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Original Research Article

Satisfactory level of Hiperskin TR® transparent film dressings in post-operative patient: a primary hospital Indonesia experience at Tebet District general hospital

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ABSTRACT

Background: Post operative wound always be a burden, especially in tropical countries. The needs of extra care, avoidance from water/liquid, and routine changing of the dressings were the main concerned of the patients. The invention of waterproof dressings could decrease the hustle of wound care and increasing the comfort of the patients. This study aims to present satisfactory experience using transparent film dressing for post operative cases in primary care hospital Indonesia

Methods: A descriptive study**,** total population of clean post operative wound from September to November 2022. Hiperskin TR®, a transparent film dressing was applied after cleaning the remaining debris. A questionnaire based on Bluebell wound healing questionnaire® was given at day 1 and day 7, to measure the satisfactory level of patients, and wound healing process experience.

Results: 54 participants qualified for this study, but 6 were drop out. All of them were grouped by gender, age, and satisfactory level. Mostly were female (58%), with age ranging from 15-68 years old. The overall satisfaction of wound healing was good (66%), they felt secured (83.33%) and more comfortable using transparent dressing (83.33%). 12 patients (25%) needed to be changed before day 7 by health workers due to detachment of the dressing related to excessive/vigorous activities. 8 patients felt discomfort, 6 (12.5%) complained reddish and 2 patients (4.16%) have significant exudate within 1 week of follow up.

Conclusions: The use of transparent film dressing for clean post operative wound at tropical country could be recommended, as it may decrease the patient's disability in doing their daily activity and increasing patient's satisfactory level.

Keywords: Transparent film dressing, Clean post operative wound, Patient satisfaction

INTRODUCTION

A wound is basically defined as a disruption in the continuity of the epithelial lining of the skin or mucosa resulting from physical or thermal damage.[1] It's classified by CDC to several classes, one of them is Class I wound, clean wound, which is uninfected, and encountered no inflammation (respiratory, alimentary, genital or uninfected urinary tract is not infected). Clean wounds are primarily closed and if necessary, drained with closed drainage. Operative incisional wounds that follow non penetrating (blunt) trauma should be included in this category if they meet the criteria.[2] Wound, minor cut or a major incision, is important be treated properly, including

the selection of wound dressing. Dressing is designed to contact the wound directly, unlike a bandage. Dressing is selected based on the wound itself, the type, depth, location, and extent of the wound, amount of secretion, infection, and wound adhesion. The first modern dressing was created mid-1980, which has essential characteristics, such as supplying a moist environment and the ability of fluid absorbance. Only until the 20th century, modern wound dressing arrived.[3]

Wound dressing in short is classified into 3 groups, passive, active/interactive, or advanced wound care products. Passive wound dressing is a simple dressing for protection of the wound bed, such as post-operative surgical pads. Interactive wound dressing is a dressing that contains substances that are believed to have the ability to modify the physiology of the wound environment.[4-6] Selecting wound dressing should be based on the wound bed characteristics itself. Commonly used dressing in primary health care include: moistened saline gauze for dry or necrotic wounds, hydrogels to facilitate autolysis, alginate for drying exudative wounds, hydrocolloids for absorbing exudate and facilitate autolysis, foams for exudative wounds, occlusive or semi-occlusive films for moistening dry wounds.[4]

Transparent dressings/usually known as semipermeable films (e.g., Hiperskin TM, Opsite TM, Tegaderm TM, Bioclusive TM) were one of the first major advances in wound management and heralded a major change in the way wound was treated. They consist of sterile plastic sheets from a thin polyurethane film coated with hypoallergenic acrylic adhesive and used mainly as a transparent primary wound cover. Film dressings are highly comfortable, shower-proof and their transparency allow us to monitor the wound healing progress without removal of the dressings.[7] They are impermeable to fluids and bacteria, but permeable to air and vapor films allow diffusion of gases and water vapor but are minimally absorbent. It supports wound healing by providing a moist environment.[8] Films are suited to superficial, lightly exudating, epithelializing wounds, and in difficult anatomical sites (e.g., over joints).[7,8] Films are not recommended to be used in fragile or comprised skin, as it may cause trauma when removed, and in moderate to highly exuding wounds. It's disadvantages are it could macerate the surrounding skin if there is a pool of exudate under the dressing, when being removed extra care should be taken, and sensitivity or mild reaction would occur in some cases.[9]

METHODS

The objective of this study is to evaluate the satisfactory level of clean wound patient that was dressed with transparent wound dressing. The type of this study is descriptive study. The characteristic of the sample will be presented in table and charts, and satisfactory level will be presented in graph. Universe of the study is all clean wound patient in Tebet District General Hospital, between September to November 2022 period. The sample included the wound that treated with transparent dressings which are 54 patients, who met the inclusion criteria. The initial phase of the study, the individuals who met the inclusion criteria in the study group were assigned to be supervised and asked to fill questionnaire that were made for each patient. There are 18 question each, that was divided at the first time they used the dressing, and after 7 days at follow up.

Inclusion and exclusion criteria

The inclusion criteria were; the individuals who were treated with clean and non infected wounds in Tebet District General Hospital Jakarta Selatan and willing to participate in this study and who were cooperative and communicative. Patient who were allergic to transparent dressings were excluded.

Procedure

The investigators met the participants/patients in out-patient clinic, and explain about the general consent and their willingness to join the study. All patients that willing to participate would be scheduled for elective surgery and given transparent dressing as their wound dressings. All patient were followed up on the first week in outpatient clinic and were asked to fill a questionnaire. A validated form provided by Bluebelle Study Group from Bristol Centre for Surgical Research, UK translated in Bahasa were used, with some modification to achieve and prove the hypothesis was given. In short, the questions were asked to evaluate their experience and satisfactory level using the transparent film dressing in home setting. In the follow ups, wound also being assessed by investigators with following questionnaire and matched with patient's form. Data will be recap in table, chart and graphs. The data from this study was evaluated by Microsoft Excel and Macintosh numbers. The data were evaluated using percentage.

RESULTS

During the study period, September to November 2022, a total of 54 patients with clean wound and elective surgery was enrolled into the study. 6 patients were dropped out because of their unwillingness to join the study and lost in follow up (due to distance to the hospital, unable to be reached by phone number in the medical record). The patients' median age was 40 years, the peak age was 68, which accounted for 1 case of the studied patients. There are 28 females (58%) and 20 males (42%) making a male to female ratio of 1:1.4. The overall satisfaction level wound healing process were good (66%), felt secured (83.33%) and comfortable using transparent dressing (83.33%). The result of wound complication evaluation,12 patients (25%) needed replacement of the dressing before day seventh by health workers due to detachment of the dressing related to excessive/vigorous activities. It turns out that gender is not related to activities that could

induced the detachment of the dressings, due all the patient are female.

Table 1: Distribution of participants (n=48).

Categories		N	%
Gender	Female	28	58.3
	Male	20	41.7
Age group (years)	Young Adult (15-35)	16	33.3
	Adult (35-65)	24	50
	Elderly (>65)	8	16.7
Education	Elementary	4	11.1
	Junior High Scool	24	66.7
	High School	4	11.1
	Undergraduate degree	4	11.1
Occupation	Unemployed	16	33.3
	Employed	32	66.7
Smoker	No	28	58.3
	Yes	20	41.6
ASA score	1	16	33.3
	2	24	50
	3	8	16.7

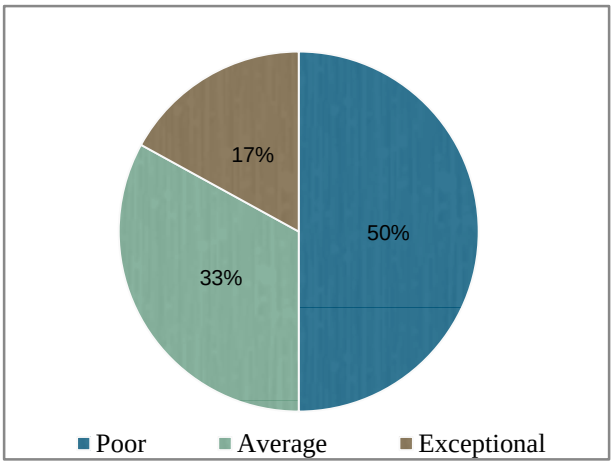

Figure 1: Comfortability level of dressings.

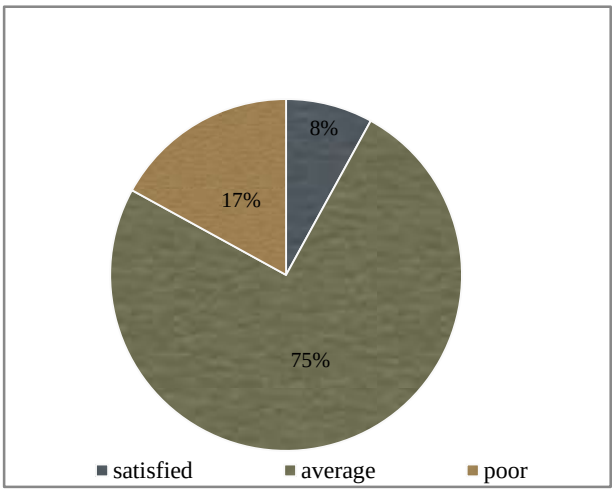

Figure 2: Percentage of satisfactory levels.

The satisfactory result was evaluated by the questionnaire, and only 8 patients (16.6%) felt discomfort by wearing transparent film compared to the other 40 patient (83.3%) were felt comfortable using the dressing. Only 6 patients (12.5%) complained about reddish color resulted by the post operative scar, and 2 patients (4.16%) had significant exudate within 1 week of follow up.

DISCUSSION

Wound dressing selection should chose by its ability to; maintain moisture, enhance epidermal migration, promote angiogenesis, synthesize connective tissue and decreasing necrosis, facilitate gas exchange between wounded tissue and the environment, maintain appropriate tissue temperature, protect the wound from mechanical injury and bacterial infection, non-adherent to the wound and easy to remove, provide debridement action and support the accumulation of enzyme, biocompatible, biodegradable, elastic, sterile, non-toxic and non-allergic, require infrequent changes, cost acceptable/effective, free of particles and toxic wound contaminants, comfortable and conformable, long shelf life.[1,4,8] Transparent films almost meet these criteria, their ability to retain moisture, allow gas exchange, and provide an ideal environment for the wound healing process. The purpose of this paper is to evaluate the satisfaction level and complications resulting from clean wound surgery covered with a transparent film, which is rarely been used in primary government hospitals and has never been reviewed in Indonesia. The aim of this research is to improve and furthermore revolutionize wound care and treatment in the future. Our study has 48 patients within the time period and has respectively male and female participants. It evaluates patient comfort and their complaints after a clean wound surgery. The most likely complications in clean wound patients are significant discharge sometimes accompanied by wound dehiscence (41%), and secondly, hematoma (35%). However, these complications usually depend on multifactorial factors, such as underlying disease (categorized as patient with ASA score >1 point, evaluated by anesthesiologist before surgery), age over 60 years, duration of a surgery over 90 minutes, uses of implants, which rarely found in clean surgery procedure.[10] Compared to our study, only 2 of the patients (4.16%) complained of significant discharge within a week of follow-up without other complaints, which is relatively low. The most common symptom that the patient complain about is itching during the wound healing process. By applying Hiperskin TR® transparent film on clean wounds after surgery, it can improve the quality of life. It can remain in place for a week or even longer, and the wound can be evaluated without changing the dressing, resulting in less need for dressing replacement, and less expense for follow-up on day 3 and day 5.[7] As written in one of the studies, patients with clean surgery, the transparent dressing group showed a significantly lower surgical wound infection (2%), compared with the conventional occlusive gauze dressing group with a surgical site infection rate.[8] In our study, there were only 2 patients who

complained about significant exudate within 1 week of follow-up, with no sign of surgery site infection. It also evaluates patients' comfort using transparent dressing, which allowed them to move freely, bathes when necessary, and suggests that film dressing might be less painful compared to wound contact dressings and in our study, similar to our result, most of the patients (83.3%) feel comfortable using the transparent dressing.[9]

Limitations

The limitation of the study is that transparent film is only able to be used in certain conditions or characteristics of wounds, which only wound with minimally exudating, and preferably clean regular wounds. A longer time of follow-up and a larger scale sample would be needed to evaluate patient satisfactory and wound complications.

CONCLUSION

The use of transparent film dressing for clean post-operative wound in tropical countries could be recommended, as it may decrease the patient's disability in doing their daily activity and increase patient's satisfaction level.

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Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Dhivya S, Padma VV, Santhini E. Wound dressings: a review. Biomedicine. 2015;5(4):22.
2. Onyekwelu I, Yakkanti R, Protzer L, Pinkston CM, Tucker C, Seligson D. Surgical Wound Classification and Surgical Site Infections in the Orthopaedic Patient. J Am Acad Orthop Surg Glob Res Rev. 2017;1(3):e022.
3. Daunton C, Kothari S, Louise S, David S. A history of materials and practices for wound management. Wound Pract Res. 2012;20:174-86.
4. Lipsky BA. Cinical practice guideline for the diagnosis and treatment of diabetic foot infections. Clin Infect Dis. 201;54(12):e132-73.
5. Watson NFS, Hodgkin W. Wound dressings. Surgery. 2005;23(2):52-5.
6. Jones V, Grey JE, Harding KG. Wound dressings. BMJ. 2006;332(7544):777-80.
7. Promoting healthy skin: Wound care. Available at: https://promoting-healthy-skin.qut.edu.au/m7_ healing.html. Accessed on: 18 March 2023.
8. Weller C, Sussman G. Wound dressings update. J Pharm Pract Res. 2006;36(4):318-24.
9. Ezzelarab MH, Nouh O, Ahmed AN, Anany MG, Rachidi NGE, Salem AS. A randomized control trial comparing transparent film dressings and conventional occlusive dressings for elective surgical procedures. Maced J Med Sci. 2019;7(17):2844-50.
10. Shinohara T, Yamashita Y, Satoh K, Mikami K, Yamauchi Y, Hoshino S, et al. Prospective evaluation of occlusive hydrocolloid dressing versus conventional gauze dressing regarding the healing effect after abdominal operations: randomized controlled trial. Asian J Surg. 2008;31(1):1-5.
11. Uçkay I, Agostinho A, Belaieff W, Toutous-Trellu L, Scherer-Pietramaggiori S, Andres A, Bernard L, Vuagnat H, Hoffmeyer P, Wyssa B. Noninfectious wound complications in clean surgery: epidemiology, risk factors, and association with antibiotic use. World J Surg. 2011;35(5):973-80.

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