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**| RESEARCH ARTICLE**

## **Wound Care and Management: A Review**

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**| ABSTRACT**

This study aimed to identify the importance of wound care and management. The study also looked into the different effects that result from the improper provision of wound care. On the other hand, there was also the provision of initiatives that enhanced the healing process. The study was qualitative and embraced the use of primary and secondary research sources to obtain information on the importance of embracing wound care and management. From the findings, improper wound care was associated with increased patient stress levels. Similarly, there was also the provision of two forms of wound dressing that entailed the traditional and modern. The traditional methods are most preferred because of their cost-efficient nature. However, the modern ones are the most ideal because of enhancing healing. On the other hand, patients experience a high medication cost through improper wound care that significantly impacts them. The mentioned initiatives in enhancing the healing process encompassed dressing the wounds, use of antibiotics, and medicinal plants. Additionally, incorporating general practice practitioners and nurse practitioners also enhanced the healing process. This is because these individuals are usually empowered on the different measures to implement in taking care of patients; therefore, it is possible to reduce cases of amputations that have been so prevalent among diabetes patients. In conclusion, wound care and management have been termed critical approaches to enhancing the overall health of individuals. Through this approach, individuals can avoid the increased cost of care, stress, and amputation, among other cases.

**| KEYWORDS**

Wound care management, wound, the healing process

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### **1. Introduction**

One trait that characterizes humans is indulgence in different physical activities and exercises. Physical activities are highly efficient in that they enhance the health of individuals by making them physically fit. However, in engaging in these activities, individuals are exposed to accidents resulting in skin wounds. The skin forms one of the largest body organs, accounting for fifteen percent of total body weight (Goodwin, 2011). At the same time, it usually performs different functions that encompass prevention of water loss from the body, protection against external attacks, and thermoregulation. A wound is an injury to a living tissue that incorporates cutting or breaking the skin. In such cases, there is a need to include wound care and management to enhance the healing of the affected tissues.

The practices of wound care encompass wound cleansing. In this approach, the actions aim to prevent the different extremes of pH from developing and simultaneously remove any form of contamination that may be prevalent (Ward et al., 2019). The most sensible measure incorporates cleansing the wound via irrigation at the different dressing stages to prevent the rise of any form of bacteria that will hinder the healing process.

Aside from bacteria, exercising wound management requires caution based on the allergic reactions which may be prevalent among patients. According to Sussman & Bates-Jensen (2012), allergic reactions usually impact the skin, gastrointestinal, and

respiratory tracts. Therefore, individuals must ensure that they are familiar with the different forms of allergies to prevent further damage. Similarly, some products used for wound care result in allergic reactions, such as latex (Sussman & Bates-Jensen, 2012). This product is usually prevalent in gloves, dressings, and plastic tubing. Aside from these products, the tape is also associated with the trigger of skin allergies.

Wound dressing is usually a move that is aimed at protecting the wound from outside exposures that may impact its healing. Different forms of wound dressing exist, with the most prominent method incorporating wet to dry gauze in wound dressing, which is associated with maintaining a moist environment (Jones et al., 2006). Moisture is helpful because of the ability to provide low oxygen tension that enhances the inflammatory stage of healing.

Whenever individuals fail to exercise excellent wound care, it will result in the wounds exhibiting impaired healing. According to Guo & DiPietro (2010), impaired healing is disastrous because it results in the pathologic inflammation of the wound, which may subject the individual to extreme pain. Therefore, based on the adverse impacts of impaired healing of wounds, among other reactions, there is a need to elaborate on the importance of wound care and management in general.

There are two main types of healing, primary intention, and secondary intention, depending on the wound type and cause. The healing process is essentially the same for both and includes the same stages, although the timescales can differ. Acute wounds (like those caused by surgery where there is minimal tissue loss) heal by primary intention, meaning that the edges of the wound can be brought together and realigned using sutures, staples, or glue. As long as there are no complications, these wounds tend to heal quickly and with minimal scarring. In wounds where there is considerable tissue loss and when the sides of the wound are not opposed (like pressure ulcers or venous leg ulcers), healing occurs through secondary intention from the bottom of the wound upwards by the process of granulation and epithelisation (Brown, 2015).

Wound healing is a complex process with four distinct but partially overlapping stages: (a) Inflammation, (b) Destruction, (c) Proliferation, and (d) Maturation. The inflammation phase starts immediately after the injury is caused, and its main purpose is to prevent further blood loss by vasoconstriction, which results in a blood clot or scab. Once bleeding has been stopped, the blood vessels within the wound dilate, allowing the fluid carrying the cells necessary for the healing process to enter the wound. About 10-15 minutes after the injury has occurred, inflammatory signs are evident around the wound and include the red appearance of the wound, heat, swelling, and pain (Brown, 2015). In most cases, individuals usually perceive this stage to result in infection. However, this should not be the case since it is a normal aspect that must take place as healing begins. There is also the destruction stage, whereby white blood cells are involved in cleansing the wound by releasing chemicals that digest bacteria that may be present (Brown, 2015). After the destruction, they die off, forming moist and sticky tissue. This stage usually takes place to enhance the move of the next phase incorporating proliferation. This stage is usually associated with the regeneration of new tissue, granulation tissue (Brown, 2015). In such cases, care need to be observed since rough handling of the wound may subject it to bleeding resulting in delayed healing. The final stage incorporates maturation. During this stage, there is the need to ensure that the wound is kept moist, which speeds up the healing process. It is usually associated with the formation of a scar that fades from a red to white color over time.

### **1.1 Significance of Research**

The significance of this study is that it will look into the various impacts that result from poor wound care and, at the same time, provide the initiatives which can be incorporated to enhance the ideal healing process. The study will also provide an analysis of the importance of wound care and management in dealing with wounds.

### **1.2 Research questions**

The guiding research questions for this study will comprise;

- What are the effects of poor wound care?
- What are the different initiatives enhancing the healing process?
- What is the importance of wound care and management in dealing with wounds?

## **2. Literature review**

Before understanding the effects of poor wound care and the importance of wound care management, it is essential to understand the nature of wounds. FBOP (2014) states that wounds can either be acute or chronic. The variations result from the microorganism prevalent in the wounds and the matrix dominant in the wound bed. The matrix usually protects these microorganisms from the individual's immune system; antiseptics and antibiotics may be applied to enhance the healing process (FBOP, 2014). Therefore, this results in the wounds not encompassing an effective healing process.

Similarly, chronic wounds are usually disastrous because they incorporate seventy percent of the biofilms, which lower the healing process compared to acute ones, which contain six percent of the biofilms (FBOP, 2014). The biofilms also have adverse effects in that they result in the wound encompassing a smooth red appearance, and in other cases, they may be pink depending on the victims' skin color. In such cases, the treatment process incorporates removing the matrix and treating the organism with antiseptics (FBOP, 2014).

Some wounds can also be categorized as hard-to-heal. These wounds fail to heal upon exposure to standard therapy on time (Vowden, 2011). The definition applies to both acute and chronic wounds. Hard-to-heal wounds are most prevalent among the elderly, who are always prone to different comorbidities (Vowden, 2011). For instance, some of the triggers that impact healing incorporate diabetes.

As Wernick & Stawicki (2018) portray, diabetes plays a significant role in wound healing. This is because of the impact on the wound healing process. For instance, wound hypoxia, among other pressure-related ischemia, usually forms chronic diabetes wounds (Wernick & Stawicki, 2018). On the other hand, ischemia triggers prolonged inflammation resulting in increased oxygen levels that trigger tissue injury.

The different forms of wound dressing incorporate traditional dressings, the most widely used because of the low cost that characterizes them (Shi et al., 2020). However, this strategy also encompasses disadvantages that entail difficulties in maintaining a moist wound bed and adhesion of the granulation tissue. Contrary to the traditional, modern dressings contain the ability to provide a moist environment for healing (Shi et al., 2020). However, the disadvantages of these approaches encompass their expensive nature, making individuals prefer the traditional approaches.

### **2.1 Effects of poor wound care**

According to Upton (2014), there are different effects resulting from poor wound care. For instance, one of the most prevalent impacts comprises increased stress levels. Poor wound care triggers stress because of the increased cost of care and pain that the patient experiences. Therefore, this will result in the concerned parties embracing different measures to ensure the individual is comfortable. However, in cases where the individuals may be financially unstable, this will result in them not being able to assist the patient triggering the rise of stress among them and the patient. Aside from stress, poor wound care will also subject the patient to sleep disturbance because of increased pain (Upton, 2014). At the same time, the patient will always encompass negative moods dealing with individuals and isolate themselves from others.

Poor wound care also triggers complaints from patients (Sussman & Bates-Jensen, 2012). The complaints may result from the situation worsening. This is because, as earlier outlined, wounds are usually characterized by incorporating biofilms, among other microorganisms. In cases where proper care is not actualized, it will result in complications. Therefore, this move will result in the patient complaining to the health centers involved in providing care.

### **2.2 Initiatives to enhance Wound Healing Process**

There exist different forms of initiatives to enhance the healing process. For instance, as Fuchs et al. (2021) captions, minced skin grafts are usually effective strategies, and they may treat wounds that range from traumatic wounds to chronic ulcers and burns. On the other hand, dressings have been portrayed as the most efficient measures, and this results from their ability to protect the wound site from exposure to further trauma and, at the same time, provide moisture (Eming et al., 2014). Additionally, dressings also enhance the absorption of excess exudate.

Exudate refers to wound fluid that leaks from the wound to body tissues (Adderley, 2008). It usually incorporates nutrients, water, electrolytes, white cells, and growth factors. Exudate is essential in that it enhances the healing process by maintaining the moist wound bed (Adderley, 2008). Therefore, this results in an improved supply of nutrients to the wound. As the wound heals, the level of exudate usually decreases.

Additionally, the other strategy to enhance the wound healing process incorporates the general practitioner's practice. According to Young et al. (2019), general practitioners' practice enhances healing. However, the side effects of this strategy encompassed low healing rates. Perhaps this resulted from the lack of an ideal wound clinic. Therefore, in cases with a perfect wound clinic, these moves can enhance the wound healing process because of the provision of expertise who will precisely deal with the wounds.

### **2.3 Importance of wound care and management**

Whenever an individual experiences injuries, the ideal action is to embrace wound care management. However, this is not always the case, resulting in individuals counting the cost of this move. At the same time, some people perceive wound care as a painful process resulting in them refraining from it. However, in doing so, such people expose themselves to more dangers. This is because

wounds are openings that bring into the body strange organisms, which may result in further complications. Therefore, in such cases, wound care management needs to be initiated.

According to Ward et al. (2019), one of the importance of wound care and management is that it reduces bacteria load in the individual. This is because whenever the skin is injured, it increases the levels of microorganisms that may impact the individual's health if proper cleansing is not undertaken. Wound care and management are also associated with preventing the extremes of pH that develop from the wound and, simultaneously, removing any form of contamination that may be prevalent.

Improper wound care has been associated with increased levels of stress and trauma in patients. According to Upton (2014), there is a need for healthcare professionals to understand the impact of pain and stress on an individual's emotional state. On the other hand, this same aspect also negatively impacts the healing process. Therefore, there is a need to exercise proper wound care and management in that it prevents the patient from exposure to extreme pain and stress that impacts their emotional state.

Similarly, incorporating wound care and management is essential in enhancing the healing of the wounds, whether acute or chronic (FBOP, 2014). From the discussions, wounds have been termed acute, chronic, or had to heal. However, initiating proper care and management usually enhances the curing process.

### **3. Methodology**

This study is qualitative and a review, to be precise. Therefore, the ideal research methodology will entail acquiring information from primary and secondary research sources. The collected information will then be analyzed by analyzing and critiquing other studies on the same subject matter.

### **4. Results/Findings**

From the obtained findings, it is evident that gauze dressings are cost-effective. This results from the bandages made of natural cotton easily accessible (Dhivya et al., 2015). However, individuals need to embrace frequent changes to prevent wound infections. The modern wound dressing is an upgrade of the traditional, which aims to keep the wound from dehydration and enhance the healing process (Dhivya et al., 2015). However, this approach is more expensive, making individuals refrain from it. Similarly, numerous products are incorporated into the market, making it difficult for individuals to embrace the ideal ones in the different types of wounds (Dhivya et al., 2015).

Improper wound care triggers stress among patients. However, whenever individuals are exposed to social support networks, it improves their well-being and defends them against the impact that results from stress (Solowiej et al., 2010). Therefore, from these observations, it was denoted that there is a need to exercise qualified aftercare for healed wound patients to prevent the rise of social isolation. This is because these individuals end up stressed through these isolations (Solowiej et al., 2010).

In addition, research findings also portray improper wound care as having adverse impacts on diabetes patients. According to Sen et al. (2009), twenty-five percent of diabetic patients usually experience foot ulcers in their lifetime. These complications usually result in patients being hospitalized yearly. Also, in cases where they do not obtain ideal care, it usually results in amputation. As Sen et al. (2009) denote, twelve percent of hospitalized diabetic patients with foot ulcers undergo amputation. Once actualized, it may expose the patient to further amputations in the subsequent years. Therefore, care needs to be embraced when dealing with such patients to ensure that the health providers do not subject them to further complications.

Research findings also show that when individuals encompass appropriate pain management, they improve wound healing (Solowiej et al., 2010). One of the mentioned ways to manage wound pain is dressing that does not trigger trauma or damage to the wound. This is because the dressing usually slows the healing process in cases where the dressing impacts the wound.

Aside from the dressing of wounds, the other initiatives in enhancing proper wound management incorporate the use of medicinal plants. According to Shedoeva et al. (2019), medicinal plants such as *Panax ginseng* are highly effective in enhancing the stamina of individuals and reducing fatigue. At the same time, this medicinal plant also aids in the reduction of inflammation, and this results from the bioactive substances prevalent in it.

MacLellan et al. (2002) have captured that general practice practitioners are influential in enhancing wound management through the services offered to patients. In this study, a series of patients were referred to nurse practitioners. From the findings, it was depicted that subjecting these patients to skilled care proved effective for the patients with wounds (MacLellan et al., 2002). Before the trial, these individuals had no access to specialized care. However, after the trial, they could provide commendable comments about the obtained services that enhanced their healing.

The study has also highlighted wound care management's effectiveness in enhancing healing. This is true in that whenever individuals encompass chronic wounds; it threatens their well-being. According to Shedoeva et al. (2019), chronic wounds have been termed to impact over six million individuals in the United States, resulting in spending about twenty-five billion dollars each year to ensure the safety of individuals. However, in cases where effective care is enhanced, it saves the nation from incurring this expense, and at the same time, individuals attain good health.

## 5. Conclusion

In conclusion, wound care and management are essential aspects individuals can embrace in dealing with wounds. The primary purpose of this study was to look into wound care and management. The study was structured based on research questions that aimed to identify the effects of poor wound care. From the analysis, some of the effects that have been stated encompass increased cost of care. This is because individuals must spend more to ensure their health progresses. Aside from the increased cost of care, patients are usually exposed to stress and emotional impairments. However, despite these effects, different initiatives have been pointed out to enhance the healing process in patients. For instance, one of the initiatives encompasses the incorporation of general practitioners and nurse practitioners. As the studies have highlighted, these individuals are usually influential when positioned in different wound clinics. Their roles usually involve ensuring that the wounded patients are well taken care of with the provision of the appropriate medical incentives. Aside from the practitioners, the other approach incorporates dressing the wounds. Through dressing, the wound is usually protected from any form of bacteria which may trigger its cure. However, there is a need to exercise care because cases where the dressing is not well conducted, may result in further patient complications. In conclusion, wound care and management are crucial in protecting the patient from the various extremes resulting from wounds. For instance, through this practice, patients are protected against stress and can obtain healing in a short duration. Also, this management prevents increased cases of amputation among diabetes patients because ideal measures are usually implemented, enhancing their care and healing of the foot ulcers. Therefore, there is a need for individuals to embrace wound care management whenever they experience wounds.

### 5.1 Limitations of this review

Limitations of this review include those inherent in a qualitative study design, like the subjectivity bias, exclusion of articles that were not in the English language, and articles that were not in the databases searched, which may limit the scope of our findings and could lead to missing information.

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