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Influence Of Modern Wounding Techniques; Honey in Healing Chronic Wounds

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ABSTRACT

Introduction: Wounds are damage to or disorders of the skin. Honey can be used to treat wounds, increasing the activity of the immune system, encouraging debridement, and stimulating wound regeneration.

Aim: The purpose of this study was to find out whether modern wound dressing techniques and honey affected the process of healing chronic wounds in the work area of the Bukittinggi City Health Center.

Method: This research is quantitative with a Quasi-Experimental design and Group Pretest – Posttest

Design approach. This study's population included all patients who were indicated to have chronic wounds in the working area of the Bukittinggi City health center. It was conducted in March 2023. The sample size was 10 people. Sampling was done using purposive sampling, and the data was analyzed using univariate and bivariate analysis.

Findings: The results of the univariate analysis showed that the average chronic wound before being given the honey intervention was 37 and the average chronic wound healing after being given the honey

intervention was 24.3. The results of the Bivariate analysis showed that there was an effect of modern

wound dressing techniques; honey in the process of healing chronic wounds (Pvalue = 0.000).

Conclusion and recommendation: So, there is an influence of modern wound dressing techniques; honey in the process of healing chronic wounds in the working area of the Bukittinggi City health center. It is expected that respondents will apply modern wound dressing techniques; honey to heal chronic wounds and pay attention to personal hygiene in patients.

Keywords: *Chronic Wounds, Wound Healing, Modern Dressings*

1. INTRODUCTION

The general population prevalence of chronic wounds with mixed etiology shows a combined prevalence of 2.21 per 1,000 population, and for chronic foot ulcers th prevalence is estimated to be 1.51 per 1,000 population (Wang et al., 2019). In the city of Bukittinggi, the prevalence of wound care with the number of visits in 2021 and 2022 was 261 visits in the Bukittinggi Health Center working area, with the highest number of incidents being those aged 30 > 55 years (Husna, n.d, 2018).

The latest wound care technique in the world of nursing is to use the principle of moist and closed, a moist atmosphere in the wound supports the wound healing process. The technique of moist and closed wound care known as "moist wound healing" is a method for maintaining wound moisture by using a moisture-retaining dressing material so that the wound heals and tissue growth can occur naturally. The emergence of the concept of "moist wound healing" became the basis for the

emergence of modern wound dressings which state that the moist method with a closed dressing clinically has the advantage of increasing the proliferation and migration of epithelial cells around the thin layer of water, reducing the risk of infection and the appearance of scar tissue (Fata et al, 2017). Better compared to classic dressings (Mahyudi et al., 2020).

Wound treatment using honey has the property of increasing immune system activity, encouraging debridement, and stimulating the wound regeneration process. The suitability of honey for treating wounds comes from its composition and physical properties. High wound content has an osmotic effect that reduces the proliferation and growth of bacteria. Lymph is moved from the subcutaneous tissue to the wound surface, aiding in the removal of necrotic and damaged tissue. Honey's antimicrobial activity also results from its low pH (3.2 – 4.2). The antioxidant activity comes from the presence of various compounds in honey, with the strongest antioxidants being phenolic substances and gallic acid (Renata, et al, 2019).

In general, honey has the main content of approximately 30% glucose, 40% fructose, 5% sucrose, and 20% water, apart from that it also contains several amino acid compounds, vitamins, minerals, and enzymes. Honey has several important characteristics in the wound healing process such as anti-inflammatory activity, antibacterial activity, antioxidant activity, the ability to stimulate the process of removing dead tissue/debridement, reducing wound odor, and maintaining wound moisture which in the end can help speed up wound healing (Gunawan, 2017).

Based on research conducted by Muhti, et al (2017) stated that patients in the honey intervention group can be concluded that 95% believe that the average healing rate for chronic wounds in diabetes patients with treatment using honey ranges from 3.64 – 4.86, and the estimated interval. In the city of Bukittinggi, the prevalence of wound care with the number of visits in 2021 and 2022 was 119 visits in the Bukittinggi Health Center working area, with the highest number of incidents being those aged 30 to 55 years.

2. METHOD

Design

This research uses a quasi-experimental design with a pre-post test design without a control group, the subject group is observed before the intervention is carried out, and then observed again after the intervention is carried out.

Samples and settings

In this study, researchers took a minimum standard of 10 people suffering from chronic wounds at the Bukittinggi City Health Center in 2022. Determining sample criteria helps researchers reduce bias in research, especially if the control variables turn out to influence the variables being studied. Sample criteria can be divided into 2 parts, namely inclusion and exclusion. The inclusion criteria for the sample to be studied are patients who are willing to be respondents in the study, no communication problems, chronic wound patients with a proliferation phase, and all patients with diabetes mellitus, decubitus, and burn wounds.

Ethical Considerations

This research was reviewed and approved by the Fort De Kock University Committee, Bukittinggi, Indonesia, no: 538/KEPK/XII/2022

Data Collection

The researcher submitted the ethics first, after the ethics were approved the researcher submitted a letter to the hospital and also carried out an initial presentation regarding the research plan. The procedure for collecting research data is as follows: The researcher takes care of a data collection permit and research permit from Fort De Kock University. Next, the researcher submits a letter from the Bukittinggi City Health Center. After that, the researcher asks for population data. The researcher determines respondents based on the inclusion and exclusion criteria that have been determined. researcher and also by observing respondents. Before the researcher collects data on patients, the researcher explains to the respondent the aims and objectives of the research as well as the procedures that will be carried out on the patient. Makes a research time contract. Performs intervention by providing modern dressing therapy. The researcher checks the completeness. data that has been obtained. Research stages:

After filling in the respondent's consent form. The old wound dressing was removed for initial observation. The patient's wound was washed (cleaned) first using 0.9% NaCl. After the cleansing process was complete, the wound was observed using BWAT, after which a modern dressing was given. The research intervention was carried out 6 times in 2 weeks with 2 intervals between each intervention. Analyze the research data for further discussion

Carrying out wound care: (a) Clean the edges of the wound and the skin around the wound, (b) Carry out a thorough wound assessment according to the wound assessment format procedure, (c) If there is necrotic tissue (yellow or black), carry out debridement (with scissors or gauze), (d) Give an appropriate topical dressing based on the color of the wound, the amount of exudate and whether there is infection: if the color is pink, red, yellow, black with zinc metcovasine. If red, or yellow with calcium alginate, iodosorb, if there are a lot of exudates use polyurethane foam, (e) Dress the wound occlusively or closed (moisture balance), in some types of topical gauze is no longer needed as a second dressing, for example, hydrocolloid and

polyurethane foam, (Provide additional padding/gauze if there is a lot of exudate/plaster/elastic bandage (adjust to conditions), (g) Cover with adhesive, BWAT observation sheet which contains information on wound development and consists of 13 items. The way to use it is by giving the total value on the Wound Status Continuum line by putting an "X" on the line and the date below the line. If the wound is declared to be undergoing regeneration (Wound regeneration), then the lowest total score on the 13 items is worth 13 with each item being given a value of 1. If the wound is not regenerating (Wound degeneration), the highest total score on the 13 items is worth 65 with each item given a score of 5 (Temu et al., 2020).

3. FINDING AND DISCUSSION

Influence of Modern Wound Dressing Techniques; Honey in Healing Chronic Wounds in Community Health Center Working Areas Bukittinggi City in 2023

Wound Healing	N	Mean	SD	Mean Different	P-Value
Pre-Test	10	37	4,71	12,7	0,000
Post-Test		24,3	5,88		

The average wound healing score of respondents before the intervention was 37 and the average wound healing score of respondents after 6 interventions was 24.3. There was a difference in the average wound healing score of respondents between before and after the intervention with an average difference of 12.7 and a p value = 0.000, where there was a decrease in the wound healing score after the intervention. So it can be stated that the provision of modern wound dressing techniques; Honey has a significant effect on wound healing in chronic wounds.

This is in line with research by Molan (2011) which stated that wound healing with honey treatment was faster and very good. Clinical observations (Lelo, 2006) also show that open wounds heal faster with honey. Honey has a composition that is useful for healing wounds, including sugar molecules, water which functions to moisten wounds, minerals, vitamins, enzymes and organic acids, including glycolic acid, folic acid, lactic acid, citric acid. acetate, oxalate, tartarate. The age factor greatly influences wound healing. If the patient is elderly, the wound healing will take longer, and at a young age the healing will be faster. In patients with ulcers, healing will take longer and it is not certain that they will recover completely, and for open wounds such as accident wounds, the healing will be faster. The dominant depth of the respondent's wounds had reached the stage of lysis of the epidermis and/or dermis layers and there were respondents who had reached the stage of all skin layers being lost with extensive destruction, damage to muscle and bone tissue. Wound healing can also be influenced by nutritional patterns or diet. In patients with chronic wounds, diet is very important, adequate nutrition can influence wound healing. If the patient does not meet the nutritional needs of the wound, he or she may experience delays in wound healing. If nutrition can be controlled, it will be able to help the patient's wound healing process. And there is also a wound healing factor, namely the type of wound. Wounds in ulcer patients will heal more slowly than accident wounds. Ulcer patient wounds usually do not heal completely. Especially in patients with decubitus ulcers or pressure sores. In these patients, including palliative patients, the patient is at risk of death, but wound care is still carried out to help the patient's quality of life.

According to Waspaji (2009), wound control is the most important form of effort to inhibit the growth of necrotic tissue, because it can inhibit the wound healing process. The wound-healing process takes place if the removal and disposal of necrotic tissue is successful. Honey is widely used in various studies because apart from being cheaper, honey has moist properties which are very good for healing wounds.

This is in line with research by Yulianti, et al. (2017) showed that there was an effect of giving honey on wound care. The same research conducted by Bima (2017) showed that honey had an effect on accelerating wound healing in diabetic foot-wound sufferers in the Gombong Community Health Center area. Apart from that, other similar research was also carried out by Sundari, et al. (2016) where the results show that there is an effect of giving honey in treating diabetic foot wounds. This research is in line with research conducted by Adriani and Teti (2015) with the title "Use of Modern Dressings (Hydrocoloid) for Healing Type II Diabetes Mellitus Wounds". In his research on 10 respondents, it was found that the average wound healing score for type II diabetes mellitus after being given a modern dressing (hydrocolloid) was 33.53. This average is lower than the average wound healing score for type II diabetes mellitus before being given a modern dressing (hydrocolloid), namely 37.40. Honey has been proven effective in treating chronic wounds. Where from the results of several studies there was an increase in the degree of wounds, epithelialization and granulation. This can be measured using the BWAT (Bates-Jensen-Wound Assessment-Tool) format.

The BWAT sheet can be used to assess or measure wound healing. The process of treating wounds using honey can be done in several ways, namely, dripping and smearing. Changing the wound dressing can be done depending on the condition of the wound and the patient's comfort. If there is not a lot of fluid/exudate (does not seep into the gauze) can be done 3-4 times,

and if there is a lot of fluid/exudate (seepage) wound treatment can be done every 2 days. This research is in line with research conducted by Nadya Putri Nabila, et al (2017) with the title "The Process of Healing Diabetic Ulcer Wounds Using Modern Dressing Methods at the Maitis Efrans Wound Care Clinic". In his research on 2 respondents, it was found that the assessment of diabetic ulcer wounds before modern wound care in respondent one had a total score of 54 and in respondent two a total score of 50 was said to be wound regeneration. The ulcer healing process for the two respondents was progressing, the total final score of respondent one was 30 and respondent two was 28 respondents. The healing process of chronic wounds was due to a decrease in the average of chronic wounds before and after intervention with honey was 37 to 24.3. The reduction in the degree of chronic wounds is caused by the wound care method with honey intervention which can maintain and maintain moist balance, supports autolysis of necrotic tissue, thereby accelerating the regeneration of wound healing. Apart from that, the speed of wound healing is also influenced by the age and width of the wound. Younger respondents will experience faster wound healing than elderly respondents. This is because the cells of younger respondents are more active in dividing and regenerating so that the wound healing process takes place more quickly compared to older respondents, especially the elderly. Apart from that, the width of the wound also affects the speed of wound healing. The wider the wound, the more cells needed to regenerate the wound and it will take longer to heal.

4. CONCLUSION AND RECOMMENDATION

There is the influence of modern wound dressing techniques; honey in the process of healing chronic wounds in the working area of the Bukittinggi City Health Center ((Pvalue = 0.000). modern wound dressing techniques; honey in the process of healing chronic wounds and paying attention to personal hygiene. This is because the wound regeneration process cannot run smoothly and effectively if personal hygiene not maintained properly even though modern wound dressing techniques are used to heal chronic wounds.

REFERENCES

[1] Chang, A. C., Dearman, B., Greenwood, E., Dewasa, P., Royal, S., Teknik, L., & Hanson, I. (2011). *Perbandingan Pengukuran Area Luka Teknik:Visitrak Versus Photography*. *l*.

[2] Dabas, D. (2018). Honey as an Alternative in the Management of Contemporary Wound Healing:ASystematic Review. *Journal of Health Sciences & Research*, *9*(2), 41–48. https://doi.org/10.5005/jp-journals-10042-1068

[3] Fan, B., Wei, Z., Yao, X., Shi, G., Cheng, X., Zhou, X., Zhou, H., Ning, G., Kong, X., & Feng, S. (2018). Microenvironment Imbalance of Spinal Cord Injury. *Cell Transplantation*, *27*(6), 853–866. https://doi.org/10.1177/0963689718755778

[4] Freeman. (2019). Penerapan Perawatan Luka Bersih Menggunakan Balutan. Fatimah Nurul,Sholikah and Wahyuni, Endah Sri and Hermawati, Hermawati, 53(9), 1689–1699.

[5] Georgeta, P., Ficai, A., Marin, M. M., Albu, G., Constantin, V. D., Dinu-pîrvu, C., Vuluga, Z.,Corobea, M. C., & Ghica, M. V. (2016). New Collagen-Dextran-Zinc Oxide Composites for. Journal of Nanomaterials, 2016, 1–7.

[6] Gonzalez, A. C. D. O., Andrade, Z. D. A., Costa, T. F., & Medrado, A. R. A. P. (2016). Wound healing - A literature review. Anais Brasileiros de Dermatologia, 91(5), 614–620. https://doi.org/10.1590/abd1806-4841.20164741

[7] Grocott, P., & Campling, N. (2009). Metodologi untuk mengevaluasi produk perawatan luka pada luka kronis yang kompleks. 5(4).

[8] Herlianita, R., Ruhyanudin, F., Wahyuningsih, I., Husna, C. H. Al, Ubaidillah, Z., Theovany, A. T., & Pratiwi, Y. E. (2020). Pengaruh pendidikan kesehatan terhadap sikap dan praktik pada pertolongan pertama penanganan luka bakar. Holistik Jurnal Kesehatan,

[9] Hidayat, R., Naziyah, N., & Alifa, A. Z. (2022). Efektifitas Cadexomer Iodine Dan Zinc Cream Terhadap Penyembuhan Luka Kaki Diabetik Di Klinik Wocare Center Bogor. Malahayati Nursing Journal, 4(7), 1619–1626. https://doi.org/10.33024/mnj.v4i7.6281

[10] Husna, T. (n.d.). Sistem Integumen dan Case Report. 16(1).

[11] Ilmu, J., & Kesehatan, P. (2018). Madu Sebagai Alternatif dalam Penatalaksanaan Penyembuhan Luka Kontemporer : Tinjauan Sistematis. 9(2), 41–48.

[12] Mirhaj, M., Labbaf, S., Tavakoli, M., & Seifalian, A. M. (2022). Emerging treatment strategies in wound care. International Wound Journal, January, 1–21. https://doi.org/10.1111/iwj.13786

[13] Mustamu, A. C., Mustamu, H. L., Hasim, N. H., Hidayat, S., R, N. M., Astuti, P., Ponirah, Antia, Wintoko, R., Dwi, A., Yadika, N., Aminuddin, M., Sholichin, Sukmana, M., & Nopriyanto, D. (2020). Modul Perawatan luka. In Ijonhs (Vol. 1, Issue perawatan luka).

https://jurnal.poltekkespalembang.ac.id/index.php/jkm/article/download/987/413/

[14] Peristiowati, Y., & Wardani, R. (2021). Aplikasi Perawatan Luka Modern : Sastra. 3, 280–292. Prof, D., Prof, R., & Gillitzer, R. (2002). Manajemen luka modern Perawatan. 130–147.

[15] Simka, M. (2004). Calf muscle pump dysfunction in the patients with severe chronic venou insufficiency. Phlebolymphology, 47, 299–303.

[16] Temu, S., Sujianto, U., & Nur, M. (2020). Pengaruh Terapi Ozon Bagging Terhadap Proses Penyembuhan Ulkus Kaki Diabetik. Diponegoro University.

[17] Vasile, B. S., Oprea, O., Voicu, G., Ficai, A., Andronescu, E., Teodorescu, A., & Holban, A. (2014). Synthesis and characterization of a novel controlled release zinc oxide/gentamicin-chitosan composite with potential applications in wounds care. International Journal of Pharmaceutics, 463(2), 161–169. https://doi.org/10.1016/j.ijpharm.2013.11.035

[18] Wang, C., Wang, M., Xu, T., Zhang, X., Lin, C., Gao, W., Xu, H., Lei, B., & Mao, C. (2019). Engineering bioactive self-healing antibacterial exosomes hydrogel for promoting chronic diabetic wound healing and complete skin regeneration. Theranostics, 9(1), 65–76. https://doi.org/10.7150/thno.29766

[19] Wintoko, R., Dwi, A., & Yadika, N. (2020). Manajemen Terkini Perawatan Luka Update Wound Care Management. JK Unila, 4, 183–189.

[20] Gigi, S. K. (2017). Diajukan untuk melengkapi salah satu syarat Mencapai gelar Sarjana Kedokteran Gigi.

[21] Lomban, A., Kalangi, S. J. R., & Pasiak, T. F. (2020). Manfaat Olesan Madu Pada Penyembuhan Luka Kulit. 8(2), 202–208.

[22] Merdekawati, D., & Astuti, A. (n.d.). 121. 121–129.

[23] Nabila, N. P., Efendi, P., Kesehatan, P., Kesehatan, K., & Keperawatan, J. (2013). Proses Penyembuhan Luka Ulkus Diabetikum Dengan Metode Modern Dressing Diklinik Maitis Efrans Wound. 146–151.

[24] Sari, N. P., & Sari, M. (2020). Pengaruh Pemberian Topikal Madu Kaliandra Terhadap Pengurangan Jaringan Nekrotik pada Luka Diabetes Melitus Effects Of Topical Giving Of Calliandra Honey On The Reduction Of Necrotic Tissues in Diabetes Mellitus Wounds. 4. https://doi.org/10.31101/jhes.1056

[25] Soekidjo Notoatmodjo. (2018). Metodologi Penelitian Kesehatan. Renika Cipta.

[26] Sugiyono. (2019). Metode Penelitian Kuantitatif Kualitatif dan R&D. Alfabeta.

[27] Temu, S., Sujianto, U., & Nur, M. (2020). Pengaruh Terapi Ozon Bagging Terhadap Proses Penyembuhan Ulkus Kaki Diabetik. Diponegoro University.

[28] Huda, N., Febriyanti, E., & Laura, D. De. (2018). Edukasi Berbasis Nutrisi dan Budaya pada Penderita Luka Kronis. 1–12. https://doi.org/10.17509/jpki.v4i1.12307

[29] Istanti, Y. P., & Rosa, E. M. (2011). Perbedaan Pemberian Gamat Jelly dan Hidrogel dalam Penyembuhan Luka Kronik pada Tikus Putih. 137–145.

[30] Kartika, R. W., Bedah, B., Paru, J., & Luka, A. P. (2015). Perawatan Luka Kronis dengan Modern Dressing. 42(7), 546–550.

[31] Medika, Q., & Molekuler, S. D. A. N. (2019). Qanun Medika Januari Desember : Desember Januari 2019. 3(1), 31–43.

[32] Nabila, N. P., Efendi, P., Kesehatan, P., Kesehatan, K., & Keperawatan, J. (2013). Proses Penyembuhan Luka Ulkus Diabetikum Dengan Metode Modern Dressing Diklinik Maitis Efrans Wound. 146–151.

[33] Noor, H. Z., & Fakhriani, R. (n.d.). PEMBERDAYAAN TENAGA KESEHATAN DALAM. 2. Rochmawati, E. (2018). Efektifitas Kandungan Modern Wound Dressin Terhadap Perkembangan Bakteri Staphylococcus Aureus Effectiveness of Modern Wound Dressing on the Growth of Staphylococcus Aureus Bacteria. 9, 88–99.

[34] Soekidjo Notoatmodjo. (2018). Metodologi Penelitian Kesehatan. Renika Cipta.

[35] Sood, A., Granick, M. S., & Tomaselli, N. L. (2014). Pembalut luka dan Data Efektivitas Perbandingan. 3, 511–529. https://doi.org/10.1089/luka.2012.0401

[36] Sugiyono. (2019). Metode Penelitian Kuantitatif Kualitatif dan R&D. Alfabeta.

[37] Tan, P., & Lim, J. (2021). Teknik Pencitraan yang Digunakan untuk Penilaian Penyembuhan Luka: Tinjauan Sistematis Bagian 1 Luka Kronis. 194–214.

[38] Temu, S., Sujianto, U., & Nur, M. (2020). Pengaruh Terapi Ozon Bagging Terhadap Proses Penyembuhan Ulkus Kaki Diabetik. Diponegoro University.

[39] Mustamu, A. C., Mustamu, H. L., Hasim, N. H., Hidayat, S., R, N. M., Astuti, P., Ponirah, Antia, Wintoko, R., Dwi, A., Yadika, N., Aminuddin, M., Sholichin, Sukmana, M., & Nopriyanto, D (2020). Modul Perawatan luka. In Ijonhs (Vol. 1, Issue perawatan luka). https://jurnal.poltekkespalembang.ac.id/index.php/jkm/article/download/987/413/

[40] Peristiowati, Y., & Wardani, R. (2021). Aplikasi Perawatan Luka Modern : Sastra. 3, 280–292.

[41] Prof, D., Prof, R., & Gillitzer, R. (2002). Manajemen luka modern Perawatan. 130–147.

[42] Simka, M. (2004). Calf muscle pump dysfunction in the patients with severe chronic venous insufficiency. Phlebolymphology, 47, 299–303.