

TITLE PAGE

CORRELATION BETWEEN CHRONIC WOUNDS AND QUALITY OF LIFE AMONG SURGICAL PATIENTS IN IFE/IJESA COMMUNITIES OF OSUN STATE

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BMSP11/12/H/1561

**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF MASTER OF SCIENCE (MSc)
DEGREE IN NURSING**

**IN THE DEPARTMENT OF NURSING SCIENCE,
FACULTY OF BASIC MEDICAL SCIENCES,
OBAFEMI AWOLOWO UNIVERSITY, ILE-IFE,
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2015

ABSTRACT

Chronic Wounds (CW) are a common problem that affects a large portion of the populace, all over the world. While such wounds are treated through various modalities available, their impact on the psychological and mental wellbeing of such patients is often overlooked. This research examined the quality of life status in surgical patients with CW; determined the level of chronicity of these wounds; identified the factors responsible for the chronicity; and determined the effects of CW on the mental health of these patients. This was with a view to determining the correlation between chronic wounds and quality of life among surgical patients in Ife/Ijesa communities of Osun state.

A descriptive design was adopted for the study; consecutive non-probability sampling method was used to select sixty (60) patients with CW. Selection was done from four selected hospitals within the study area. Ethical approval was obtained from Ethics and Research Committee, OAUTHC, Ile-Ife. Inclusion criteria are adult patients above eighteen years with wounds longer than three months in the selected hospitals. Patients with memory deficit and those who did not consent were excluded. Instrument used was a semi-structured interviewer administered questionnaire and an interview guide. The questionnaire comprises three sections: Section A are questions on socio demographic data, section B questions were adapted from Hospital Anxiety and Depression Scale (HADS) to determine the effects of chronic wounds on mental health, while section C explored the quality of life status of patients with CW; adapted from WHO (FIVE) Well-Being Index and General Health Questionnaire (GHQ-12). The Interview Guide was used to collect qualitative data on factors responsible for chronic wounds.

A pilot study was conducted at Ladoke Akintola University of Technology Teaching Hospital (LAUTECH), Osogbo. Data collected were analysed using appropriate descriptive and inferential statistics.

Results revealed that, the average age of respondents was 48.3 years (Range = 18-80 years). Male: female ratio was 33:27 and 71.7% were married. 96% were Yoruba and 40% were traders. The presence of chronic wounds adversely affected the quality of life ($R = -.288$, $P = 0.025$). The average duration of the wounds was 23.2 months. (Range = 3 - 240 months). Trauma in its various forms was the commonest cause of CW followed by infection and there was no relationship between duration of wounds and gender. Only 18.3% were accessing care from hospital alone, others were receiving care from other places and applying other agents responsible for chronicity. Thirty-five (58.3%) enjoyed “better wellbeing” and 25(41.7%) had low mood and likely depression. Only 31.7% and 15% of the respondents were free of anxiety and depression respectively. Others had varying degrees of abnormality. Only 9 (15%) of the respondents had scores considered normal, others had varying degrees of abnormality in their mental health.

The conclusion is that, CW is associated with poorer health related quality of life. This should therefore be put into perspective in the care of patients with CW so as to have improved outcomes.

Keywords : Chronic wound, surgical patient, memory deficit, semi-structured interviewer,
hospital Anxiety, depression Scale

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xiii, 95p

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND TO THE STUDY

In his daily interaction with the environment, man is subject to different kinds of physical, biological and chemical hazards. The skin being the outer covering of the body is most susceptible and may suffer a breach in the structural and or functional integrity resulting in a wound. This may manifest clinically as bruises, minor cuts, laceration, etc. It may either be accidental (trauma) or intentional (surgical incision). As soon as this occurs, series of processes in the body are activated with the aim of wound healing. The beauty of it is for wound to heal up by first intention after some days or at most in few weeks, such are referred to as acute wounds. However, some wounds take longer time to heal. It may take several weeks, months and at times years, these are chronic wounds.

All wounds pass through the phases of wound healing. Chronic Wounds (CW) result when there is a delay or arrest in the progress of healing from one stage to another (Mustoe, 2005). This can be caused by extrinsic factors or intrinsic influences such as comorbidities. (Broderick, 2009). A common example of CW is Chronic Leg Ulcer (CLU) also known as chronic lower limb ulcer which has been reported to have impact on virtually every aspect of the patient's daily life: pain is common, sleep is often impaired, mobility and work capacity tend to be restricted, and personal finances are often adversely affected. (Phillips, 1994)

The worldwide prevalence of wounds include 40 to 50 million non-healing surgical wounds, 8 to 10 million leg ulcers, 7 to 8 million pressure ulcers and 7-10 million burn wounds. These numbers reflect that more people throughout the world have chronic, complex or non-healing wounds than the total US population with cardiovascular disease (approximately 15 million), asthma (18 million) or diabetes (10 million) (CDC - 2011 National Estimates - 2011 National Diabetes Fact Sheet - Publications - Diabetes DDT,). Chronic, complex or non-healing wounds represent a major health problem and a growing economic concern. (Braday, 1999). To improve wound healing outcomes and decrease the number of chronic or non-healing wounds worldwide, evidence-based wound prevention and treatment strategies are necessary. The epidemiology and economic burden of chronic wound is well documented in North America. Each year, in North America, between 5 and 7 million chronic and/or complex wounds occur. The devastating effects of improperly treated chronic wounds can be inferred from the American experience. It is necessary to emphasize that chronic wound care is a great unmet need requiring government interventions and individual preparedness for significant improvement. (Bradley, Cullum, & Sheldon, 1999). For nurses whose duties include maintenance of skin integrity and wound care, there is need for empirical data in life/lives setting so as to offer evidence-based intervention. Wounds may be perceived by some as a disfigurement and a thing of shame. For those who believe that physical completeness extends into an afterlife, anything that mars their body or disfigures them is of serious concern and can cause depression (Ryan, 1993). Historically, the lives of people with non-healing wounds are affected by it. Under the Old Testament law in the Bible, any person found with sore of leprosy should be treated as unclean and should "dwell alone, making his abode outside the

camp,”(Leviticus 13:46) thus the social ostracisation of persons with CW. It is also known that social activities are restricted due to fear of further injury and negative body image in people who live with chronic wounds of any kind. (Chase, 1995) Patients, who suffer chronic wounds, may have other problems which include infections, exudates, and foul smell, psychological and emotional stresses. This may affect their ego, body image, morale and self-esteem, which adversely affect other qualities of life. The management and care of the wound, depending on the part of the body affected, duration and extent, may create a significant burden on the patient, his/her immediate family members and the healthcare system. In the United States of America, CW affects about 5.7 million patients and costs an estimated 20 million dollars annually to care for these patients. (Moreo, 2005) Although CW represents a major health burden, the exact number of people affected and the monetary cost of managing CW in Nigeria are poorly documented. (Adigun, Rahman, Yusuf & Ofoegbu, 2010). When wound healing is delayed, coping with the stress of managing or living with it may become significant. The patient may begin to experience psycho-social problems in relationships with spouse(s), family members and friends. Financial distresses and expressions of worries and anxiety are not farfetched. Activities of daily living like bathing, grooming, cooking, eating, etc. may also become challenging. Disturbance in sleep patterns and attendant distortion in mental balance may also be experienced and these could significantly worsen the patient’s quality of life. The management of Chronic Wounds, therefore, demands an approach to the whole person, with attention to the physical, cultural, economic, religious, social and psychological aspects of life of the individual, not just the care of the wound, since all these aspects could be affected, by

the presence of Chronic Wounds. The nurse, as a wound manager, ought to be involved in this holistic approach to wound care.

1.2 STATEMENT OF THE PROBLEM

Chronic Wounds constitute a significant source of morbidity to the affected patients. The impact of chronic wounds on patient Health Related Quality of Life (HRQoL) can be devastating and individuals may experience a wide range of adverse effects on their everyday lives (Rahman, 2010). There are studies on Chronic Wound etiology, approach to care, as well as trends in the management. These studies do not address issues relating to quality of life in the patients. There is therefore a need to explore issues relating to quality of life and wellbeing among patients with CW.(Adigun, Rahman & Fadeyi, 2010) There is dearth of knowledge on correlation between chronic wounds and quality of life in this part of the world, especially in Nigerian setting. These form the basis of this study.

1.3 RESEARCH QUESTIONS

This study seeks to answer the following questions:

Major research question

What is the correlation between Chronic Wounds and Quality of Life among Surgical patients in Ife/Ijesa communities of Osun state?

Specific questions

- I. What is the quality of life of patients with Chronic Wounds?
- II. What is the chronicity of wounds among surgical patients?
- III. What are the factors responsible for Chronic Wounds among surgical patients in Ife/Ijesa communities?
- IV. What are the effects of Chronic Wounds on the Mental Health of Surgical patients in Ife/Ijesa communities?

1.4 OBJECTIVES OF THE STUDY

Broad objective: The main objective of this study is to examine the correlation between chronic wounds and quality of life among surgical patients in Ife/Ijesa communities of Osun state.

Specific Objectives

The specific objectives of this study are to:

- a. examine the quality of life of patients with Chronic Wounds;
- b. determine the chronicity of wounds among surgical patients;
- c. identify the factors responsible for chronic wounds among the study population; and
- d. determine the effects of chronic wounds on the mental health of surgical patients in the study area.

1.5 SIGNIFICANCE OF THE STUDY

The result of this study might provide data that may serve as basis for planning strategies to improve the management of chronic wounds. These results may further provide information, which will be used to determine the need or otherwise, for additional mental health or other interventions in these patients. It could also provide enlightenments on areas that require further studies in the nursing management of chronic wounds.

Findings also hold the potentiality of contributing to the existing body of knowledge on management of patients with Chronic Wounds.

1.6 LIMITATION

This study was conducted in the southwestern part of Nigeria, so there may be a cultural bias. The information that the study generated were subjective and this may affect the accuracy and precision. In addition, the adapted instruments had to be translated to Yoruba language; it is possible that slight alterations might have taken place in the course of translation.

1.7 DELIMITATION OF THE STUDY

The study is delimited to CW patients who are registered and are being managed by the four hospitals selected for the study. These are the Ife Hospital Unit, Ile-Ife and Wesley Guild Hospital (WGH), Ilesa, of the Obafemi Awolowo University Teaching Hospitals' Complex (OAUTHC), as well as two General Hospitals at Oke-Ogbo, Ile-Ife and Ilaje, Ilesa.

1.8 DEFINITION OF TERMS

For the purpose of this study, the following terms are operationally defined as follows:

- I. Correlation:** the link that exists between Chronic Wound and the quality of life of the people with it.
- II. Chronic wounds:** open disruption of skin anatomy associated with or without discharge, pain or other symptoms and has lasted for a minimum of three months.
- III. Quality of life:** the ability of an individual to still enjoy normal life activities.
- IV. Wellbeing:** the state of good or satisfactory condition of being comfortable, happy, healthy and prosperous.
- V. Life satisfaction:** an objective way a person perceives or evaluates how his/her life has been and how it may likely turn out in the future

VI. Surgical patients: Male and Female individuals who have surgically related causes of Chronic Wounds.

VII. Ife/Ijesa Communities: Hospitals in Ile-Ife and Ilesa

CHAPTER TWO

2.0 LITERATURE REVIEW

This chapter provides the overview of chronic wounds, a review of literature on some common Chronic Wounds, the incidence and prevalence, the role of nurses in CW care. It also discusses quality of life and instruments used in its assessment. It further elucidates the factors affecting wound healing and the impact of CW on the physical, social and mental wellbeing of the patients as well as the theoretical and conceptual frameworks of this study.

2.1 OVERVIEW OF CHRONIC WOUNDS

The Wound Healing Society (WHS) defines a Chronic Wound as one that has ‘failed to proceed through an orderly and timely repair process to produce anatomic and functional integrity’ (Robson, 2007). Such wounds involve damage to underlying tissues and structures as well as the integrity of the skin itself. Wounds occur in a myriad of shapes and sizes and may be categorised based on their cause, duration and degree or depth of tissue loss. Tissue loss in wounds may be minimal like those resulting from surgical incisions, minor abrasions, scalds, minor bites, etc. However, those with significant tissue loss are more likely to progress to CW. These include; leg ulcers, pressure sores, burns, severe lacerations or avulsions, severe gunshot wounds and post infective wounds.

The estimation of the worldwide prevalence of wounds is as follows: surgical wounds: 40–50 million, leg ulcers: 8–10 million, pressure sores: 7–8 million and burns: 7–10 million. (Braday, 1999)

As the USA population ages, the incidence of chronic wounds is expected to rise significantly to an estimated 5–7 million (Petrie, 2003). Venous leg ulcers are the most common type of chronic wound, with an incidence of 2.5 million each year. There have been several reviews of the epidemiology of venous insufficiency in the developing world (Morrison, 2007). In china, the incidence of chronic ulcers in surgical hospitalised patients is 1.5-20.2 per 100. (Fu, 1998)

2.2 THE PROCESS OF WOUND HEALING

The healing process of a skin wound follows a predictable pattern. However, a wound may fail to heal if one or more of the healing stages are interrupted, by one reason or the other; this leads to non-healing, complex or chronic wounds. Basically, there are three main stages of wound healing. These are:

- **Inflammatory stage:** This starts immediately a fresh wound is formed. The blood vessels at the wound site constrict and tighten up so as to control blood loss. Platelets that serve as special clotting cells gather together and there is a clot formation. Once the clot formation is completed, the blood vessels expand to allow maximum blood flow to the wound. This is why a healing wound at first feels warm and looks red. There is an

increased supply of white blood cells to the area, so as to destroy microbes and other foreign bodies. Also, skin cells multiply rapidly and grow across the wound that has been formed.

- **Fibroblastic stage:** during this phase of wound healing; collagen, the protein fiber that gives skin its strength, starts to grow within the wound. This encourages the edges of the wound to shrink together and close. Small blood vessels (capillaries) are formed at the site to service the new skin with blood.
- **Maturation stage:** Here, the body constantly adds more collagen and refines the wounded area. This may take months or even years depending on the size and location of the wound. This is why scars tend to fade with time and wounds must be cared for, for some time even after they have healed.

2.3 FACTORS AFFECTING WOUND HEALING

So many things contribute to effective wound healing process and follow the normal stages. Several factors could affect the rate of wound healing. These can be grouped into patient, psychological and social factors.

PATIENT FACTORS: These are factors that are embedded in the person that has the wound but have direct effect on the healing process of the wound. It includes the nutritional status, age, drug consumption, as well as other things that are paramount to the wound itself.

Nutritional Status

Wound healing requires an adequate supply of macro and micronutrients. Deficiencies can result in poor wound healing, reduced tensile strength, wound dehiscence and increased vulnerability to infection and poor quality scars. During the proliferative phase, granulation, epithelialisation and contraction all occur faster in a moist environment. Therefore, the patient must not become dehydrated.

Age

In advancing age many processes slow down. The inflammatory response is reduced; therefore the risk of infection is increased. Collagen metabolism is reduced with the resulting scar being more fragile and there is less support for blood vessels thus making them more prone to damage (Desai, 1997) It is more likely that other medical problems, which are common in the elderly, slow down the healing process more than age itself.

Drugs

There are a variety of drugs that can impair the healing process, for example, Corticosteroids and non-steroidal inflammatory drugs reduce the normal inflammatory response. Corticosteroids impede the healing process by suppressing the synthesis of fibroblasts and collagen and slowing down epithelialisation. There is also a reduction in DNA synthesis. Long term use of corticosteroids can cause thinning of the skin. Aspirin and anticoagulants may cause excessive bleeding with the potential of a haematoma if not given in the correct dosage. Immunosuppressive drugs reduce leucocyte activity which reduces the inflammatory response

and increases the risk of infection. Cytotoxic drugs interfere with cell proliferation including cells needed for wound healing.

Dressings

the use of dressings, which adhere to the wound bed, and the inappropriate usage of antiseptics can all lead to the hindrance of wound healing.

Foreign Bodies

Foreign bodies in the wound may be due to the presence of grit, parts of old dressings, suture material, staples, etc. These set up an inflammatory response, which may increase the length of the inflammatory phase.

Wound Temperature

Frequent dressing changes and the use of cool cleansing solutions will reduce wound temperature. Cell division takes place at normal body temperature and with a drop of 1°C it will take up to three hours for mitotic cell division to restart. This will inevitably slow down the healing process. (Lock, 1980)

Vascular and Oxygen supply

A good blood supply is needed for wounds to heal. Taking excessive quantities of caffeine (coffee, cola drinks, or chocolate) or a high nicotine intake (smoking) can lead to vasoconstriction and lead to reduced tissue perfusion of the wound area. Shock, hypoxia, diseases such as anaemia and chronic obstructive airways disease, or an impaired arterial blood supply may cause a reduced supply of oxygen getting to the wound. Although angiogenesis is

stimulated by hypoxia, an adequate oxygen supply is required by the wound. Without it collagen synthesis and epithelialisation are impaired.

Surgical Techniques

If tissue is handled roughly during surgery, it may become devitalised and provide a focus for infection. A haematoma may form if haemostasis is not achieved which can cause tissue damage by exerting pressure at the wound edges and is also a perfect environment for bacteria to grow. If sutures or staples are put in too tightly then tissue will become damaged.

Stress: this can be caused by a variety of things such as hypoxia, hypothermia, pain and psychological issues. Whatever the cause, the net effect is the same - the sympathetic nervous system is stimulated: excess levels of noradrenaline will cause vasoconstriction and a diminished perfusion to the wound. (West, 1990) Glucocorticoids are also released which inhibit fibroblast activity, collagen synthesis and granulation tissue formation so delaying wound healing. (Flanagan, 1997)

Obesity: Wound dehiscence and wound infection are increased in an obese person due to a decrease in perfusion to the wound.

Infection: Healing is delayed as bacteria compete with macrophages and fibroblasts for oxygen within the wound. There can be further tissue damage from this inflammatory response and abscesses may be formed. As the wound returns to the inflammatory phase, healing is slowed down.

Other Diseases: Various disease conditions have an influence on wound healing process. Such conditions include diabetes, malignancy and respiratory diseases, among others. There is a high risk of infection in diabetic patients because high blood glucose levels will encourage invading microorganisms to multiply and hyperglycaemia has a damaging effect on phagocytosis. Both of these will increase the risk of infection and impede wound healing and thus making it chronic. In malignancy, patients may have to treat cancer with chemotherapy or radiotherapy. Radiotherapy can produce local skin damage and also slows down healing. It has a fibrosing effect on local blood vessels as well as reducing the amount of fibroblasts and endothelial cells.(Cutting, 1994) In respiratory diseases like chronic obstructive airways disease; the amount of oxygen to the wound bed is diminished, so causing a hypoxic state and leaving the tissues dead and difficult to heal.

PSYCHOLOGICAL FACTORS:

Interference with daily activities

Patients may not be able to continue with work if dressings are to be done daily or if the wound interferes with mobility or dexterity of movement. Equally, patients may feel embarrassed to continue with social activities for the same reasons.

Motivation

Poor motivation of the patient/carers can affect treatment concordance, as they may lack the capability to continue with the recommended treatment of the wound. This may also be linked to a lack of knowledge or understanding of the wound and how it is to be managed.

Anxiety/depression

Patients may become anxious or depressed if there is lack of progress of the wound i.e. it is not healing or depression may lead on from isolation.

Isolation

Many patients may suffer what (Bernstein, 1980) describes as 'social death'. After discharge they get lost to any follow-up, and retreat into sheltered lives, never able to re-enter society fully. This may be especially true if the wound is visible to others or malodorous. This prevents proper care and the wound gets complicated,

Social Stigma

Effect of surgery on the body and the resulting scar can alter the patient's body image as can also the type/color of dressing applied. If the wound is visible to others, other people's reactions e.g. staring, questioning may make the patient very conscious of their wound leading to avoidance of social contact e.g. a wound on the face, bandages on the leg.

Negative Attitude of Staff

This may be due to lack of knowledge or insight into the problems of people who have wound. e.g. staff may not believe how much pain the patient is in and therefore not enough analgesia is given and the patient gets wrongly labeled as 'difficult' and not properly cared for. With chronic wounds of long duration, the health professional may purely focus on the wound to be managed, rather than how the wound is affecting the whole person. When caring for malodorous wounds, the health professionals must be aware of how they

cope with the smell or even the sight of an unpleasant looking wound or else a repulsive attitude will degenerate to an interaction that will discourage the patient from continuing with the care.

SOCIAL FACTORS:

Poverty The Black Report (Townsend, 1982) found that people who were living in poverty were more likely to become ill than those that were fairly affluent. Poverty can lead to a poor nutritional intake, which is important for wound healing. It can also affect the patient's ability to afford to have sufficient heating during cold weather, so causing peripheral vasoconstriction and a decreased blood supply to the wound.

Lifestyle: The lifestyle of the patient can influence wound healing, especially if the person smokes, drinks excessive amount of alcohol or abuses drugs or patronizes different care centers.

Housing: Poor housing can mean a lack of cleanliness, poor personal and environmental hygiene, so increasing the risk of wound infection leading to chronic wound.

Cultural beliefs: These may have an influence on diet e.g. fasting or which dressings can be used as some contain porcine or bovine within them. Some proteinous food may be culturally prohibited, not considering the place of protein requirement in wound healing. Some patients may also have objections to being 'cared for' by members of the opposite sex, which may in turn affect their wound healing and predispose them to wound chronicity.

2.4 COMMON CHRONIC WOUNDS

Some common Chronic Wounds include the following:

Venous Ulcers These result from inadequate venous drainage particularly in the lower limbs and is commonly due to dysfunction of the valves in the veins, resulting in poor venous return with pooling of blood. This results in poor tissue perfusion and subsequent ischemia and necrosis of the overlying skin and subcutaneous tissues. It is the commonest cause of CW all over the world (Morrison, 2007)

Arterial Ulcers These are due to occlusive arterial disease that results in ischaemia, poor tissue perfusion and eventual ulceration. They are commonly found in the lower limbs and are usually oval in shape and may be associated with gangrene of the toes in severe conditions.

Diabetic Foot Ulcers (DFU) These are CW that develop in people with diabetes mellitus (DM) and are common in the lower limbs. DM causes neuropathy which results in hypoesthesia and loss of protective sensation. Pressure can therefore go unnoticed, resulting in pressure ulcer. Diabetic arteriosclerosis may also cause occlusive arterial disease and contribute to ulceration as described under arterial ulcers above. Minor injuries which would otherwise heal may also become infected from immunosuppression which occurs in DM patients.

Traumatic Ulcers commonly result from road traffic injuries or other accidental causes. When tissue loss is much and/ or wounds are poorly treated, or patient has an underlying

comorbid pathology, chronicity may result making the wound to last longer than normal. This is the most common cause in our environment. (Oluwatosin, 2007)

Post-Surgical Wounds: These wounds result from complications of surgery such as suture line dehiscence, that usually follows infection. In addition, the presence of foreign materials such as suture materials, mesh, implants and exposed bone fragments, necrotic tissue may cause chronicity by complicating the wound with infection .

Pressure Ulcers These wounds are caused by prolonged, unrelieved pressure to a local area of the body, typically around bony prominences like the heels, ankles and sacrum. This pressure is aided by other factors, such as friction, shear forces, moisture and undernutrition. When pressure ulcers occur in bedridden patients such as the paraplegic and unconscious patients, it is called bed sores or decubitus ulcer.

Infections Poorly managed or virulent infections like cellulitis, necrotizing fasciitis, and pyomyositis often result in chronic wounds.

Chronic wounds may be caused by a variety of other factors, such as vascular diseases, diabetes, hemoglobinopathies, immunosuppression from HIV AIDS and malignancies.

2.5 MANAGEMENT OF CHRONIC WOUNDS

The management of chronic wounds is multidisciplinary and involves the role of various health care personnel depending on the cause or factors responsible for chronicity. These may include; nurses, surgeons, dietiticians, nutritionists, podiatrists, endocrinologists, phlebologist

etc depending on the cause of the wound. However, the focus of this discussion will be on surgical treatment and the role of nurses.

2.5.1 SURGICAL TREATMENT OF CHRONIC WOUNDS

Chronic wounds are treated through various modalities available depending on the cause of chronicity of each. Several methods are available to expedite healing of the clean wound. After a chronic wound is brought into a steady clean state, a decision must be made about allowing it to heal by natural processes or expediting healing with a surgical procedure. Clinical experience and observation of the healing progress in the individual case dictate the appropriate treatment.

Aside procedures like debridement, surgical options include skin grafting, application of bioengineered skin substitutes and use of flap closures are modalities of managing CW.

- **Skin grafting:** There are different types. Autologous skin grafting is the criterion standard for viable coverage of partial-thickness wounds. The graft can be harvested with the patient under local anesthesia in an outpatient procedure. Meshing the graft allows wider coverage and promotes drainage of serum and blood. This also can be approached from different means. Example is cadaveric allograft which is useful in covering relatively deep wounds after surgical excision when the wound bed does not appear appropriate for application of an autologous skin graft.
- **Application of bioengineered skin substitutes:** Several pharmaceutical products available in this century for use include; Apligraf made by Organogenesis; Novartis a bilayered skin substitute produced by combining bovine collagen and living cells derived

from tissue-cultured human infant foreskins. Dermagraft made by Smith & Nephew, Inc is a human fibroblast-derived dermal substitute manufactured by seeding dermal fibroblasts into a 3-dimensional bio absorbable scaffold. It is being used for the treatment of CW like diabetic foot ulcers, venous ulcers, and pressure sores. A clinical trial showed improved healing rates in diabetic foot ulcers. Another one is Oasis from Healthpoint, Ltd, its a relatively new product, a xenogeneic acellular collagen matrix derived from porcine small intestinal submucosa in such a way that an extracellular matrix and natural growth factors remain intact. This provides a scaffold for inducing wound healing. It is contraindicated in patients with allergies to porcine materials. Cultured epithelial autograft made by Epicel; Genzyme Tissue Repair, Cambridge, Mass is an epidermal replacement that is grown in a tissue culture from a skin biopsy taken from the recipient and is co cultured with mouse cells. Preparation of this graft requires about 2 weeks of culture time.

- **Use of flap closures:** Delayed primary closure of a chronic wound, requires well-vascularised clean tissues and tension-free apposition. This usually requires undermining and mobilisation of adjacent tissue planes by creating skin flaps or myocutaneous flaps to cover defects.

2.5.2 THE ROLE OF NURSES IN CHRONIC WOUND CARE

The approach to care in chronic, non-healing, wounds demands comprehensive team work. The ultimate goal is the restoration of tissue integrity that is compromised but achieving

a good result requires individualising the patient and conducting a detailed wound and patient assessment before decision is made on treatment options.(Krasner, 2007) (Boxer E., 1999) The role of nurses therefore includes

I HEALTH EDUCATION OF PATIENTS AND FAMILY MEMBERS:

Nurses are involved in the education of patients and family members on the proper ways to care for their wounds, the need for compliance with treatment regimen, proper nutrition, consenting to surgical procedures like skin grafting or its repeat when necessary. People with chronic conditions often use traditional medicine before, or together with orthodox or modern medical treatment. This is a common occurrence in chronic wound patients, who have been observed to combine two or three other places of care with the hospital care concurrently. (Burford, 2007) Health education is therefore vital for the patients to harmonise the sources of management of wound care and avoid conflicting or inconsistent treatment methods and options which could result in chronicity.

II PLANNING OF CARE

Wound care nurses work as part of a team. They coordinate care with other health professionals to ensure the patient receives everything he/she needs for healing. Nurses that work with other wound managers, offer suggestions with their experiences on both short and long-term care strategies. In addition, they frequently bring in other experts to address factors such as diet, which is crucial to support healing. They might also recruit social workers and case managers to oversee the patient's at-home care, especially in cases where the patient has no

one to act as a caregiver or his family needs additional support. The exact reason for wound chronicity is usually established before the treatment plan is consolidated.

III WOUND DRESSING

Proper wound care is often complex. There are several wound cleansing and dressing products available in the market today. Each of these has special or specific uses to maximise their benefits to wound care. A wound care nurse needs to be familiarised with these and update knowledge regularly to keep abreast of development in the field.

IV FOLLOW UP CARE:

In the care of chronic wounds, the nurse is involved in treatment and follow up to prevent recurrence. In addition to directly treating the wound. Wound care nurses attempt to minimise pain, other issues about the patient and improve the patient's quality of life. The social worker nurse has an important role to play in this regard.

Holistic wound healing is then aimed at tissue perfusion, nutritional support, mobility, incontinence management, pain control, rehabilitative conditioning and maintenance of self-esteem so as to achieve improved outcomes of greater function and aesthetic appearance. (Krasner, 2007)

2.6 IMPACT OF CHRONIC WOUNDS

The existence of a wound can have both physical and psychological consequences on the CW patient. The physical effects like pain, wound exudates and the need to heal an obviously disfiguring wound often receive the most attention. However, the psychological consequences of having a wound may be equal if not more impactful on these patients. There is considerable evidence that wounds can lead to negative emotional states such as anxiety and depression (Guo, 2010) which in turn can affect wound healing. This was seen by examining the prevalence of anxiety and depression in 190 patients with chronic venous ulceration using the Hospital Anxiety and Depression Scale (HADS). The results indicated that 27% of patients were identified as depressed and 26% were identified as being anxious (Jones, 2006)

There is evidence that suggests that psychological factors exacerbates the severity of the wound and its ability to heal which further heightens psychological problems. (Upton, 2011)

Surgery is a threatening experience, with multiple stressful components concerns about one's physical condition, admission to a hospital, anticipation of painful procedures, wound that will result from surgical incision, worries about survival and recovery, and separation from family and operations that physicians even consider "minor" can provoke strong emotional reactions in patients. If such surgical wounds end up as CW, these psychological responses may intensify, leading to stress, sleep disturbances, negative mood and social isolation. Besides, a greater distress or anxiety prior to surgery is associated with a slower and more complicated postoperative recovery. (Johnston, 1990) It has been shown that

psychosocial interventions administered before surgery have generally demonstrated positive effects on postsurgical psychological and physical healing and function.

2.7 QUALITY OF LIFE

Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life.(WHO, 1998) It is the perception that an individual has about his her daily life. It is a personal assessment of one's status of wellbeing which includes emotional, social, physical and mental aspects. Health is one of the important domains of overall quality of life, there are other domains as well; for instance, job, housing, school, the neighborhood, etc. Aspects of culture, values and spirituality are also key aspects of overall quality of life. These make QoL, wellbeing and life satisfaction issues inseparable. From health care and nursing perspective then, it is an assessment of how the individual's wellbeing may be affected over time by disease, disability or disorder. Well-being is a positive outcome that is meaningful for people and for many sectors of society, because it tells us that people perceive that their lives are going well. Well-being generally includes global judgments of life satisfaction and feelings ranging from depression to joy. (Diener, Scollon & Lucas, 2009)

Subjective well-being typically refers to self-reports contrasted with objective indicators of well-being. The term, "positive mental health" calls attention to the psychological components that comprise well-being from the perspective of individuals interested primarily in the mental health domain. From this perspective, positive mental health is a resource, broadly inclusive of psychological assets and skills essential for well-being.

Life satisfaction is the way a person evaluates his or her life and how he or she feels about where it is going in the future. It is a measure of well-being and may be assessed in terms of mood, satisfaction with relationship with others and with achieved goals, self-concepts, and self-perceived ability to cope with daily life. It is one of three major indicators of well-being: life satisfaction, positive and negative affect. (Diener, 1984)

One of the most affected aspects of quality of life by chronic wounds is the mental/psychosocial health.

2.8 MEASUREMENT OF QUALITY OF LIFE

The scope of Quality of Life makes it challenging to measure. Although the term may be a concept in almost everyone, its meaning may vary widely between individuals and groups due to its subjective interpretation. Measuring Health Related Quality of Life could streamline its evaluation in patients with diseases thereby providing valuable new insight into the burden of such disease, injuries, and disabilities

The instruments employed in the measurement of quality of life in this study are: the World Health Organisation – five, wellbeing index (WHO-5), the General health Questionnaire with twelve questions (GHQ-12) and the Hospital anxiety and depression scale (HADS)

WHO (FIVE) WELLBEING INDEX (WHO-5)

This is a questionnaire with five items that measures current mental well-being on a Lickert scale. It measures current mental well-being with the individual looking at a time frame in

considering the state of health (the previous two weeks.) It has cross cultural validity to measure subjective positive well-being. The WHO-5 five items are:

- a) feeling cheerful and in good spirits,
- b) feeling calm and relaxed,
- c) feeling active and vigorous,
- d) feeling fresh and rested when waking up, and
- e) feeling interested in day-to-day activities.

The Likert answer categories, which take the past two weeks into account, range from “all of the time” to “at no time”. As it is in the SF-36 (a quality of measurement scale) the total score on the WHO-5 ranges from 0 to 100, where high scores signify better well-being. Decreased positive well-being as measured on WHO-5 is a sensitive indicator of mental health problems.

The raw score is calculated by adding up the figures scored in each of the five answers. The raw score ranges from 0 to 25, 0 representing the worst possible and 25 representing best possible quality of life. To obtain a percentage score ranging from 0 to 100; the raw score which has a maximum of 25 is multiplied by 4 to give a maximum total of 100 per cent. A percentage score of 0 represents worst possible, whereas a score of 100 represents best possible quality of life.

Subjective psychological well-being or health-related quality of life is often considered to be a rather individualistic, personal or idiographic issue, implying that a cross-cultural definition is very difficult to obtain. Subjective well-being might in the first place be considered as a self-reflective, private language in which the person is communicating with herself or himself from the moment when she or he wakes up, perceiving and planning the day, having emotional appetite for starting his or her day. The WHO-5 items seem to cover basic life

perceptions of well-being, allowing this private language to be translated into a simple language of communication.

GENERAL HEALTH QUESTIONNAIRE (GHQ-12)

The General Health Questionnaire (GHQ-12) is a 12-item inventory which derives, in its basic format, from Goldberg's 60-item General Health Questionnaire. It assesses current mental health in adults. Since its development by Goldberg in the 1970s (D. P. Goldberg, & Blackwell, B., 1970) it has been extensively used in different settings and cultures. The questionnaire was originally developed as a 60-item instrument but at present a range of shortened versions of the questionnaire including the GHQ-30, the GHQ-28, the GHQ-20, and the GHQ-12 are available. (D. P. Goldberg, & Williams, P., 1988)

The GHQ-12 used in this study is brief, simple, easy to complete, and has twelve question items. Its application in research settings as a screening tool is well documented. It helps to identify persons whose mental condition has undergone a temporary or long-term breakdown due to either experienced difficulties, problems or mental illness and also persons at risk of mental health disorders.

The GHQ-12 yields only a total score indicative of the patient's mental condition. A common scoring method is the Likert scoring style (0-1-2-3), this gives a range of score between 0 and 36 from the twelve questions, from 0 to 3 from each question. The scale asks whether the respondent has a recent experience of a particular symptom or behaviour. Each item is rated on a four-point scale. E.g. (less than usual, not more than usual, rather more than usual, or much more than usual)

Information which is indicative of distress or psychological problems such as sickness absence, poor productivity or increased turnover. Possibly, the most common assessment of mental well-being is the GHQ.

Scores about 11-12 typical.

Score >15 evidence of distress

Score >20 suggests severe problems and psychological distress.

HOSPITAL ANXIETY AND DEPRESSION SCALE (HADS)

This scale was originally developed by Zigmond & Snaith in 1983, and is commonly used to determine the levels of anxiety and depression that a patient is experiencing when faced with health challenges. The HADS is a fourteen item scale that generates ordinal data. Seven of the items relate to anxiety and seven relate to depression.(Zigmond, 1983) They created this outcome measure specifically to avoid reliance on aspects of these conditions that are also common somatic symptoms of illness, for example fatigue and insomnia or hypersomnia. This is a tool for the detection of anxiety and depression in people with physical health problems like chronic wounds.

Items on HADS questionnaire:

a) The items on the questionnaire that relate to **ANXIETY** are

- I feel tensed or wound up
- I get a sort of frightened feeling as if something bad is about to happen
- Worrying thoughts go through my mind

- I can sit at ease and feel relaxed
- I get a sort of frightened feeling like butterflies in the stomach
- I feel restless and have to be on the move
- I get sudden feelings of panic

b) The items that relate to **DEPRESSION** are:

- I still enjoy the things I used to enjoy
- I can laugh and see the funny side of things
- I feel cheerful
- I feel as if I am slowed down
- I have lost interest in my appearance
- I look forward with enjoyment to things
- I can enjoy a good book or radio or television program

SCORING THE HADS QUESTIONNAIRE: Each item on the questionnaire is scored from 0-3 and this means that a person can score between 0 and 21 for either anxiety or depression. It uses a scale and therefore the data returned from the HADS is ordinal.

SCORING ANXIETY OR DEPRESSION: The total scoring for Depression is done separately from anxiety by adding it up. The interpretation goes thus: 0-7 is Normal, 8-10 is Borderline abnormal (borderline case of either depression or anxiety) and 11-21 is Abnormal (case of anxiety or depression) as the case may be.

2.9 THEORETICAL FRAMEWORK: BIO PSYCHOSOCIAL MODEL

Introduction: Bio-psychosocial model or BPS is used as the framework for examining the variables involved in this study. It is a general model that was theorised by a specialist in Psychiatry, at the University of Rochester. (Engel, 1977)

It considers the man in its entirety in perspective as a whole. BPS is an approach positing that biological, psychological and social aspects of man cannot be separated from one another completely. It has a holistic approach in looking at man. The biological or physical aspect entails the body make up, the psychological entails his thoughts, emotions, and behaviors, while the social has to do with domestic, economic, etc. These are all significantly involved in human functioning in the context of disease or illness. Indeed, health is best understood in terms of a combination of biological, psychological and social factors rather than purely in biological terms. This is in contrast to the traditional, reductionist biomedical model of medicine that suggests every disease process can be explained in terms of an underlying deviation from normal function such as a pathogen, genetic or developmental abnormality, or injury only. The bio-psychosocial paradigm is also a technical term for the popular concept of the "mind–body connection", which addresses more philosophical arguments between the bio-psychosocial and biomedical models, rather than their empirical exploration and clinical application. (Engel, 1980)

Description and Application: BPS is illustrated with figure 2.1.

The biological component seeks to understand how the cause of the illness stems from the functioning of the individual's body. The psychological component looks for potential

psychological causes for a health problem such as lack of self-control, emotional turmoil and negative thinking.

The **social** part of the model investigates how different social factors such as socioeconomic status, culture, poverty, technology and religion can influence health.

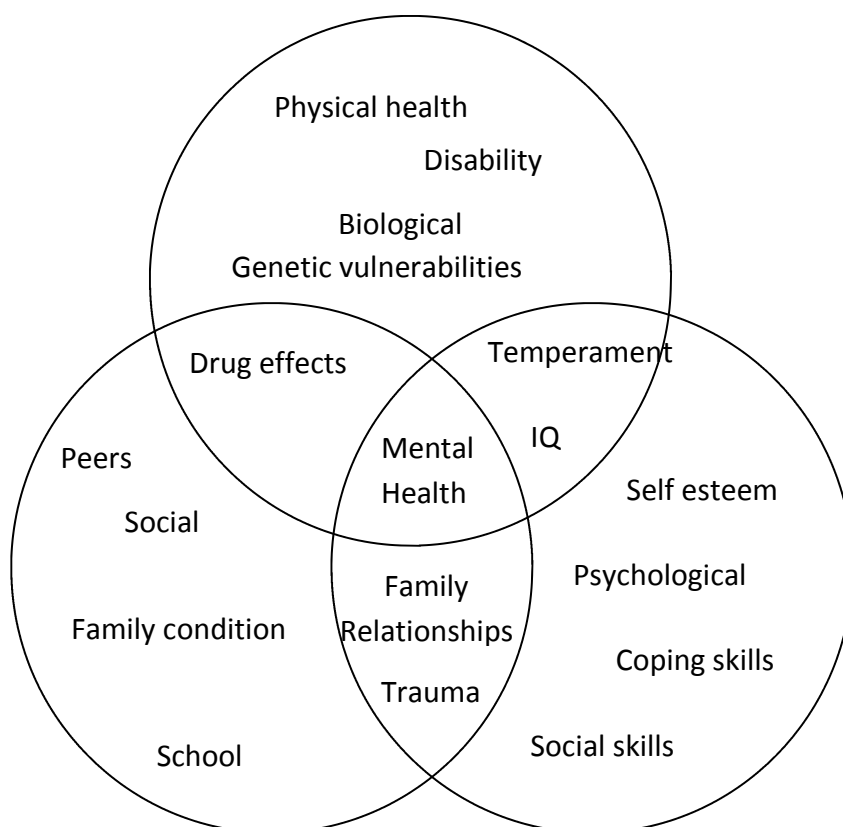


Figure 2. 9: Bio psychosocial model of health adopted for the study

BPS of health is based in part on social cognitive theory. It implies that treatment of disease condition, for instance chronic wound requires that the health care team addresses biological, psychological and social influences upon the patient's functioning as a whole. In a

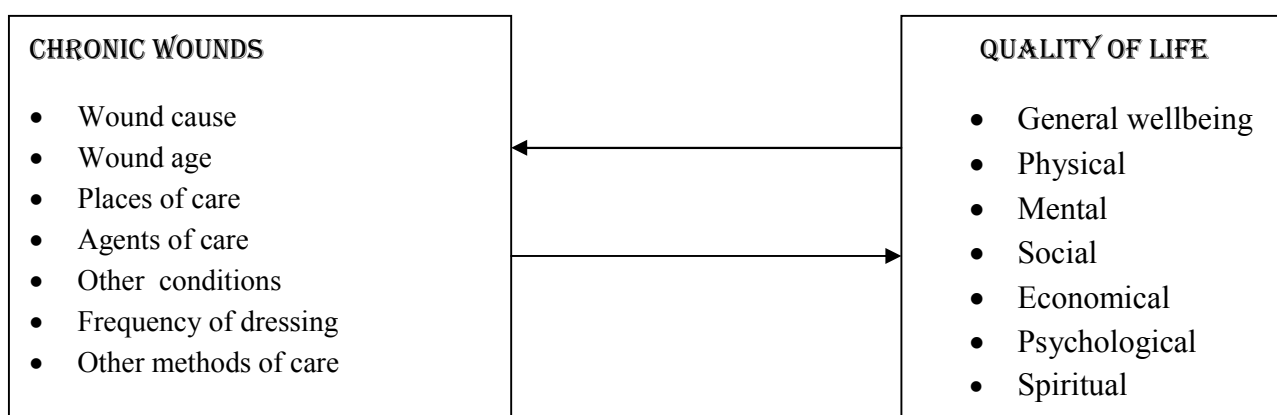
philosophical sense, the bio psychosocial model states that the workings of the body can affect the mind, and the workings of the mind can affect the body. This means that there is both a direct interaction between mind and body as well as indirect effects through intermediate factors. The model thus presumes that it is important to handle the three together. As a growing body of empirical literature suggests that patient perceptions of health and threat of disease, as well as barriers in a patient's social or cultural environment, appear to influence the likelihood that a patient will engage in health-promoting or treatment behaviors, such as medication taking, timely wound dressing, proper diet or nutrition and engaging in physical activity.

Integrated teams which may comprise physicians, surgeons, dieticians, pharmacists, nurses, health psychologists, social workers, and other specialties should always address the three aspects of the BPS framework, not to focus on predominantly biological mechanisms of the patient's complaints. The care should be directed to the whole person, not just the hole of the wound.

It is important to note that the BPS model does not provide a straightforward, testable model to explain the interactions or causal influences (that is, amount of variance accounted for) by each of the components (biological, psychological, or social). Rather, the model has been a general framework to guide theoretical and empirical exploration, which has amassed a great deal of research since Engel's 1977 article. One of the areas that have been greatly influenced is the formulation and testing of social-cognitive models of health behavior over the past 30 years. While no single model has taken precedence, a large body of empirical literature has identified social-cognitive (the psycho-social aspect of Engel's model) variables that appear to influence engagement in healthy behaviors and adhere to prescribed medical regimens, such as self-

efficacy, in chronic diseases such as type 2 diabetes, chronic wounds, etc. The treatment of should be directed to the three aspects of man for effectiveness and maximum efficiency.

2.10 CONCEPTUAL MODEL



**Figure 2.10 Conceptual model of the relationship between chronic wounds and quality of life.
(Author's model adapted for the study)**

The model shows the relationship between CW and QoL among the surgical patients with chronic wounds in Ife/Ijesa communities. As shown, the different issues around the existence of CW contribute to the different aspects of the person's health and thus the QoL. This is indicated by the arrow that links the two.

It could be inferred from the model that the QoL of individuals with CW is directly determined by several circumstances that surround the wound.

2.11 STATEMENT OF HYPOTHESES

1. There is no significant relationship between chronic wounds and quality of life.
2. There is no significant difference in chronic wounds of male and female patients.

CHAPTER THREE

3.0 METHODOLOGY

This chapter focuses on the procedures that were adopted in this study. It discusses research design, the setting of the study, the target population, sample selection and sampling procedures and the development and administration of instruments for data collection. It also includes the pilot study, ethical consideration, data collection procedures and method of data analysis.

3.1 RESEARCH DESIGN

The study is a descriptive research on patients with chronic wounds. A combination of qualitative and quantitative methods of data collection was adopted to examine quality of life of CW patients in the study population. The respondents were recruited at the point of accessing care and data was generated with the use of questionnaire as well as key informant in-depth interview guide.

3.2 RESEARCH SETTING

This is a hospital-based research that was conducted on people with CW who reside within Ife and Ijesa Communities of Osun State, in Nigeria. Osun State is an inland state in south-western Nigeria. Its capital is Osogbo. The slogan or nick name is “**The Land of Virtue**”. It

is bounded in the north by Kwara State, in the east partly by Ekiti State and partly by Ondo State, in the south by Ogun State and in the west by Oyo State. Osun State is home to several of Nigeria's famous landmarks, including the campus of Obafemi Awolowo University, located in the ancient city of Ile-Ife, an important early centre of political and religious development for Yoruba culture. The State was created in 1991 from part of the old Oyo State. The name is derived from the River Osun. There are three senatorial districts in the state: Osun East, Central and West respectively.

Ife and Ijesa Communities make up the Osun East Senatorial district which is the largest of the three in the state in terms of landmass, with a population of over 1.2 million. The large area of tropical forest land is the home of two distinct and popular Yoruba sub ethnic groups, Ife and Ijesa. It is made up of ten Local Government Areas (LGAs). There are four in Ifeland and six in Ijeshaland. The local government areas are Ife Central, Ife East, Ife North, Ife South, Atakunmosa East, Atakunmosa West, Ilesha East, Ilesha West, Obokun and Oriade. The dominant language in this region is Yoruba with two major dialects of Ife and Ijesa. All the LGAs are metropolitan in nature with major cities surrounded by many adjoining and accessible villages. The dominant occupation and economic activities of the people centre around farming, agro allied productions, trading, artisanship, school administration, teaching and cottage industries. The district is also blessed with mineral deposits like gold, talc and feldspar. There are civil servants in the services of local, state and federal governments with numerous other corporate and private businesses.

Four hospitals were selected for the study, 2 from Ife (Ife Hospital Unit, IHU, of the Obafemi Awolowo University Teaching Hospitals Complex, OAUTHC, and the State hospital,

Oke-Ogbo, Ile-Ife) and 2 from Ilesa.(Wesley Guild Hospital, WGH, unit of OAUTHC and the General Hospital, Ilaje, Ilesa). The State Hospital, Oke-Ogbo, Ile-Ife and the General Hospital Ilaje, Ilesa are secondary health care facilities owned by the government of the State of Osun. The IHU, Ile-Ife, and WGH Ilesa, are the two tertiary hospitals units under Obafemi Awolowo University Teaching Hospitals' Complex (OAUTHC), located in Osun State. The Hospitals' complex is made up of six health care delivery units that serve either as primary care facility only or also as referral centres for several primary, secondary and tertiary health institutions. They are:

- i. Ife Hospital Unit, Ile-Ife.
- ii. Wesley Guild Hospital, Ilesa.
- iii. Urban Comprehensive Health Centre, Eleyele, Ile-Ife.
- iv. Rural Comprehensive Health Centre, Imesi-Ile.
- v. Multi-Purpose Maternal and Child Health Centre, Ilesa.
- vi. Dental Hospital, Obafemi Awolowo University (OAU) campus, Ile-Ife.

These tertiary hospital units had existed as separate entities prior to 1975 when they were merged by the federal government of Nigeria to serve as the Teaching Hospital for the University of Ife. The Ife hospital unit was a general hospital managed by the state government of the old Oyo state while the Wesley Guild hospital was established and managed by the Methodist Christian Mission. The corporate name of the Institution then was Ife University Teaching Hospitals' Complex, which was changed to Obafemi Awolowo University Teaching Hospitals' Complex in 1987 when the University of Ife was renamed after the late Chief

Obafemi Awolowo, an elder statesman and the first premier of the old Western Region of Nigeria, who died that year.

3.3 TARGET POPULATION

The primary target groups of this study are the adult male and female surgical patients with chronic wounds of three months and above in the setting described above which was more than ten thousand.

3.4 SAMPLING TECHNIQUE AND SAMPLE SIZE

Consecutive method of convenient non-probability sampling technique was used to select respondents for this study. This was done in the four selected hospitals where patients with chronic wounds from Ife and Ijesa communities access care.

The Sample size was determined using the Computer Program for Epidemiological Analysis (CPEA) employing the sample size formula for estimating single proportion described by Armitage and Berry.(Armitage, 1994) (Gahlinga, 1995)

$$N = \frac{Z\alpha^2 P (1-P)}{E^2}$$

Where N = Sample Size

$Z\alpha$ = Confidence level taken as 95% or 1.96

E = Maximum allowable margin of error taken as 5% or 0.05

P = Known prevalence or Expected frequency Taken as 3.6% or 0.036

$$N = \frac{(1.96)^2 \times 0.036(1 - 0.036)}{(0.05)^2} = \frac{0.133332}{0.0025} = 53.328$$

$$\text{Attrition calculation} = \frac{N}{1-0.1} = \frac{53.328}{0.9} = 59.2533.$$

This was approximated to 60.

3.5 CRITERIA FOR SELECTION INTO SAMPLE

All adult patients between the ages of eighteen and eighty (18-80) with chronic wound of three months or more, who are registered and are managed by the surgical units of the four selected hospitals and who willingly gave their consent were included. Patients who were too sick to cooperate, those who had memory deficit and could not provide required information about their health were excluded from the study.

3.6 DEVELOPMENT OF RESEARCH INSTRUMENTS

Two instruments were used for this study. A semi structured interviewer administered questionnaire and a key informant in-depth interview guide. (Appendix A) There are three sections in the questionnaire. Sections A comprised questions on socio-demographic data, section B questions were adapted from Hospital Anxiety and Depression Scale (HADS) (Zigmond, 1983) to determine the effects of chronic wounds on mental health while Section C which explored the status of wellbeing and quality of life of patients with CW was adapted

from The World Health Organisation – Five, (WHO-5) Well-Being Index and General Health Questionnaire -12 (GHQ-12). The key informant in-depth interview guide was self-developed to obtain qualitative data on factors responsible for CW.

These instruments were translated to Yoruba Language by an expert and another expert was engaged to translate it back to English to ensure no variations in the content.

3.7 VALIDITY OF THE RESEARCH INSTRUMENT

The validity of the instrument was established through face and content criteria. The different aspects of the adapted instruments were checked to include the questions that addressed the objectives of the study by the researcher. The content of the instrument was critically assessed by the supervisor and other experts in the Departments of Nursing, Psychiatry and Sociology all in Obafemi Awolowo University, Ile- Ife. The relevance of these questions was ascertained. Also the capability of the questions to elicit indepth facts from the respondents was assessed. The interview guide was also subjected to the same scrutiny, the questions found irrelevant in the interview guide were reconstructed or deleted.

3.8 PILOT STUDY

A pilot study was conducted at Ladoke Akintola University of Technology Teaching Hospital, (LAUTECH) Osogbo, Osun State Nigeria, after institutional and ethical consent was obtained. Ten (10) respondents with chronic wounds were selected with the same selection

and inclusion criteria for the main study from the Surgical Outpatient Department of LAUTECH. The test-retest technique was utilised to test the reliability of the research instrument and to ascertain their applicability in the setting of the study. The researcher and three trained assistants used the instruments to collect data with this instrument over a period of two days. Two weeks later the same instruments were administered to the same ten patients. The internal consistency reliability was assessed by calculating the Cronbach's alpha coefficient and was found to be 0.70. The questionnaire was therefore considered reliable for use.

After recruiting the participants in the hospital, the proposed plan was to follow them home in the community before using the self-developed interview instrument to get information from them in a relaxed environment. However, during the pilot study, all the respondents that consented to participate preferred to be interviewed in the hospital rather than at home. This was amended in the main study by proceeding to the interview after the questionnaire, in the hospital setting.

3.9 ETHICAL CONSIDERATION

Ethical approval for this research was obtained from Ethics and Research Committee (ERC) of Obafemi Awolowo University Teaching Hospitals' Complex, Ile-Ife (Appendix H). A letter of introduction from the Head of Department of Nursing Science and a copy of the ethical clearance were presented to the selected hospitals, to secure institutional consent to proceed with the study. Official permission was obtained from Unit and Departmental heads, where the study is to take place.

Informed and written consent was obtained from the respondents who participated in the study. The details of the study objectives were explained to them through a subject information sheet. (Appendix E) They were made to know that they will fill a questionnaire and their voice will be recorded during an interview. They were assured of anonymity with the use of pseudonym. They were duly intimated of their rights to discontinue with the study at any stage of the interaction if they so desired.

Finally, signing or thumb printing the subject's agreement/consent form (Appendix F) by each of the respondents was done before proceeding with data collection.

3.10 DATA COLLECTION

Consecutive method of data collection was adopted for this study. Three research assistants were trained by the author, before the commencement of the pilot study on the technique of interviewer administered questionnaire and interview for audio recording. The nursing staff of each of the clinics used for the study were visited prior to commencement of data collection to inform them about the study and to seek official permission and cooperation as well as the best time to access CW patients.

The clinic days that patients with CW access care in each of each of the hospitals were put into consideration for visitation to collect data. In IHU, the surgical clinic runs for the five working days of the week for different units, in WGH it runs only Mondays and Wednesday while for the two general hospitals, it runs on Mondays, Wednesdays and Fridays.

Each of these hospitals was visited in turns weekly for data collection. WGH on Mondays, IHU on Tuesdays, Ilesa and Ife general hospital on Wednesdays and Fridays respectively. On each visit to the hospital, patients who had CW were identified with the help of

the nurse on duty. Those who met the inclusion criteria and gave informed consent were recruited into the study until the sample size of sixty (60) was attained. The respondents had the details of the study explained verbally, following which their consent was obtained by signing the consent form or by thumb printing, and the confidentiality of the assured. The questionnaire was administered in the individuals preferred language, as both English and Yoruba versions of the instruments were made available. (Appendices A-D). Information obtained with the interview guide was aided by audio recording using a digital audio device. Information obtained was coded to ensure confidentiality and input into a computer software SPSS version 20 for statistical analysis.

3.11 DATA ANALYSIS

The analysis was done using Statistical Package for Service Solutions (SPSS) version 20 using appropriate descriptive and inferential statistics. Their ages were grouped into 3 subgroups: young, middle age and elderly. The duration of the wound was grouped into 4. Other biodata were presented as simple frequencies.

The respondents were scored individually for the effect of CW on their mental health using the Hospital Anxiety and Depression Scale, instrument. The total scores for the respondents ranged from 0 to 21 each, on both anxiety and depression scales. Based on these scores, they were grouped into 4. These are:

1. Scores ranging between 0-7 is normal
2. Scores ranging between 8-10 is borderline abnormal

3. Scores ranging between 11-14 is moderate
4. Scores ranging between 15- 21 is abnormal/severe.

The quality of life as it relates to the perceived level of wellness of the individuals was assessed with the WHO-5 wellbeing index, each respondent had a minimum score of 0 and a maximum score of 25 which is converted to percentage by multiplying by 4 to make the range of scores from 0 to 100. The scores were categorized into three as follows:

1. Score < 29 is 'likely depression'
2. Score = 29 – 50 is 'low mood'
3. Score > 50 is 'better wellbeing'

The quality of life was also further assessed with general health questionnaire - GHQ -12, which has a minimum score of 0 and a maximum score of 36; this was also grouped into three as follows:

1. Score = 11-12 is typical health
2. Score > 15 < 20 is evidence of distress
3. Score > 20 is severe problem and psychological stress.

Information on the wound etiology, previous and present care of the wounds, other co morbid conditions and medications, frequency of wound dressing, compliance with care regimen as possible factors responsible for chronicity were reported as simple frequencies.

The two hypotheses generated for the study were tested by the use of Spearman rho correlation coefficient and linear logistic regression. This was to establish the relationship between chronic wounds and quality of life among surgical patients. The correlation coefficient scores ranged from -1 to +1. The P values were determined for the variables and level of significance set at 0.05 to determine whether to accept or reject the null hypothesis.

CHAPTER FOUR

4.0 RESULTS

The results from the study are presented.

4.1 SOCIO DEMOGRAPHIC CHARACTERISTICS

Table 4.1: Socio demographic Characteristics of the Respondents

Variables	N	%	Variables	N	%
Age in years			Occupation		
18-40	24	40.0	Farming	2	3.3
41-60	21	35.0	Trading	24	40.0
>60	15	25.0	Building contractor	3	5.0
Total	60	100.0	Business man	1	1.7
Gender			Radionic	1	1.7
Male	33	55.0	Schooling	4	6.7
Female	27	45.0	Retiree	4	6.7
Total	60	100.0	Bricklaying	4	6.7
Marital status			Okada riding	1	1.7
Married	43	71.7	Civil servant	6	10.0
Single	14	23.3	Tailoring	5	8.3
Widow/(er)	3	5.0	Driving	1	1.7
Total	60	100.0	Hairdressing	2	3.3
Duration of wound			Carpentry	2	3.3
3-12 months	39	65.0	Total	60	100.0
13-24	5	8.3	Spouse occupation		
25-36	9	15.0	None	11	18.3
>36	7	11.7	Trading	22	36.7
Total	60	100.0	Bricklaying	1	1.7
Number of children			Retiree	6	10.0
No child	14	23.3	Civil servant	3	5.0
1-4	27	45.0	Farming	4	6.7
>4	19	31.7	Clergy	8	13.3
Total	60	100	Driving	1	1.7
Ethnicity			Tailoring	3	5.0
Yoruba	58	96.7	Hairdressing	1	1.7
Igbo	1	1.7	Total	60	100.0
Urhobo	1	1.7	Level of Education		
Total	60	100	Primary School	23	38.3
Religion			Secondary	17	28.3
Christianity	38	63.3	Post-secondary	19	31.7
Islam	22	36.7	No formal education	1	1.7
Total	60	100	Total	60	100

Duration of wound: mean = 23.2, median = 9, mode = 3 months

Table 4.1 above provides socio demographic information on the age, gender, marital status, and number of children, ethnicity, religion, occupation, and spouse occupation, level of education and duration of the wound. A total of sixty patients were studied, the mean age of the patients was 48.3years, (males = 45.7 years, females = 51.55years) the Median of 52 and a Mode = 60 years. Forty percent of the respondents were in the age group of 18-40 years followed by 35% of those within 41-60 years and 25% falls into the category of more than 60 years. The males were more 55% while females accounted for 45% of the sampled population. Also, most of them were married 71.7%, 23.3 % still single and 5% had lost their spouse among the respondents. The table also showed that, among these respondents, the wounds of 65% have been there for between 3-12 months, in only 8.3% it has lasted 13-24 months, in the group of 25-36 years there were 15%. It was also presented that the wound has been there for more than 36 months in 11.7% of the respondents. Be that as it may, 45% of the patients have 1-4 children, 31.7% even have more than children and it is only 23.3% that claimed to have none. Majority of the respondents 96.7% were Yoruba, both Igbo and Urhobo respectively were found to be only 1.7%. Besides, 63.3% were Christians and 36.7% Muslims as the patients claimed their religious practice to be. In addition, the table showed the respondents occupations, 40% were traders, 10% civil servants, 3.3% farmers, those who were students, retirees, bricklayers were 6.7% respectively. The others were found to be either private business owners or artisan of different category as stated to include: carpentry, hairdressing, driving, tailoring, okada riding, radionic, business and building contractor. Not that alone, most of them were educated and only 1.7 % have no formal education.

4.2 IMPORTANT OBSERVATIONS IN CHRONIC WOUND PATIENTS

Table 4.2 Wound Characteristics and Observations in Chronic Wound Patients

Variables			Variables	Frequency	%
Wound Site	Frequency	Percentage	Topical agents of care outside hospital		
Leg	40	66.7	Antibiotics	1	1.7
Heel	1	1.7	Water and drip	1	1.7
Arm	2	3.3	Herbal medicines	3	5.0
Buttocks	2	3.3	Eusol	2	3.3
Abdomen	2	3.3	Honey	4	6.7
Breast	3	5.0	Different Medicines	29	13.3
Hand	2	3.3	Unknown agents	19	31.7
Face	1	1.7	No other agent employed	11	15.0
Multiple sites	7	11.7			
Total	60	100	Necessity for medication		
Other Places of care			DM	7	11.7
Chemist	6	10.0	skin infection	4	6.7
Prayer house	1	1.7	Malaria	1	1.7
Private health facility	16	26.7	sickle cell	2	3.3
Govt health facility	1	1.7	HIV	1	1.7
Many places	25	41.7	No other medical condition	38	63.3
No other place	11	18.3	No response	7	11.7
Total	60	100	Total	60	100.0
CW with another medical care			Name of medication		
Yes	15	25.0	I don't know	4	6.7
No	45	75	Dionil /Insulin	6	10.0
Total	60	100	Antibiotics	2	3.3
Frequency of dressing			Paludrin	2	3.3
Daily	15	25.0	Not on other drugs	37	61.7
Alternate daily	22	36.3	Zidovudin and others	1	1.7
3 days	21	35.0	Not applicable	8	13.3
Twice weekly	2	3.3	Total	60	100.0
Total	60	100.0	Will you Prefer another method of care?		
			Yes	41	68.3
			No	19	31.7
			Total	60	100

The leg is the most common site of chronic wounds in 66.7% of those studied 88.3 % had solitary wounds while 11.7% had multiple ones. Infections account for 33.3%.

Twenty-five percent of respondents had co-morbid conditions for which they were on routine medications. Only 18% of them received care from a single source. Others had resorted to seeking care from multiple sources at the same time and 68.3% would prefer other methods of care apart from wound dressing alone.

4.3 SPECIFIC RESULTS FROM RESEARCH QUESTIONS

4.3.1 Research Question 1: What is the quality of life in patients with Chronic Wounds?

The findings from the assessment made with the use of WHO-5 wellbeing index and the GHQ-12 were considered appropriate for the analysis of the first objective of this study. This is because subjective wellbeing is an important dimension of the individual's perceived quality of life as provided in the literature. As shown in table 4.3.1a, 58.3% of respondents were categorised as having better wellbeing while 41.7% had either likely depression or low mood.

Table 4.3.1a: Quality of life Scores according to WHO-5 Well-being Index

Score of WHO (five) well-being index	Interpretation of score (State of wellbeing)	Frequency	percentage
< 29	Likely depression	13	21.7
29 - 50	Low mood	12	20.0
>50	Better wellbeing	35	58.3
	Total	60	100.0

The GHQ – 12 scoring in table 4.3.1b below further revealed that majority of the respondents (71.7%) had severe problems & Psycho-stress while only 3.3% have 'Typical' health.

Table 4.3.1b: Respondents General Health based on GHQ-12 Scoring

GHQ – 12 score (0-36)	Respondents' State of Health	Frequency	Percent
11-12	Typical health	2	3.3
>15	Evidence of distress	15	25.0
>20	Severe problem & Psycho stress	43	71.7
		60	100.0

4.3.2 Research Question 2: What is the chronicity of wounds among surgical patients?**Table 4.3.2 Duration of Chronic Wounds among Respondents**

Duration of wound	Frequency	Percentage
3-12 months	39	65.0
13-24	5	8.3
25-36	9	15.0
>36	7	11.7
Total	60	100.0

Table 4.3.2 above showed that most wounds 39(65%) had lasted less than one year. However, 11.7% of wounds had lasted more than 36 months. The range of duration CW was 3 to 240 months(20 years). The mean duration was 23.2 months.

4.3.3 Research Question 3: What are the factors responsible for chronic wounds among surgical patients in Ife/Ijesa communities?

Table 4.3.3 Factors Responsible for Chronic Wounds among Respondents

Causes of Chronic Wounds	Frequency	Percentage
Breast cancer	1	1.7
Insect bite	1	1.7
surgical operation	2	3.3
fall	3	5.0
cut	1	1.7
Infection	20	33.3
Venous insufficiency	1	1.7
Burns	4	6.7
Accident	12	20.0
Diabetes	3	5.0
Trauma	9	15.0
Pressure sore	1	1.7
Multiple causes	2	3.3
Total	60	100

Apart from the causes of chronic wounds listed in the table 4.3.3 which are conditions that can lead to chronic wounds, it was also observed that only 18.3% were accessing care from the hospital alone and complied fully and strictly with hospital prescription. All the others were receiving care simultaneously from more than one source and were applying other agents to their wounds outside of prescription. These wound care agents include herbal medicines and unknown preparations which are all potentially contributory to wound chronicity.

4.3.4 Research Question 4: What are the effects of chronic wounds on the mental health of surgical patients in Ife/Ijesa communities?

Table 4.3.4: Effects of Chronic Wounds on Mental Health of the Respondents using the HADS Scale

HADS score	Grading	Anxiety Category N(%)	Depression Category N(%)
0-7	Normal	19(31.7)	9(15.0)
8-10	Borderline abnormal	17(28.3)	14(23.3)
11-14	Moderate	14(23.3)	20(33.3)
15-21	Abnormal/severe	10(16.7)	17(28.3)
	TOTAL	60(100.0)	60(100)

As regards the mental health of the respondents Table 4.3.4 revealed that 19(31.7%) for anxiety category and only 9(15%) for depression respectively, of respondents with chronic wounds had scores that could be considered normal. Others had varying degrees of abnormality in their mental health.

4.4 TESTING OF HYPOTHESES

Hypothesis 1(Ho1): There is no significant relationship between chronic wounds and quality of life.

Table 4.4.1: Relationship between Chronic Wounds and Quality of Life

Wound age	Quality of life			Total
	Typical health	Evidence of distress	Severe problem & Psychological distress	
3-12	1	7	31	39
	2.6%	17.9%	79.5%	100.0%
13-24	0	1	4	5
	0.0%	20.0%	80.0%	100.0%
	0	4	5	9
25-36	0.0%	44.4%	55.6%	100.0%
	1	3	3	7
>36	14.3%	42.9%	42.9%	100.0%
	2	15	43	60

Total	3.3%	25.0%	71.7%	100.0%
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R= -.288, p = 0.025

Decision making: Accept H_0 if p-value > 0.05, otherwise reject.

Since p value is less than 0.05, the hypothesis is rejected meaning that there is a significant relationship between chronic wounds and quality of life.

Hypothesis 2 (Ho2): There is no significant difference in duration of wounds between male and female patients.

Table 4.4.2: Relationship between Wound Duration and Gender

Wound age (months)	Gender		Total
	Male (%)	Female (%)	
3-12	20(33.3)	19(31.7)	39(65.0)
13-24	4(6.7)	1(1.7)	5(8.3)
25-36	5(8.3)	4(6.7)	9(15.0)
>36	4(6.7)	3(5.0)	7(11.7)
Total	33(55.0)	27(45.0)	60(100.0)

$\chi^2 = 1.495$, Df = 3, P=0.684

Decision making: Accept H_0 if p-value > 0.05, otherwise reject.

P value is > 0.05 therefore accept the null hypothesis that there is no significant difference between chronicity of wound and gender.

CHAPTER FIVE

5.0 DISCUSSION

This chapter discusses the research findings, implication for Nursing education, practice and research, as well as summary and conclusions, along with recommendations and suggestions for further studies.

5.1 RESEARCH FINDINGS

5.1.1 Study Respondents

The ages of the respondents in this study range from eighteen (18) to eighty. The average age was forty eight (48) years and the modal age was sixty (60) years. This suggests a problem common in the middle age to elderly, at which time other chronic medical illnesses often begin to develop. According to (Adigun, 2010) it was found that chronic wound was commonest in the third to fifth decades of life.

The males were just slightly more than the females with a male: female ratio of 1.2:1, implying a near equal gender distribution.

The average duration of wounds in the respondents is 23 months and the maximum duration of 240 months suggests poor knowledge and attitude to chronic wound care. This could also have had some notable effects with the cost of care with attendant loss of resources such as time and finance on these patients, due to the prolonged, continuous care required by the CW. There is no difference between duration of wounds among male and female gender. The longest duration of CW in the study is a 54 year old widow civil servant who has

osteomyelitis of the femur, and a wound which has remained unhealed despite previous treatment.

Most of the respondents are in the middle age and 71 % are married. The commonest occupation in 40% of the respondents was trading, 10% were civil servants. No other occupational group particularly stood out among the patients studied. Adigun et al also found most of their patients to be petty traders. However in, China it was reported the highest incidence in farmers and agricultural workers. (Fu, 1998). Looking at the educational background of these respondents also, over 98 % had at least a primary education and the level of education was not observed to have any influence on the duration of their wound.

The leg was observed the commonest site of the wound in 66.7% of the patients studied. The leg as the commonest site was also reported by Adigun et al. and also by Fu from China in 63% of the study respondents.

Trauma is the commonest cause of CW among those studied. The combined cause of wounds due to trauma was 50% of the respondents. This is in agreement with a study carried out by Oluwatosin in 2007. It is also in agreement with a study in China, (Fu, 1998) where the principal etiology (67%) of ulceration was due to trauma or trauma compounded by infection. Two of the patients in this study had multiple causes. This is because they had an initial wound which was further compounded by further wounding in the cause of treatment and either of these could on their own have been responsible for chronic wounds. One had trauma superimposed on burn injury, while the second had a motorcycle road traffic injury on an existing post infective healing ulcer.

Only 18.3% of the respondents were receiving care from the orthodox hospital alone. All the others were concurrently seeking and receiving care from other places. These include patent medicine stores, prayer houses, herbalists and other hospitals. Of these, 41% were receiving care from more than one other place. This habit may in itself be deleterious to wound care and should be discouraged. It is important to note that some of the patients were aware of the disapproval they may meet with from their physicians and expressed the need for the researcher to be discreet about this information. One of the respondents blamed interruption in delivery of services in the hospital due to incessant industrial strike by the workers for this habit. The 41% who are receiving from other places have other agents of treatment applied to their wound. This include herbal medicines and even preparations that are not known. All these agents involved in the treatment of CW in themselves, are potential causes of wound chronicity, which should be discouraged in enlightenment and health education interactions with the patients. There are some with other comorbidities and thus are on medications. Such other medications includes antiretroviral drugs. Compliance with prescribed care was strict in only 11 patients (18.3%), this is rather low. All the others were either receiving additional care from other sources or not having prescribed dressings and medications as recommended from the care facility. It would be interesting to explore if their lack of compliance was the cause or the effect of the chronicity of their wounds. That 68.3% said they will prefer other methods of care to the present one would suggest some level of dissatisfaction with present care and this could adversely affect compliance but may also imply good health seeking behavior.

5.1.2 Effects of CW on the Quality of Life of Respondents.

The findings of this study reveal that CW clearly associated with higher HADS scores. This agrees with findings of (Cole-King, 2001) that patients who scored in the top 50% were four times more likely to experience delayed wound healing than those in the bottom 50%. These higher scores may imply increased stress in these patients. Stress is a multi-dimensional concept as it comprises physiological, psychological and social factors. These factors are interconnected and tend to reinforce one another in CW patients with the potential of creating a vicious circle. (Soon, 2006) (Woo, 2010) (Upton, 2011) It has also been suggested that individuals who experience anxiety and depression as a result of high levels of stress, may also have a propensity to adopt negative health behaviors such as abusing alcohol and cigarettes, making poor diet choices and reducing the amount of physical exercise they take (Gouin, 2011). Although evidence suggests that such health behaviors do not completely account for the negative effects of stress on wound healing, they may exacerbate the effects of stress and have a detrimental impact on the healing process (Ebrecht, 2004)

Over 40% of them impaired wellbeing by WHO five wellbeing index, and only 3% were scored in Typical health (GHQ-12) and 19 % considered normal by (HADS) evaluation. With a statistically significant reduction in the quality of life table 4.1.1, this therefore calls for holistic evaluation and care of the patients with CW.

These findings are consistent with that of other authors (Ryan, 1993) (Phillips, 1994) that chronic wound like chronic leg ulcer have impact on virtually every aspect of daily life. Social activities may be restricted due to fear of further injury and negative body image. (Chase, 1995)

Effect on well being - Furthermore, this study revealed that majority of the respondents have severe problem and psychological stress with evidences of distress. This was also buttressed by a more recent study by (Boyd, 2011) that impact of chronic wounds on patient Health Related Quality of life (HRQoL) can be devastating and different individuals experience a wide range of adverse effects on their everyday lives.

5.2 IMPLICATIONS FOR NURSING

There are important implications for different aspects of the Nursing profession, the goal of which is to enhance nurses' ability to attain excellence in wound care. There is a need to pay more attention to psychological aspects of the CW patient as Stress and anxiety have been correlated with increased wound-related pain at dressing changes (Solowiej, 2009) (Woo, 2010) This could occur if a patient is anxious about the level of pain they are likely to experience at dressing changes, particularly if this is based on a past experience (Mudge, 2008). Physiologically, stress can lead to raised levels of the hormone cortisol (Ebrecht, 2004) which, if prolonged, increases the heart rate, raises blood pressure, and affects immunity and inflammatory responses in the body. Furthermore, prolonged immune suppression might progressively decrease, giving way to the opposite effect: an excessive immune response in which the immune system attacks its own body, which could potentially result in further damage

5.2.1 Implication for Nursing Education

Nursing curriculum at the different levels of training should devote a good number of learning outcomes to evidence based and best practices in the area of wound management. Twenty first century has so many approaches of care for CW in the different parts of the world working out to optimise wellbeing in people with chronic wounds. Therefore, topics like: electrical stimulation for treatment of chronic non- healing pressure ulcer, ultrasound for chronic venous ulcers, the use of ultraviolet light, laser, skin substitutes among others should feature in wound care curriculum.

5.2.2 Implications for Nursing Practice

This study has revealed that 41% of the respondents are in low mood and likely depression. Nursing care should not therefore be limited to wound care. The care should include the emotional, social, psychological treatment not just the physical injury seen as wound. As stated, health related quality of life (HRQoL) outcomes referring to the impact of health and illness on physical, social functioning and psychological wellbeing. (Price & Harding, 1996) However, needs assessment for improved patient outcome should be considered by formal caregivers (Sibbald, Donwar & Hawryluck, 2007) This becomes necessary for evaluation of healthcare professional performance and patients outcome.

Needs assessment is paramount to improved patient outcome. Routine and regular needs assessment is very vital in caring for CW. Understanding and addressing these needs in a bold and creative way will continue to lead wound care specialists toward strategies that maximize patient outcomes and opportunities. (Sibbald, 2007)

There is need for regular feedback from patients to caregivers on their level of satisfaction. This is noteworthy as 68.3% of respondents would prefer to try out other options of wound care in this study. This is because the patients assessment of quality of life may differ from the clinicians' (Price, 2007)

5.2.3 Implications for Nursing Research

Studies on issues related to care givers, topical agents and available materials for care to optimise wellbeing in CW patients are areas that are open to further research. The factors influencing the places where people turn to in accessing care are also a problem seen that it's only 18.3 % of the respondents that are receiving care from the orthodox centre only.

5.3 SUMMARY AND CONCLUSION

This study aimed at exploring the correlation between CW and quality of life among surgical patients. The findings from the study revealed that, more CW respondents 58.1% seem to enjoy better wellbeing, the percentage of likely depression and low mood is relatively high being 41.7%. This therefore calls for the care of the whole person not just the physical injury but the emotional, social and psychological aspects of a person with CW so as to enhance the quality of life. The null hypothesis of no significant relationship between chronic wound and quality of life was rejected. $P = 0.025$. Since p value is less than 0.05, the hypothesis is rejected meaning that there is a significant relationship between chronic wound and quality of life. The

quality of life and life satisfaction is adversely affected when people have chronic wound. Majority of these people are still working, they have values and life aspirations which are all expressed in the midst of other people, but the view of these other people as regards CW is a psychological issue. The average duration of CW among the study population was 23 months and a maximum of 240 months. With all the available modalities of wound care available, this long duration of wounds suggests poor knowledge and attitude to wound care. Causes of CW among the respondents include surgically related conditions like infections, accidents, trauma, fall, surgeries and so on. With only 11(18.3%) accessing care from the hospital alone. Majority have various other places with other things being used on them. Herbal medicines, unknown preparations, etc are also used as agents of care; these serve as contributory factors to chronicity. With the impact of CW on mental health, only 31.7% and 15% have normal assessment results from anxiety and depression parameters respectively.

The study also revealed that wound age does not have any statistical significant association with gender. That is, gender does not have any influence on the level of wound chronicity. (Chi-square with 3 degree of freedom = 1.495, $p = 0.684$).

The conclusion of the study is that, CW is associated with poorer quality of life in affected patients. This should therefore be put in perspective when caring for them so as to have improved outcomes in the Ife/Ijesa communities of Osun state.

5.4 RECOMMENDATIONS

The findings of this study identified some areas in which research efforts can be focused in the future. Such studies should include the following:

- Techniques of CW management Nigeria. There is a need to review current trends and practices as regards wound care. Formation of wound healing associations may be useful in this regard.
- Perception and level of satisfaction should be probed into in a future study

Based on the outcome of the study also, the following recommendations are made:

- Routine clinical assessment of patients' psychosocial status should be made so as to pay more attention to their state of health not just the wound dressing.
- Holistic care rather than care for the wound hole.
- Monitor patients' progress with their complaints and improve services accordingly.
- Periodic training for wound managers and formal care givers.
- Health education and awareness of the need for leg trauma prevention.
- Increased use of innovative products that are in line with patients' lifestyle and prioritised wellbeing in the delivery of cost effective wound management.
- Pharmaceutical products that optimise efficacy, cosmetic and quality of life should be used routinely for CW patients.

The challenge for the future is to ensure that we pay as much attention to Health Related Quality of Life as we do to other important clinical parameters and

start to build new ways of delivering care that ensure patients' overall well-being is the central focus of chronic wound care.

APPENDIX A: QUESTIONNAIRE

Correlation between Chronic Wounds and Quality of Life among Surgical Patients in Ife/Ijesa Communities of Osun State.

Dear Respondent,

I am a Postgraduate Student in the Department of Nursing Science, Obafemi Awolowo University, Ile-Ife. I am conducting a Research Study on the above title. Please supply the information requested as applied to you, it shall be treated with utmost confidentiality and used for research purposes only. Thank you.

Helen Oladele

SECTION A: Socio-demographic Data.

1. Hospital Number.....
2. Age/Date of Birth.....
3. Address
-
4. Next of kin's address.....
4. Sex: Male [] Female []
5. Marital status..... No. of children.....
6. Occupation..... Spouse's Occupation.....
7. Ethnicity.....
8. Religion
9. Highest level of Education.....
10. How long have you had this wound?
11. Site of the wound.....

SECTION B: EFFECTS OF CHRONIC WOUNDS ON MENTAL HEALTH (HADS)

S/N	ITEM	YES DEFINITELY	YES SOMETIMES	NO, NOT MUCH	NO, NOT AT ALL
1.	I wake early and then sleep badly for the rest of the night.	3	2	1	0
2.	I get very frightened or have panic feelings for apparently no reason at all.	3	2	1	0
3.	I feel miserable and sad.	3	2	1	0
4.	I feel anxious when I go out of the house on my own.	3	2	1	0
5.	I have lost interest in things.	3	2	1	0
6.	I get palpitations, or sensations of 'butterflies' in my stomach or chest.	3	2	1	0
7.	I have a good appetite	3	2	1	0
8.	I feel scared or frightened.	3	2	1	0
9.	I feel life is not worth living.	3	2	1	0
10.	I still enjoy the things I used to.	3	2	1	0
11.	I am restless and can't keep still.	3	2	1	0
12.	I am more irritable than usual.	3	2	1	0
13.	I feel as if I have slowed down	3	2	1	0
14.	Worrying thoughts constantly go through my mind.	3	2	1	0

SECTION C: WELL BEING ASSESSMENT (WHO-5)

Please indicate for each of the following five statements, the one closest to how you have been feeling over the last two weeks, put a tick in the box to the right applicable to.

Note that higher numbers mean better well-being.

S/N	CATEGORY	5	4	3	2	1	0
1.	I have felt good and in good spirit						
2.	I have felt calm and relaxed						
3.	I have felt active and vigorous						
4.	I woke up feeling fresh and rested						
5.	My daily life has been filled with things that interest me.						

GENERAL HEALTH QUESTIONS: (GHQ-12)

Please consider the last four weeks and answer the following questions by selecting and circling one of the four answer options.

Questions, Have you?	0	1	2	3
6. Been able to concentrate on what you're doing	Better than usual	Same as usual	Less than usual	Much less than usual
7. Lost much sleep over worry	Not at all	No more than usual	Rather more than usual	Much more than usual
8. Felt you were playing a useful part in things	More so than usual	Same as usual	Less useful than usual	Much less useful
9. Felt capable of making decisions about things	More so than usual	Same as usual	Less useful than usual	Much less useful
10. Felt constantly under strain	Not at all	No more than usual	Rather more than usual	Much more than usual
11. Felt you couldn't overcome your difficulties	Not at all	No more than usual	Rather more than usual	Much more than usual
12. Been able to enjoy your	More so than	Same as	Less useful	Much less

normal day-to-day activities	usual	usual	than usual	useful
Questions, Have you?	0	1	2	3
13. Been able to face up to your problems	More so than usual	Same as usual	Less useful than usual	Much less useful
14. Been feeling unhappy and depressed	Not at all	No more than usual	Rather more than usual	Much more than usual
15. Been losing confidence in yourself	Not at all	No more than usual	Rather more than usual	Much more than usual
16. Been thinking of yourself as a worthless person.	Not at all	No more than usual	Rather more than usual	Much more than usual
17. Been feeling reasonably happy, all things considered	More so than usual	About the same as usual	Less so than usual	Much less than usual

APPENDIX B: YORUBA VERSION OF THE QUESTIONNAIRE

OHUN TÍ ÀWỌN EGBÒ ÀDÁ-ÀÌ –JINÁ NÍ Í Ẹ PẸLU ÌLERA-ẸNI LAARIN ÀWỌN AGBÀWÒSÀN NÍ ILÈ
IFÈ/ÌJÈẸÀ, NÍ IPINLE ÒṢUN,

Olùdáhùn mi Ọwọ́n,

Mo jẹ akẹkọọ-giga kan tí n kẹkọọ lẹwọ ni ẹka Imọ Ijinlẹ Itọju-alaisan ti Ile-ẹkọ Yunifasiti

Obafemi Awolọwọ, ni Ile-Ifẹ. Mo n ẹ iwadii kan lori akọle oke yíí. Ẹ jọwọ, ẹ fun mi ni àwọn

àlàyé tí mo fẹ gégẹ bi ó ẹ ni i ẹ pẹlu yin. Idaniloju wa pe gbogbo àlàyé náà wa ni ipamo fun

ilo iṣẹ iwadii tí ó wà fún nikan. Ẹ ẹun.

Helen Ọladele.

ABALA A: Àkọjáde lórí Ìbágbépò-ẹni Láwùjọ.

1. Nọmba Ile-iwosan
2. Ọjó-orí/Ọjó-ìbí.....
3. Adireṣi
4. Akọ-n-Bábo: Akọ [] Abo []
5. Ipò Lókọ-Láya..... Iye Àwọn Ọmọ.....
6. Iṣẹ-àṣeje..... Iṣẹ Ọkọ-tabi-Iyawo
7. Elédè/Ilu abinibi.....
8. Ẹ̀sìn
9. Ìpele Ìwé tí ẹ Kà Jùlọ
10. Egbò yíí ti Tó Ìgbà Wo.....
11. Ibo ni egbo naa wa lara yin.....

ABALA B: ÀWỌN ÀKOBÁ TÍ EGBÒ ÀDÁ-ÀÌ-JÍNÁ N Ẹ FUN ÌLERA ÈRÒ-INÚ ẸNI TI N GBA ITỌJU

Jòwó tóka sí eyikeyi ninu àwọn afiwe merin yíí tí ó wà ni ibámu pelu bí ìrírí tirẹ ẹe je gélẹ.

S/N	ÀLÀYÉ TÍ A FẸ	BẸẸNI GÉLẸ	BẸẸNI L' ÈKỌỌKAN	BEEKO, KÒ RI BẸẸ PUPO	BEEKO, KÒ RI BẸẸ RARA
1.	Mo ntètè jì, n kò sì ni lè sùn wọra ni gbogbo ọru mo.	3	2	1	0
2.	Ẹru a máa bà mi, ojora a sì máa mú mi láini idí kankan.	3	2	1	0
3.	Mo máa n ní irẹwẹsi, inú mi kì í sì dùn.	3	2	1	0
4.	Ọkan mi kì í balẹ nígbàkugbà tí mo bá dá nìkàn jade lọ nìlẹ.	3	2	1	0
5.	Nko ni ife si nkankan mo.	3	2	1	0
6.	Àyà mi máa n sọ kì-kì-kì, tàbí bii pe 'labalábá' n bẹ ninu ikùn mi tabi àyà mi.	3	2	1	0
7.	Enu mi sí sí ounjẹ.	3	2	1	0
8.	Mo máa n ní inúfu ati àyàfu.	3	2	1	0
9.	Mo nmo lara pe wiwa laye yíí kò tilẹ jamọ nkankan.	3	2	1	0
10.	Mo sì n gbadun àwọn ohun gbogbo síbẹ bi ti tele.	3	2	1	0
11.	Ara mi kò balẹ, n kì í lè fi ara lélẹ.	3	2	1	0
12.	N kò ni ipamọra bí i ti tẹlẹ.	3	2	1	0
13.	Ó da bí i pe n kò yara kánmọ-kánmọ bí i ti tẹlẹ.	3	2	1	0
14.	Èrò tin muni se aniyan máa n saaba la ọkàn mi kọja.	3	2	1	0

ABALA D: AGBEYẸWO ÌLERA-ARA

Jòwọ tọka sí eyikeyi ninu àwọn gbolohun marun un yíí tí ó wà ni ibámu pelu bí ìlera ara rẹ ẹe rí gélẹ, lati bi i ọ̀şẹ meji sẹyin, fa igi sinu apoti náà tí ó yẹ ni ihà ọ̀tun rẹ.

Kiyesi i pe, bí nọmba náà tí tóbi tó n tọka sí ìpele ìlera rẹ.

S/N	ÌSỌRÍ	5	4	3	2	1	0
1.	Inu mi ndun, ara mi sì yá gágá.						
2.	Ara mi balẹ, n kò sì ní ìpayà Kankan.						
3.	Mo ní okun ninu, ara mi sì ji pepe.						
4.	Mo jí pẹlu ítura ati isinmi pipe.						
5.	Ìgbé-ayé mi lojojumo ti kún fún àwọn ohun tí moni ife si.						

ÌBÉÈRÈ LAPAPO LORI ÌLERA:

Jòwọ fi ọ̀kàn rẹ sí bi ọ̀şẹ mẹrin sẹyin, kí o sì yan idahun kan ninu àwọn ìbéèrè isalẹ yíí nípa yíyí odo sí ọ̀kàn ninu àwọn idahun mẹrin náà.

Ìbéèrè, Nje	0	1	2	3
6. Ẹ n le fi ọ̀kàn sí àwọn ohun tí ẹ n ẹ.	Dara ju ti àtẹ̀yìnwà.	Bí i ti àtẹ̀yìnwà.	O kere si t' àtẹ̀yìnwà.	Ò kere pupo si t' àtẹ̀yìnwà.
7. Airi oorun sùn to nítorí àníyàn.	Kò ri bẹ̀ẹ̀ rara.	Kò po ju t' àtẹ̀yìnwà.	O po ju si t' àtẹ̀yìnwà.	O po pupo ju si t' àtẹ̀yìnwà.
8. E mo lara pe ẹ n kópa tí ó ẹe pataki nibi àwọn nkan.	O po ju t' àtẹ̀yìnwà.	Bí i ti àtẹ̀yìnwà.	Kò wulo to ti tẹ̀lẹ̀	O kere ju eyi t' owulo.
9. Ti ro pé ẹ le dá pinu nípa àwọn nkan.	O po ju t' àtẹ̀yìnwà.	Bi i ti àtẹ̀yìnwà.	Kò wulo to ti tẹ̀lẹ̀	O kere ju eyi t' owulo
Ìbéèrè, Nje	0	1	2	3

10. Ẹ máa n rò pé ẹ n fi ara şışẹ jù ní gbogbo ìgbà	Kò ri bẹẹ rara	Kò po ju t' àtẹ̀yìnwà.	O po ju si t' àtẹ̀yìnwà.	O po pupo ju si t' àtẹ̀yìnwà.
11. Mò lara pé ẹ kò le borí àwọn ị̀sòro yin.	Kò ri bẹẹ rara	Kò po ju t' àtẹ̀yìnwà.	O po ju si t' àtẹ̀yìnwà.	O po pupo ju si t' àtẹ̀yìnwà.
12. Ti n le gbadun àwọn ojuse ojoojumọ.	O po ju t' àtẹ̀yìnwà.	Bi i ti àtẹ̀yìnwà.	Kò wulo to ti tẹ̀lẹ	O kere ju eyi t' owulo
13. Ti n le dojukọ àwọn isoro yin.	O po ju t' àtẹ̀yìnwà.	Bi i ti àtẹ̀yìnwà.	Kò wulo to ti tẹ̀lẹ	O kere ju eyi t' owulo
14. Ti wa pelu ibanuje ati ìrẹ̀wẹ̀sì okan.	Kò ri bẹẹ rara	Kò pọ̀ ju ti tẹ̀lẹ	O po ju ti tẹ̀lẹ lo.	Kò tilẹ to ti tẹ̀lẹ rara
15. Ti npadanu igbekele ninu ara yin.	Kò ri bẹẹ rara	Kò pọ̀ ju ti tẹ̀lẹ	O po ju ti tẹ̀lẹ lo.	Kò tilẹ to ti tẹ̀lẹ rara
16. Ẹ n rò pé eniyan tí kò já mọ nnkan kan ni yin	Kò ri bẹẹ rara	Kò pọ̀ ju ti tẹ̀lẹ	O po ju ti tẹ̀lẹ lo.	Kò tilẹ to ti tẹ̀lẹ rara
17. Ni akotan ohun gbogbo, inu mi ti ndun.	O po ju t' àtẹ̀yìnwà	O dabi iwon ti tẹ̀lẹ.	Kò to ti tẹ̀lẹ	Kò tilẹ to ti tẹ̀lẹ rara

APPENDIX C: INTERVIEW GUIDE

FACTORS RESPONSIBLE FOR CHRONIC WOUNDS

It has been established that different chronic wounds are due to different factors. We want to assess these factors to know the cause of your own chronicity.

Please answer the following questions to the best of your ability and as such truthful.

1. What caused this wound?
2. Where else have you cared for this wound apart from this hospital?
3. What are the different agents of care you have used outside this hospital?
4. Are you on any other medication(s)?
5. What medical conditions necessitated the use of the medication(s)?
6. What is (are) the name(s) of the medication(s).
7. How often do you dress this wound?
8. Are there factors influencing your compliance with your surgeon's regimen of care?
9. Would you prefer a better approach to your care?

APPENDIX D: YORUBA VERSION OF THE INTERVIEW GUIDE

ÀWỌN OHUN TI N Ẹ OKUNFA EGBÒ ÀDÁ-ÀÌ-JINNÁ

Iwadi ti fi idi re mule pe oriṣiriṣi okunfa ní n bẹ lẹyin oniruuru egbò àdá-àì-jinná. A fẹ ẹwadii àwọn okunfa yíi ki a le mọ ohun ti ó fà á ti egbò ti yín gan an kò fi ti i jinna.

Ẹ jòwọ, ẹ dahun àwọn ibeere yíi ní bí ipá yín ti mọ, ní eyi tí ó jẹ otító.

1. Kin ni ó fa egbò yíi?
2. Ibomiran wo ni ẹ tun ti ntọjú egbò yíi yatọ si ile-iwosan nibi?
3. Àwọn nkan wo ni wọn fi ntọjú egbo ní àwọn ibi tí ẹ sọ yíi?
4. Àwọn Nje awon egboogi kan wa ti ẹ n lò lówólówó bayii?
5. Aisan wọ ni won nṣiṣẹ fun?
6. E daruko awon egboogi naa.
7. Bí ojo meelo sí ara wọn ni ẹ maa n wẹ egbò yíi?
8. N jẹ àwọn nkankan wa ti ó ní ẹ pelu ifimosokan ti e ni pelu eto ìtọjú ti dokita oniṣẹ-abẹ ti n tọjú yín la kalẹ bí?
9. N jẹ ẹ maa nífẹẹ si ọna miran ti ó dara ju eyi lọ fun itọju yín bí?

APPENDIX E: SUBJECT INFORMATION SHEET

OBAFEMI AWOLOWO UNIVERSITY TEACHING HOSPITALS COMPLEX, ILE-IFE
 CORRELATION BETWEEN CHRONIC WOUNDS AND QUALITY OF LIFE AMONG SURGICAL PATIENTS IN IFE
 /IJESA COMMUNITIES, OSUN STATE

SUBJECT INFORMATION SHEET

Principal Investigator: OLADELE, Helen Oladunni Telephone No: 08037218223

E-mail: helenoladele@yahoo.com

Institution: Obafemi Awolowo University, Ile-Ife

Department: Department of Nursing Science

Title of Study: CORRELATION BETWEEN CHRONIC WOUNDS AND QUALITY OF LIFE AMONG SURGICAL PATIENTS IN IFE /IJESA COMMUNITIES OF OSUN STATE

Co – Investigators: NONE

Sponsor (If any): NONE

Some general things to know about the study:

The purpose of this study: The purpose of this study is to identify the correlation between chronic wounds and quality of life among surgical patients in Ife/ Ijesa communities of Osun state. It is as part of requirements for a higher degree in nursing science.

Procedures: Explanation of the study, and that the time required to participate is very short, questions are entertained and clarifications made. Following an agreement to be involved in the study, consent will be gained verbally, then a written consent will be signed, or thumb printed. Assurance of confidentiality is given and that all information released will remain anonymous.

A questionnaire will be administered, thereafter the second instrument which is an in-depth interview made of nine questions will be used to get more information. The interaction will be recorded on an audio tape and will be transcribed before analysis.

Benefits: Advise on anything that requires to be worked upon may be given on anything observed about the management of the wound or other health issues.

Costs of Participation: It requires time but will be made as brief as possible.

Risks: NIL

Compensation: Encouragement to comply with the line of management, and to look forward to seeing a desirable outcome as the care progresses.

Confidentiality: The information given shall be kept confidential. The data generated will remain anonymous because names will not be included. The audio recording of interview will be an interaction between the researcher and the respondents only. This will be transcribed into text before data analysis, so the voice will be kept from others and the confidentiality sustained.

Respondents' Rights: To decide whether or not to participate in the study, and to withdraw at any stage without any effect on the care of the wound.

Conflict of Interest: NIL

For the Records:
NURSING

THE STUDY IS IN PARTIAL FULFILMENT OF MSc
DEGREE.

APPENDIX F: AGREEMENT / CONSENT FORM

OBAFEMI AWOLOWO UNIVERSITY TEACHING HOSPITALS COMPLEX, ILE-IFE
 CORRELATION BETWEEN CHRONIC WOUNDS AND QUALITY OF LIFE AMONG SURGICAL
 PATIENTS IN IFE /IJESA COMMUNITIES OF OSUN STATE
 ERC/2014/07/03 15/07/2014 TO 14/10/2014

Subject's Agreement/Consent Form:

I have read the information provided in the respondents Information or it has been read to me.

I have had the opportunity to ask questions about the research and all the questions I have asked have been answered to my satisfaction. I consent voluntarily to participate in this study and understand that I have the right to withdraw from the study if I so wish without any negative impact on my treatment.

Signature/Thumb print of Research Respondent



Date of Signature/ Thumb Print of Research Respondent

Signature of Person Obtaining Consent

Printed Name of Person Obtaining Consent

APPENDIX G: PERMISSION TO COLLECT DATA

APPENDIX H: ETHICAL CLEARANCE CERTIFICATE

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study