3: The effectiveness of HE based on the HBM on vulva hygiene behavior in the prevention of leucorrhea in pregnant women in the control group and the experimental group.**

Variable	Group	Pre-test Mean ± SD	Post-test Mean ± SD	N	Paired-t-test
Vulva hygiene behavior	Experiment	67.33 ± 13.880	93 ± 7.944	30	0.000
	Control	65 ± 11.963	66 ± 11.017	30	0.083

In the experimental group,  $p = 0.000$ , where  $p < 0.05$  means that there is the effectiveness of HE based on the HBM on vulva hygiene behavior in preventing vaginal discharge in pregnant women in the experimental group. Whereas in the control group,  $p = 0.083$ , where  $p < 0.05$  means that there is no effect of HE based on the HBM on vulva hygiene behavior in preventing vaginal discharge in pregnant women in the control group (Table 3).

The results of research conducted in the experimental group showed significant effectiveness after being given the intervention. Before the respondent was carried out, the respondent's intervention was carried out pre-test first. After that, an intervention was carried out by conducting HE based on the HBM, followed by re-measurement by doing a post-test. HE based on the HBM is effective for vulva hygiene behavior in preventing vaginal discharge in pregnant women.

One of the goals of HE is to raise awareness, provide or increase public knowledge about how to maintain and improve their health so that behavior change occurs. This is by the opinion of Notoadmojo, 2012 [5] which states that health promotion can increase public knowledge about health maintenance and improvement (Notoadmojo, 2012) [5]. Through HE based on the HBM, researchers seek to increase the confidence of each individual to behave healthily so that individuals will carry out healthy behaviors, where healthy behavior can be in the form of prevention and use of health facilities. By the opinion of Janz et al., 1984 [6] states that the HBM is a concept that can reveal the reasons for individuals to want or not to engage in healthy behavior. The HBM is the main framework for behavior related to human health.

This makes HBM a model that explains a person's considerations before they behave healthily. Therefore, HBM has a function as a preventive or preventive model. HBM has components that can help us to maintain healthy living habits: Believe that disease arises from PHBS (perceived susceptibility) behavior, believe in the dangers of a disease (perceived severity) caused by not doing vulva hygiene, believe in the benefits of the suggested methods, namely, correct vulva hygiene to reduce the risk of leucorrhea (perceived benefits), belief in a healthy behavior that is carried out (perceived barriers), namely, vulva hygiene

for the prevention of leucorrhea, and hasten correct vulva hygiene behavior due to certain conditions (Cues to Action).

**Table 4: Differences in the effectiveness of HE Based on the HBM on Vulva Hygiene behavior in the prevention of Leucorrhea in pregnant women in the experimental group with the control group**

Variable	Amount	Mean	SD	P-Value
Experiment group	30	25,67	11,651	0,000
Control group	30	1,000	3,051	

In the pre-test group, the insignificant difference of the two variances made use of the variance to compare the population mean with the t-test based on the equal variances assumed. count = 0.697 with a  $p = 0.488$ . Because the  $p (sg) > 0.05$ , the two mean (mean) vulva hygiene behavior in the prevention of vaginal discharge in the non-intervention group and the intervention group did not differ, in the sense that statistically, the non-intervention group had the same average vulva hygiene behavior with the intervention group (Table 4).

Whereas in the post-test group, the insignificant difference between the two variances made use of the variance to compare the population mean with the t-test using the assumed equal variances basis  $t = 10,888$  with  $p = 0.000$ . Because the  $p (sg) < 0.05$ , the two mean (mean) vulva hygiene behavior in the intervention group and the non-intervention group was different, meaning that statistically, the intervention group had a better average vulva hygiene behavior than the non-intervention group.

The results of the research has been done, the researcher grouped the respondents into two groups, namely, the experimental group and the control group. In the experimental group, respondents were given HE based on the HBM. The average knowledge of vulva hygiene in the experiment group was obtained before getting HE based on the HBM, which increased after receiving HE Based on the HBM.

HE based on the HBM focuses on the relationship between health behaviors, practices, and utilization to differentiate disease and illness from health behaviors (Rosenstock, 2012) [7]. The HBM is related to belief in health which is designed to help people change their health attitudes and behaviors in a positive direction.

This method emphasizes the role of the perception of vulnerability, severity, benefits, and barriers to a disease that can threaten their health so that people need to be given knowledge starting from the concept of disease to prevention and treatment. HE based on the HBM is provided so that families can change their perceptions of vulva hygiene, modify behavior, and take preventive measures for vaginal discharge in pregnant women. Respondents in the control group were not given HE based on the HBM. The results showed that there was a slight increase in

the average knowledge in the control group. There was no difference in knowledge about vulva hygiene before and after being given HE based on the HBM in the control group. In the experimental group, there was a significant difference between the average knowledge of vulva hygiene after HE based on the HBM in the experimental group and the control group. In addition, there is a significant difference in the mean value in both the experimental group and the control group.

This result is in line with Hasneli's (2009) [8] study which showed that after participating in the HBM-based education program, the experimental group had a higher dietary behavior score than the score before participating in the HBM-based education program. This is in line with Aprida's research (2012) [9] which showed the results of a significant difference between the knowledge level of clients with pulmonary tuberculosis before and after being given HE.

Based on the explanation above, in this study, it can be concluded that HE Based on the HBM is proven to be effective in increasing knowledge about vulva hygiene in preventing vaginal discharge in pregnant women. HE based on the HBM also plays an important role in increasing the knowledge of respondents, because this method uses an approach that opens the mind or makes respondents aware of vulva hygiene in preventing vaginal discharge in pregnant women.

## Conclusion

Vulva hygiene behavior in the prevention of leucorrhea in the experimental group pregnant women before and after receiving HE based on the HBM experienced a significant increase before and after measurement. Vulva hygiene behavior in the

prevention of leucorrhea in pregnant women in the control group before and after without receiving HE based on the HBM did not experience a significant increase. Vulva hygiene behavior in the prevention of leucorrhea in pregnant women between the experimental group who received HE based on the HBM and the control group without receiving HE with the application of the HBM, there were significant differences.

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