

The Difference in the Effectiveness of Removing the Modern Super Ring Circumcision Device with Olive Drops and Aloe Vera Ointment Treatment

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ABSTRACT

Background: Circumcision using the Super Ring method requires removing the ring after the wound is dry by treating used the principle of moisture.

Purpose: The aim of this study was to determine the difference in the effectiveness of removing the Modern Super Ring Circumcision Device with Olive Drops and Aloe vera Ointment treatment.

Method: The research design used Pre-Experimental with a post test only approach, used Accidental Sampling with a research sample of 32 respondents and tested using the Mann Whitney test. The majority of 14 respondents (87.4%) removed the circumcision ring with aloe vera ointment treatment in less than 10 days, while the majority of 15 respondents (93.7%) received circumcision ring removal with olive drops in more than 10 days.

Results: The results of the Mann Whitney Test obtained a p value of 0.000, indicating that there was a significant difference, aloe vera ointment showed that the average time required to remove the Circumcision Ring was faster than olive drops.

Conclusion: Aloe vera ointment made the wound environment more moist, thereby speeding up the wound healing process.

Keywords: aloe vera ointment, olive drops, ring removal, super ring circumcision tool

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BACKGROUND

Circumcision is the act of cutting or removing part or all of the skin covering the front of the penis or prepuce. The practice of circumcision is often associated with a painful action involving cutting the foreskin followed by a process of sewing the wound which is more often known as the conventional method. Modern methods of circumcision that are more effective and minimally painful include clamp/ring circumcision, electric cautery, CO2 laser. Patients after undergoing clamp circumcision will have problems with wound healing, often post-circumcision wound care techniques cause the wound to take a long time to heal (Sumiardi, 2019).

The World Health Organization (2020) estimates that the most common number of male circumcisions in the world is mostly from Asia with 30% of men aged 15 years and over with 70% being Muslim. The techniques used still vary, but as time progresses after 2015, modern methods are available and people are starting to switch to choosing this modern circumcision because the wound healing is faster and the risk of pain is very small (Tio, 2019). The incidence of urinary tract infections in Indonesia in uncircumcised male babies under 1 year is 35% and in children over 1 year is 22% out of 200 children (Tusino, 2021). Indonesia is a country with a fairly high number of Muslims. With a prevalence of 86.6% of men who have undergone circumcision, 37.3% of them are children due to phimosis (Perdoski, 2022). Based on a preliminary study conducted by researchers at the Assyafiq Circumcision House, Magetan, there is an increase in the number of patients undergoing circumcision in the last 3 months, from 18 people in the previous 3 months to 30 people in June-August 2023 (Data from the Assyafiq Circumcision House register, 2023). Observations carried out by researchers on 4 people who underwent circumcision using modern super ring circumcision showed that 2 patients had their wounds healed in 1 week with modern wound care, 1 patient recovered 5 days after modern super ring circumcision, 1 patient experienced swelling and pain.

Preventive measures to speed up wound healing after super ring circumcision with intensive care. The development of wound care is very rapid in the world of health. The wound care method that is currently developing is wound care using topical therapy techniques, namely by applying aloe vera ointment. Aloe vera contains glucomannan as a booster for the growth of cells damaged by wounds and shrinks cell tissue/by shrinking and encouraging the growth of new cells, damaged cells heal quickly, essential and non-essential amino acids, oxidase enzymes, catalase, lipase, and protease. This last enzyme helps break down diseased skin tissue due to damage and helps break down bacteria, so that aloe vera gel has antibiotic properties, as well as reducing pain. Meanwhile, amino acids function to construct replacement proteins for damaged cells (Oryctolagus, et al, 2015). This wound treatment is known as the moisture balance method (Wahyuningrum, 2020). Salia's research results (2013) stated that humidity in the wound environment will speed up the wound healing process, increase granulation and reduce pain.

Apart from aloe vera ointment, you can also use drops of olive oil to help speed up wound healing in circumcision wounds. Olive oil contains polyphenols found in olives, olive oil wastewater, and olive leaves which have antimicrobial activity against a broad spectrum of microorganisms (Medina, et al., 2016). Olive oil also contains squalene which has antioxidant and moisturizing activity which can be used to treat skin diseases such as acne, psoriasis and dermatitis (Cui et al., 2015; Waterman and Lockwood, 2007). Olive oil also contains phenolic compounds which have an antibacterial effect with a mechanism of action that increases the permeability of the cytoplasmic membrane, causing leakage of intracellular

components and coagulation of the cytoplasm, resulting in cell lysis (Sudarmi et al., 2017).

From the description above, Researchers are interested in examining the differences in the effectiveness of removing the Modern Circumcision ring device with olive drops and aloe vera ointment treatment.

METHOD

The research design used Pre-Experimental with a post test only approach, using Accidental Sampling with a research sample of 32 respondents who were divided into 2 groups, namely the group using the aloe vera ointment intervention and the group using the olive drops intervention. Data was taken from 01 November 2023 to 08 January 2024 and the analysis test used the Mann Whitney Test.

RESULTS

The research results showed that the characteristics of the respondents were obtained from a total of 32 respondents, most of the respondents were 10-12 years old, namely 28 respondents (87.45%), almost all of the respondents had normal body weight, 29 respondents (90.6%), the regularity of taking antibiotics, some The majority of respondents were regular, 24 respondents (75%) and the majority of respondents who underwent circumcision were clean, 22 respondents (68.7%).

Table 1. Removal Time for Ring Circumcision Tools with Aloe Vera Ointment and Olive Drops Treatment

No	Treatment methods	Removal of the circumcision ring			
		≥ 10 days		< 10 days	
		F	%	F	%
1	Aloevera Ointment	2	12,6	14	87,4
2	Olive Drops	15	93,7	1	6,3

The results of table 1 showed that the frequency of discharge using aloe vera ointment was mostly less than 10 days, namely 14 (87.4%) respondents, while using olive drops was mostly more than 10 days, namely 15 (93.7%). The results of the analysis test using the Mann Whitney test show a p value of 0.000, less than 0.05, so it can be said that there is a significant difference between aloe vera ointment and olive drops in healing wounds and removing modern circumcision rings.

DISCUSSION

The effectiveness of removing modern circumcision devices with aloe vera ointment treatment

The results of the study showed that the circumcision ring was removed with treatment using aloe vera ointment in most children in 14 respondents (87.4%) with a duration of less than 10 days. In the treatment group using aloe vera ointment, it was found that there were 2 respondents whose ring removal period was more than 10 days. Based on data on the characteristics of the respondents, this was possible because the two respondents did not maintain the cleanliness of the area around the wound and there were those who did not take antibiotic medication which was not completed either. The time of removal for both respondents was right on the 11th day, this is still good because without using aloe vera treatment, usually removing the circumcision ring can take up to 15 days. There were also 2 respondents in this group who had characteristics of obesity but with treatment using aloe vera the removal of the ring only took 8-9 days.

According to Oryan et al (2019), it was shown that the combination of aloe vera gel with adipose-derived stem cells (ASCs) reduced the inflammatory response by reducing the expression of TGF- β 1 and IL-1 β genes on day 7 post-treatment. They also detected a higher angiogenesis and re-epithelialization rate on the 14th day compared to the other groups.

According to research by Shari et al (2021) it was shown that aloe vera gel treatment could improve wound closure, because the wound had healed completely on the 2nd day. -28 with negligible scars. Based on pathology assessment, the Aloe vera/BMSCs group had higher rates of angiogenesis and reepithelialization rates between groups. Another effect of aloe vera is that the gel can heal wounds and other skin trauma. Likewise, reducing pain at the site of trauma is seen with the use of this drug. The moisturizing effect of aloe vera has been well proven in the form of topical products (Novyana & Susianti, 2016).

After circumcision, usually the area around the penis often causes pain, so after circumcision it is recommended to take analgesic medication (pain reliever) to increase the comfort of the child and drink antibiotics until they are finished and keeping the area around the penis clean has a big influence on the removal of the circumcision tool, when this does not happen. infection then the removal of the circumcision tool becomes faster. For this reason, education for children and families is very necessary when circumcision is completed so that the possibility of complications can be minimized.

Modern circumcision device removal with olive drop treatment

The research results showed that the majority of ring circumcision devices were removed with olive drops, namely 15 (93.7%) respondents took more than 10 days. In the treatment group using olive drops, it was found that one respondent had a discharge time of less than 10 days. Based on the respondent's characteristics data, it was found that the respondent had a normal body weight, took his antibiotic medication regularly until it was finished and kept the wound area clean. Meanwhile, the other 15 respondents had more than 10 days to remove the circumcision ring with a time range of 10-13 days.

Olive oil, which is generally used as a cooking spice, can also be used in the cosmetics industry, especially for its moisturizing function. The oleic acid content of around 80% makes olive oil potential as an emollient (Estikomah, et al, 2018). Olive oil also contains a number of vitamins such as vitamins A, D, and E as well as a number of minerals. The vitamin E content is useful for treating skin damage because it contains tocopherol compounds which have antioxidant activity, which can protect the lips from free radicals. Vitamin E also maintains water bonds in the skin so that it can retain moisture (Mursyid, 2017).

Olive oil is also famous for its antioxidant activity. Several compounds in olive oil that are responsible for antioxidant activity include tocopherol, β -Carotene, squalene, lutein, hydroxytyrosol, and oleuropein. Apart from antioxidants, these phenolic compounds also have the potential to be anti-inflammatory and antimicrobial (Jimenez, et al, 2020).

Olive drops are useful for moisturizing wounds, but when given in excess, olive drops cause the wound to become wetter so that granulations cannot grow quickly. As a result, excessive moisture in the wound environment causes the area around the penis to become dirty, resulting in longer removal of the circumcision tool, this is what happens. on the duration of removal of the circumcision tool with olive drop treatment. Moreover, patients do not take the antibiotics they are given regularly and poor hygiene will slow down the process of removing the circumcision tool.

Analysis of the differences in the effectiveness of modern circumcision ring removal with olive drops and aloe vera ointment treatment

The statistical test results showed that the p value was 0.00, which was <0.05 , indicating that there was a significant difference in the length of removal of the circumcision ring device in the treatment group using aloe vera ointment and olive drops. In the aloe vera ointment treatment group, most of the frequency of circumcision ring removal was less than 10 days compared to the olive drop treatment group.

This is in line with research by Mirza (2022) which shows that the effectiveness of administering aloe vera in the healing process of burn wounds can significantly speed up the healing of burn wounds either in the form of gel or aloe vera extract, especially in first degree and second degree burns because of the content in aloe vera such as anti-inflammatory, antibacterial, saponin, antimicrobial contains protein, carbohydrates, minerals, amino acids, as well as various other anti-inflammatory agents. Research by Erika, et al (2021) also shows the influence of administering aloe vera gel on the healing process of decubitus wounds.

In the olive drop group, the time required to remove the circumcision ring was 10-13 days, this is already good compared to no treatment at all, namely over 15 days of removal. Because olive drops can also help in healing wounds by preventing infection. This is in accordance with research by Ariyani and Wulandari (2020). The formula that has the best physical characteristics and antibacterial activity for *Staphylococcus aureus* is formula II with a 5% olive oil concentration. The high content of UFA and MUFA which are not easily oxidized in olive oil means that olive oil can act as an antioxidant and has higher stability (Purwaniati, et al. 2019).

Physiologically, wound healing occurs in the same way in all patients, with skin cells and tissue returning quickly or slowly. The faster the circumcision tool is removed, the more complications the aloe vera ointment will minimize. Aloe vera ointment is the best alternative in wound care which can speed up the removal of the super ring circumcision tool. The development of knowledge about the latest wound care techniques has become a trend in the world of nursing. Nurses as service providers are expected to meet the needs of patients/society regarding the importance of utilizing the latest knowledge. Nurses' correct understanding of the latest wound care techniques will improve the quality of health services. Modern wound care techniques have the advantage of increasing granulation growth so that wounds heal quickly, have good healing quality and can reduce wound care costs. This is very important for nurses to be able to develop and apply it.

CONCLUSION

Removal of circumcision rings with treatment using aloe vera ointment is mostly less than 10 days of removal, while removal of circumcision rings with olive drops is mostly more than 10 days of removal. So it can be concluded that aloe vera ointment is more effective in removing the super ring circumcision ring than olive drops.

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