



## Comparative Study of The Use of Alum Water as Vulva Hygiene Therapy in Postpartum Mothers

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### ABSTRACT

The maternal mortality rate according to the IDHS (2020) in 2020 was 416 cases. in West Java showed that the incidence of puerperal fever was still relatively high at around 23%, of all puerperal fever 46% could be identified as infection. The purpose of this study was to determine a comparative study of the use of alum water as therapy for vulva hygiene in mothers. This type of research is a true experimental design with control group pre and post test. The population is all postpartum mothers during the early postpartum period for the period June 2022 as many as 205 people. The sample technique in this study used purposive sampling as many as 32 postpartum mothers. The results showed that the average postpartum mother respondents who did Vulva hygiene therapy had a greater effect on the intervention group, 6.00 compared to the control group, 2.00, with a 95% confidence level ( $<0.05$ ),  $p$  value  $<0.0001$ , the intervention group with a standard deviation of 0.403, lower 5.97 and upper 6.40 control group with a standard deviation of 1.078, lower 1.74 and upper 2.89 with a value of  $Z = -3.564b$ ,  $p$ -value  $<0.0001$  then  $H_0$  is accepted, meaning that there is a difference between the intervention group and the control group who perform therapy vulva hygiene. Postpartum mothers can take advantage of various kinds of natural ingredients that are around the environment, so they do not require expensive costs and side effects due to chemical-based drugs.

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### INTRODUCTION

The postpartum period is the next step for women after childbirth. During this period, it is actually critical but often overlooked in the self-care component of postpartum mothers. Risks often occur during the first week of postpartum (Early postpartum) because almost all body systems experience drastic changes, so in the early postpartum period health recovery is very important for mothers. (Kissanti, 2008)

Approximately 70% of postpartum women in developing countries do not receive proper postpartum care. Most postpartum women are admitted when there is a risk of maternal death and many of these maternal deaths occur in women who are at home with the mother at least during the postpartum period with between 11% - 17% of these deaths occurring during childbirth and 50% - 71% in the postpartum period. The most common cause of maternal mortality is bleeding the second most common immediate cause is infection, responsible for most late postpartum deaths. Morbidity in the first week postpartum (early postpartum) is usually due to endometritis, mastitis, infection at the episiotomy or laceration, infection of the urinary tract, and other diseases. (Sandriana, 2011)

The Maternal Mortality Rate according to the SDKI (2020) maternal deaths in 2020 amounted to 416 cases. in West Java shows that the incidence of puerperal fever is still relatively high at around 23%, of all puerperal fever 46% can be identified as infections. Health counseling or teaching conducted to postpartum mothers or desired targets cannot be separated from the media because through the media, the messages conveyed can be more interesting and understood, so that the target can learn the message until deciding to adopt positive behavior. (SDKI, 2018)

The postpartum period is necessary because during the postpartum period, women will experience many changes in themselves, both physical and psychological. This is important because it can restore the general health of postpartum women by: providing nutritious food, restoring blood loss to eliminate anemia, preventing infections, moving muscles so that muscle tone becomes better and improving blood circulation. Other benefits are to restore emotional health, prevent infection, bleeding and complications, and facilitate the formation of breast milk. (Bobak, 2005)

The independence of postpartum women in caring for themselves is influenced by knowledge, motivation, culture, beliefs, maternal experience, maternal age, support, level of fatigue and physical condition of the mother. (Fiolen, 2013)

The results of a preliminary study conducted by the author at the Widasari Public health centers, Indramayu Regency, 4 out of 7 postpartum mothers generally feel insecure when being with their partners, because they feel a lack of personal hygiene of the vagina, so that the mother feels that her vagina smells a bit smelly and uncomfortable. Lack of self confidence in postpartum women can cause problems such as postpartum infections consisting of endometritis, peritonitis, salpingitis, breast infections, mastitis and urinary tract infections, bleeding and thromboembolic complications consisting of postpartum hemorrhage, pulmonary embolism, thrombophlebitis due to lack of mobilization, and vulva hematoma, as well as postpartum affective disorders consisting of postpartum depression, postpartum blues and postpartum psychosis. (Fiolen, 2013)

Self-reliance in postpartum mothers is not only important for reducing maternal mortality and morbidity, but also important for strengthening and improving postpartum mothers' healthy behaviors in mothers. Healthy behaviors begin when postpartum and are necessary to ensure that both mothers get good maternal health. (Bobak, 2005)

The postpartum period consists of the immediate postpartum, early postpartum and late postpartum periods. Immediate postpartum is the period immediately after the placenta is delivered up to the first twenty-four hours. The early postpartum period starts from twenty-four hours to one week and the late postpartum period starts from the first week to five weeks. During early postpartum, the mother already has the desire to take care of herself and is allowed to stand and walk to do self-mothering because it will benefit all body systems. Providing some information about some important things will be more practical in the early postpartum period. (Fiolen, 2013)

Humans basically have the ability to care for themselves. The supportive and educative role of health workers is needed by postpartum mothers who need educational support in the hope that postpartum mothers are able to carry out mothers independently. This system is carried out so that postpartum mothers are able to perform maternal actions after learning. (SDKI, 2018 dan Bobak, 2005)

Based on the above background, the authors are interested in further research on "Comparative Study of the Use of Alum Water as Vulva Hygiene Therapy for Postpartum Mothers at Widasari Public health centers, Indramayu Regency".

## METHOD

This type of research is a true experiment design with control group pre and post test, which compares the intervention group with the control group, namely mothers who use alum water and do not use post-saline alum water. (Arikunto, 2006)

The population in this study were all postpartum mothers in the early postpartum period at the Widasari Public Health Centers, Indramayu Regency. The estimated number of postpartum mothers for the period March 2022 according to medical record register data is 205 people.

The sample technique in this study used purposive sampling, respondents were selected based on the inclusion criteria desired by the researcher and divided into two intervention groups, obtained 32 postpartum mothers. Based on Guy in Mahmud (2009), for experimental research more than 30 respondents can be divided into two intervention groups, meaning 50% of each group.

This bivariate analysis uses the mann whitney hypothesis test, because it uses two different groups, namely the control group and the intervention group. Both groups used a categorical measurement scale with two unpaired groups.

## RESULT AND DISCUSSION

Based on Table 1, it was found that the average respondent of postpartum mothers who performed Vulva hygiene therapy had a greater effect on the intervention group, 6.00 compared to the control group, 2.00.

Based on table 2 with a confidence level of 95% (<0.05), the p value <0.0001, the intervention group with a standard deviation of 0.403, lower 5.97 and upper 6.40 control group with a standard deviation of 1.078, lower 1.74 and upper 2.89 with a value of  $Z = -3.564b$ , p-value <0.0001 then  $H_a$  is accepted. Based on the results of this analysis, it can be concluded that there is a difference between the intervention group and the control group who perform vulva hygiene therapy.

**Table 1**  
Mean Vulva Hygiene Therapy in Postpartum Mothers

Variable	Mean	SD	Min-max	95%CI	N
Intervention	6.00	0.500	5-7	5.97-6,40	32
Control	2.00	1.078	1-4	1.74- 2.89	

**Tabel 2**  
Differences in Postpartum Mothers Who Use Alum with Those Who Don' t Use Alum

Variable	St. Deviasi	95% CI		Z	P VALUE	N
		Upper	Lower			
Intervention	0.403	5.97	6.40	-3.564b	<0.0001	32
Control	1.078	1.74	2.89			

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therapy had a greater effect on the intervention group, 6.00 compared to the control group, 2.00.

The puerperium period is also called the postpartum period or peurperium is the period or time since the baby is

born and the placenta comes out of the uterus, until the next six weeks, accompanied by the recovery of organs related to the womb, which underwent changes such as openings and so on related to childbirth. (Kissanti, 2008)

This is in line with what was stated by Sandriana, et al (2011) in their research, that in the postpartum period, the internal and external genitalia will gradually recover to the state before pregnancy. To help accelerate the healing process in the postpartum period, postpartum women need health education such as personal hygiene. After counseling on personal hygiene, it is hoped that mothers can know and understand good self-care techniques for themselves, during the postpartum period or the recovery period which lasts for 40 days or 6 weeks.

One of the treatments during the postpartum period is vulva hygiene, improper techniques can result in conditions of the perineum that are exposed to lochae and moisture will greatly support the proliferation of bacteria that can cause infection in the perineum. The emergence of infection in the perineum can result in the emergence of complications of bladder infection and infection of the birth canal. Handling complications, especially infection of the birth canal, which is slow, can lead to the death of postpartum women considering that postpartum women are still weak. (Bobak, 2005)

Vulva hygiene is very important for wound healing. Perineal wound care aims to prevent infection, increase comfort and accelerate growth. Perineal wound care can be done by washing the genital area with water and soap after each urination or defecation, starting with washing the front, then the anal area. Before and afterward the mother is encouraged to wash her hands. Bandages should be changed at least twice a day. (Bobak, 2005)

The benefits of Vulva hygiene according to APN (2009), are to keep the vagina and surrounding area clean and comfortable, prevent the appearance of vaginal discharge, bad odor and itching, keep the vaginal pH normal (3.5- 4.5). If vulva hygiene is done correctly, it will accelerate the healing of suture wounds, because good care will inhibit the occurrence of infection. If the wound is dirty, healing is difficult, even if it heals, it will give poor results. In addition, if the wound heals and no infection occurs, it will reduce the maternal mortality rate.. (Harijati, 2012)

Good vulva hygiene will affect the speed of healing of perineal suture wounds. This is in accordance with Fiolen's research (2013) that the better the vulva hygiene, the faster the healing of post-saline wounds. This can be proven by Harijati (2012), there are several factors that influence post-saline wound healing, including early mobilization, where early mobilization not only accelerates the healing of perineal sutures but also restores the mother's body condition. Vulva hygiene, if Vulva hygiene is done well, the wound will heal well and infection will not occur. Nutrition, nutritional factors, especially protein, will greatly affect the healing process of perineal wounds because tissue replacement requires protein. Medicines, such as antibiotics will help the wound heal in the mother and prevent infection. Heredity, a person's genetic traits affect their ability to heal wounds. Facilities and infrastructure, will greatly affect wound healing for example the mother's ability to provide antiseptics. Culture and beliefs, will greatly affect wound healing for example the habit of eating eggs, fish and chicken meat will affect the mother's nutritional intake which will be very beneficial in wound healing.

### Differences in Postpartum Mothers Who Use Alum with Those Who Do Not Use Alum

Based on table 2 with a confidence level of 95% (<0.05), the p value <0.0001, the intervention group with a standard deviation of 0.403, lower 5.97 and upper 6.40 control group with a standard deviation of 1.078, lower 1.74 and upper 2.89 with a value of  $Z = -3.564b$ , p-value <0.0001 then  $H_a$  is accepted. Based on the results of this analysis, it can be concluded that there is a difference between the intervention group and the control group who perform vulva hygiene therapy.

The results of the research conducted by the researcher, prove that there is a significant difference in the control group and the intervention group. Nonpharmacological therapy is proven to help clean the intimate organ area of postpartum mothers, even though if we look at the basis of the intimate organ, the vulva has the nature to clean itself without any therapeutic assistance. Only if someone has poor personal hygiene will it have an effect on infection in the external and internal intimate organs of the mother, so that is what causes the need for a hygiene therapy to always maintain the Ph of the female organs of postpartum mothers. Where the condition of the mother during the postpartum period is different from the normal condition, because of the post-saline internal or external organ area. This is very vulnerable or sensitive to post-saline infection. If we refer to Fiolen's research (2013) that the better the vulva hygiene, the faster the healing of post-saline wounds.

Belyhun (2010) explains that the care of reproductive organs is very important. If not properly cared for, it can cause various kinds of adverse consequences, such as infections and venereal diseases such as UTI, UTI, vaginitis, vaginal discharge. The female genital organs have a defense mechanism in the form of bacteria that maintain the acidity of the vaginal pH level. Normally the acidity of the vagina ranges from 3.8-4.2. Most, up to 95% are lactobacilli bacteria and the rest are pathogenic bacteria. Research data on women's reproductive health shows that 75% of women in the world must suffer from vaginal discharge, at least once in their lifetime and 45% of them experience vaginal discharge twice or more.

The use of alum as a therapy for cleaning external intimate organs is not to be used as vulva douching as an antiseptic, water purifier, deodorant, and others. Alum itself is a type of chemical obtained from aluminia which is reacted with potassium sulfate and becomes alum. Not only that, alum can also be found in the natural minerals alunite and kalinite. But it must be remembered that the use of alum that is not in accordance with the dose is certainly not good. For example, if alum is used to clean the vagina, it will risk disturbing the pH balance of the vagina. If the pH balance is disturbed, the vagina will be at risk of infections such as fungal and bacterial infections. As for alum as a water purifier, as long as it is within safety limits, its use is permitted. Cleaning the vagina should be done with clean water. You can use normal temperature water or warm water, but do not use hot water. You also do not need to use soap or other feminine cleansers to wash your vagina. The use of soaps and feminine cleansers has the same risk as alum, which is to damage the pH of the vagina. The pH imbalance triggers infections, one of which is vaginal discharge (Herawati, 2010).

This is in line with Sari (2015) in her research on vulva hygiene, namely maintaining health starts with maintaining cleanliness. This also applies to the health of sexual organs. How to maintain intimate organs without germs is done daily starting from waking up and taking a morning shower. Reproductive organs can be affected by a type of fungus or lice

that can cause itching or discomfort if not maintained clean. Washing the vagina with dirty water, improper internal examination, excessive use of vaginal rinses, unhygienic examination, and the presence of foreign objects in the vagina can cause abnormal vaginal discharge. Vaginal discharge can also arise due to abnormal medication, pants that do not absorb sweat, and sexually transmitted diseases.

So, the researcher concluded that the female organ has self hygiene properties, meaning that it can clean itself without the help of chemicals or anything that is important to maintain vaginal moisture. But in post-saline conditions during the postpartum period, mothers can be more extra to maintain their intimate female organs with natural material therapy to maintain their vaginal Ph, one of which is through alum water therapy. The use of alum water is allowed as long as it does not exceed the proper dose or not overdose. The use of alum water to wash external organs instead of internal is only enough twice a week and the rest every day the mother only needs to wash with clean and warm water, then keep drying it so that it is not too humid.

## CONCLUSION AND RECOMMENDATION

### Result

The mean of postpartum mothers who performed Vulva hygiene therapy using alum was greater in the intervention group was 6.00 compared to the control group 2.00. There is a difference between the intervention group and the control group who perform Vulva hygiene therapy with a significance value of p-value <0.0001.

### Recommendation

1. Health workers have a variety of references in providing midwifery services with a complementary holistic approach.
2. As an up to date material and collection of library materials for the development of midwifery through a complementary holistic approach.
3. Postpartum mothers can utilize various kinds of natural ingredients that are around the environment, so that they do not require expensive costs and side effects due to chemical-based drugs.

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### Conflict of Interest statement

Penulis yang namanya tercantum tepat di bawah ini menyatakan bahwa tidak memiliki afiliasi atau keterlibatan dengan pihak luar manapun dan tulisan ini murni dari sumber yang dicantumkan di daftar pustaka serta tidak mengandung plagiarisme dari jurnal artikel manapun. Sumber tulisan telah dicantumkan seluruhnya di daftar pustaka.

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