

Quality of Life of Patients with Wounds in Fako Division, Cameroon

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Abstract

Background: Health Related Quality of Life (HRQOL) refers to the impact of disease and treatment on disability and daily living. It is patient-based, with focus on the impact of a perceived health state on the ability to carry out their normal activities.

Objective: This study investigated the effect of wounds on patient's quality of life (QOL) in Fako Division, South West Region of Cameroon.

Methods: A quantitative descriptive cross-sectional design was used. Purposive and consecutive convenience sampling methods were employed to select the sites and enroll participants respectively. The study population was made up of all patients admitted with wounds in the surgical units of three hospitals selected for the study. The study was conducted from April to July 2020. Participants who met the inclusion criteria and gave their consent were selected. The dermatologic quality of life index was used to collect data on participants' QOL. Data collected was entered into Epi Data Version 3.1 and analyzed using statistical package for the social sciences (SPSS) version 21.0.

Results: A total of 156 patients participated in the study. Most of the participants were males (61.0%), 55.2% had acute wounds while 44.8% had chronic wounds, 62.4% had a low quality of life and 7.8% had a high quality of life. In general, patients' quality of life was negatively affected by their wounds (62.4%). The quality of life of patients with chronic wounds was significantly lower than that of patients with acute wounds (P values = 0.004, and 0.007). Patient's demographic data had no statistically significant relationship with their quality of life.

Conclusion: Living with wounds could be very challenging thus, the knowledge of the patient's quality of life can be used to improve approaches to care.

Keywords: Quality of Life; Patients; Wounds; Fako Division

Introduction

According to the World Health Organization (WHO), health is a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity. Thus, the measurement of health and effect of health care includes an indication of changes in the severity and frequency of disease, as well as an estimation of wellbeing. This can be assessed by measuring the improvement in quality of life related to health care [1]. The term quality of life (QOL) first appeared in the US in the 1950s as a slogan to represent 'the good life'. Most recently, it has become part of a holistic view of the individual within the healthcare system [2].

Health related quality of life (HRQOL) refers to the impact of disease and treatment on disability and daily living, or as a patient-based focus on the impact of a perceived health. It is a multi-dimensional concept that includes domains related to physical, mental, emotional and social functioning [3]. Hence, an assessment of HRQOL is an important way of evaluating the bio-psychosocial needs in search of improved living conditions [4]. The HRQOL was first used as a measurement of the health status of individuals in the second half of the 20th Century. Nevertheless, its greater use was observed at the end of the last century, using the estimate of Quality Adjusted Life Years (QALY), as an outcome measurement for the economic evaluation of healthcare technologies. Therefore, both seek to establish a in a single value, the health state of an individual regarding a health or disease moment in time [5].

A good nursing approach for wound care is one which focuses on both the physical and psychological factors affecting wound healing. The impact of the wound on the quality of life is determined from the patient's perspective [6]. A wound is a disruption in the integrity and function of body tissues; having a wound implies imperfection, which impacts physical and emotional vulnerability. Since wounds are injuries that break the skin or other body tissues, wound management problems, mobility issues and mal-odor will also have an impact on the patient's psychological well-being. These consequences may, in turn, have a profound impact on the individual's quality of life [7].

Patients may get wounded from gun shots (especially with the current socio-political crisis in the North West and South West Regions of Cameroon), road traffic accidents [8], surgical laceration and ulcers. According to the WHO road site accidents account for 20 and 50 million injuries every year and are the leading cause of death among people in the age group of 15 - 29 years, and diabetic foot ulcer is the most common complication in diabetic patients with an annual incidence rate of 6.3% globally [1].

Given that literature reveals many scales for assessing QOL which the nurse can employ to easily identify other needs of the patient that contribute to their comfort and normal wound healing, we sought to investigate the effect of both acute and chronic wounds on patient's QOL in Fako Division. Specifically, this study assessed the QOL of patients with both acute and chronic wounds, compared the QOL of patients with acute wounds to that with chronic wounds, and determined the correlation between patients' demographic data (age, and sex) and their quality of life. Analysis of HRQOL surveillance data can help identify subgroups with relatively poor perceived health and provide guide to the design and monitor the effectiveness of broad community interventions implemented to improve their situations and avert more serious consequences [9].

Materials and Methods

A descriptive cross-sectional study was conducted from April to July 2020 to investigate the quality of life among patients with wounds at selected hospitals in Fako Division of the South West Region of Cameroon. Fako Division is divided into seven municipalities: Buea, Limbe I, Limbe II, Limbe III, Muyuka, Tiko and West coast. These areas are mainly inhabited by the Bakwerians, although many other tribes also reside among them. Both qualitative and quantitative approaches were employed to collect and process data. The dermatologic quality of life index which measures the patient's feelings, daily activities, leisure, work and school, personal relation and treatment [5] was used to collect data on participants' QOL. The target population was made up of all patients with wounds (both acute and chronic wounds) in the Buea Regional Hospital (BRH), the Limbe Regional Hospital (LRH), and St. Luke Hospital (SLH).

These hospitals were purposively selected because they receive many acute and chronic wound cases due to the presence of surgeons and specialists who can better manage wounds (they serve as referral hospitals). All patients who had wound due to gun shots, road traffic accidents, cutlasses and other weapons or diabetes, and gave their consent to participate in the study were included. Eligible participants were recruited from the surgical units at BRH, LRH and SLH. A sample of 158 participants who were selected by purposive and consecutive convenient sampling methods participated in the study. Participants were selected according to their availability.

Before collecting data, the questionnaire was pre-tested by administering 10 copies to 10 patients with wounds who were not part of the study population. Their responses confirmed the clarity and validity of the questions. Copies of the questionnaire were then admin-

istered to the study participants who completed the various sections of the questionnaire. The investigator read the questions for those who could not read and their responses were written down. Patients were approached three hours after their wound dressing when they were well settled, since pain usually persists after wound dressing [10].

This study was authorized by the Department of Nursing, Faculty of Health Sciences, University of Buea, Cameroon. Ethical approval was received from the Institutional Review Board of the Faculty of Health Sciences, University of Buea, Cameroon. Also, administrative authorization was obtained from the Regional Delegation of Public Health and then from the heads of the various health facilities. Before responding to the questionnaire each respondent gave consent by signing the consent form. Data collected was entered into Epi Data Version 3.1 and analyzed using statistical package for the social sciences (SPSS) version 21.0. Data was analyzed using the quantitative method. Chi-Square (χ^2) test of equality of proportion was used to compare proportions for significant difference as well as to measure the association between the study indicators and background information. Data was presented using frequency table and charts. All statistics was discussed at the 95% confidence level (CL), alpha (α) = 0.05.16 using frequency tables and charts, the percentages of responses were determined.

Results

A total of 154 participants out of 158 enrolled, participated in the study giving a response rate of 97.47%. The age range 25 - 34 years was the most (28.6%) represented, majority (61%) of the participants were males, 51.2% had a secondary level of education and 22.7% had attained tertiary level of education (Table 1). Generally, 42.9% of the respondents had a low QOL while 19.5% had a very low QOL (Figure 1). The chi square (X^2) value for the distribution of patients' quality of life rating was 109.64 with the df = 4, the p value was 0.0001 which is less than the level of significance.

Variable	Category	n (%)	X ²	P Value
Age	21 - 24	38 (24.7)	46.5	0.0001
	25 - 34	44 (28.6)		
	35 - 44	36 (23.4)		
	45 - 54	15 (9.7)		
	55 - 64	14 (9.1)		
	> 65	7 (4.5)		
Sex	Male	94 (61.0)	70.34	0.0001
	Female	60 (39.0)		
Marital Status	Single	90 (58.4)	60.87	0.0001
	Married	53 (34.4)		
	Widowed	11 (7.1)		
Level of education	Primary	40 (26.0)	22.62	0.0001
	Secondary	79 (51.3)		
	Tertiary	35 (22.7)		

Table 1: Demographic characteristics of participants.

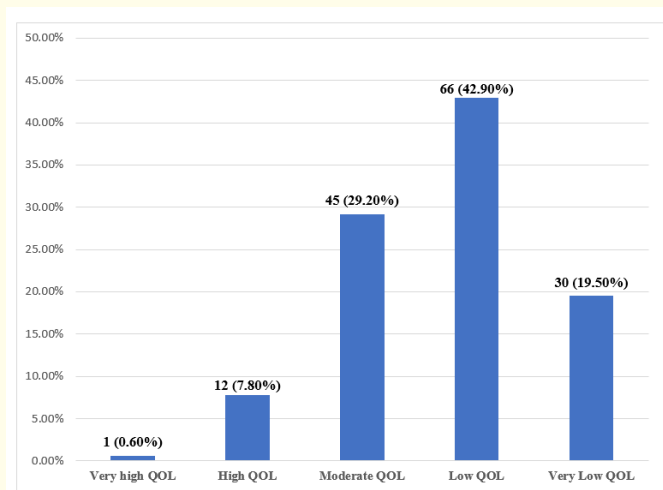


Figure 1: A distribution of the general quality of life of patients with wounds in Fako division.

Out of the 69 patients with chronic wound who participated in the study, 53.6% had a low QOL and 34.8% had a very low QOL (Figure 2). The chi square (X^2) value for the distribution of patients’ quality of life rating was 72.78 with a $df = 4$ and the p value is $p = 0.0001$. Out the 85 acute wound patients who participated in the study, only 12.9% had a high QOL QOL and 34.1% had a low QOL (Figure 3). The chi square (X^2) value for the distribution of quality of life rating for patients with acute wounds was 50.93 with the $df = 4$, The p value of the distribution is $p = 0.0001$.

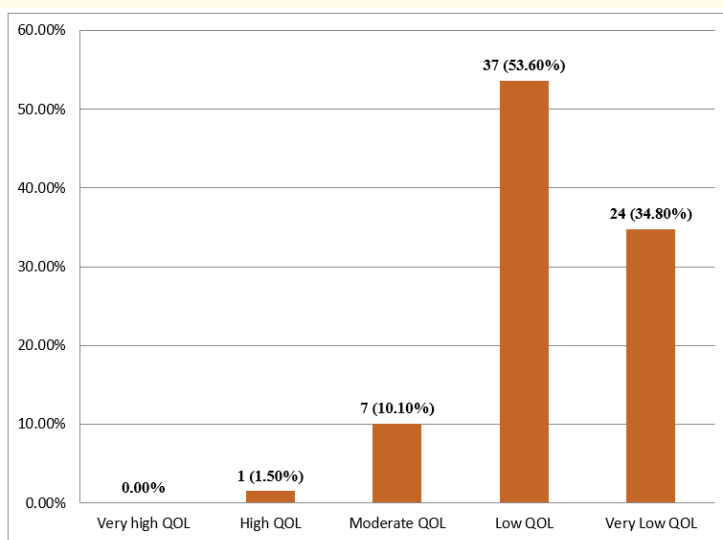


Figure 2: A distribution of the quality of life of patients with chronic wounds.

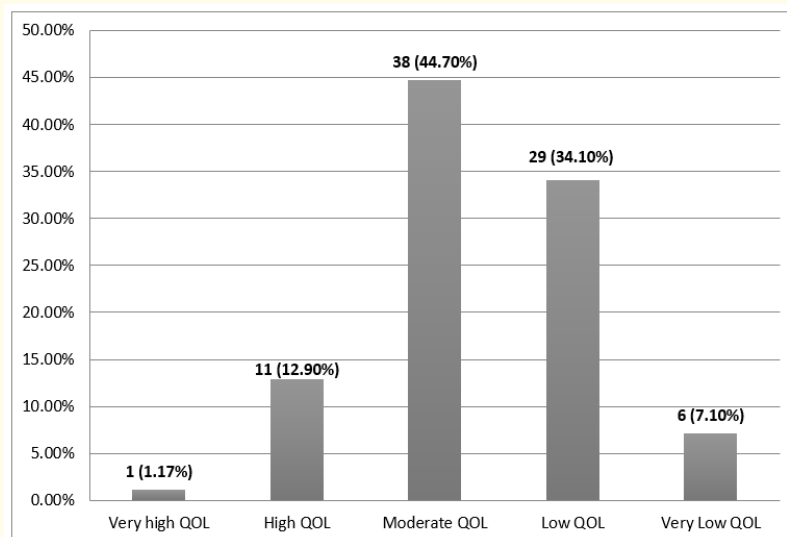


Figure 3: A distribution of the quality of life of patients with acute wounds.

Comparing the QOL of patients with surgical acute wounds (SAW) to that of patients with accidental acute wounds (AAW); 28 (51.85%) of patients with SAW had a moderate QOL, while 10 (32.36%) with AAW patients had a moderate QOL. The difference is significant with a p value of 0.003 (Table 2), the other four quality of life rating proved to be significantly the same for both categories.

QOL	SAW n (%)	AAW n (%)	X ²	P Value
Very high	1 (1.85)	0 (0.00)	1.00	0.317
High	6 (11.11)	5 (16.13)	0.09	0.764
Moderate	28 (51.85)	10 (32.26)	8.53	0.003
Low	15 (27.78)	14 (45.16)	0.03	0.862
Very Low	4 (7.41)	2 (6.45)	0.67	0.413
Total	54 (53.43)	31 (36.47)		

Table 2: A comparison between quality of life of patients with surgical wounds and that of patients with accidental wounds. The correlation is significant at: $p < 0.05$.

Generally, regarding patients’ responses to the QOL indicators, 39.0% and 39.6% of the patients reported a little pain and a lot of pain respectively, 51.3% said their wounds had a very much effect on their clothing, 35.1% reported a little effect on their leisure and social life and 37.0% mentioned a very much effect on their school or work (Table 3). All four categories gave a large chi square value and a p value lower than the level of significance. This signifies a statistically significant difference between the different responses.

Variable	Category	Frequency (%)	X ²	P Value
Patients response to pain	Not at all	13 (8.4)	50.94	0.0001
	A little	60 (39.0)		
	moderate	61 (39.6)		
	Very much	20 (13.0)		
	Total	154		
Effect of wound on patients' clothing	Not at all	5 (3.2)	78.307	0.0001
	A little	24 (15.6)		
	moderate	45 (29.2)		
	Very much	79 (51.3)		
	Total	154		
Effect of wound on patients' work/school	Not at all	12 (7.2)	32.181	0.0001
	A little	52 (33.8)		
	moderate	33 (21.4)		
	Very much	57 (37.0)		
	Total	154		
Effect of wound on patients' leisure and social life	Not at all	27 (17.5)	12.806	0.007
	A little	54 (35.1)		
	moderate	29 (18.8)		
	Very Much	44 (28.6)		
	Total	154		

Table 3: Patients' responses to the QOL indicators on the DLQI.
The correlation is significant at: $p < 0.05$.

Comparing the effect of acute wounds to that of chronic wounds on a patient's quality of life, 55.2% had acute wounds while 44.8% had chronic wounds; only 12.9% of patients with acute wounds had a high QOL, while up to 53.6% of chronic wound patients had low QOL. A p value of $p = 0.325$ showed no significant difference between the two variables at the level of a low quality of life. Less than half (44.7%) of acute wound patients had a moderate QOL while just 10.1% of chronic wound patients had a moderate QOL. The p value ($p = 0.0001$) showed a significant difference between the two variables at the level of a moderate QOL rating of the DLQI (Table 4).

Responses were further analyzed to determine the correlation between patients' quality of life and their demographic characteristics. Out of the 94 male patients who participated in the study, about half (48.6%) had a low QOL while out of the 60 female patients, 41.7% rated large effect on the DLQI (low QOL). The p value, being greater than 0.05 implies no significant difference between the effect wounds had on male or female patients' QOL (Table 5).

QOL	Acute n (%)	Chronic n (%)	X ² Value	P Value
Very high	1 (1.2)	0 (0)	1.00	0.317
High	11 (12.9)	1 (1.4)	8.33	0.004
Moderate	38 (44.7)	7 (10.1)	21.36	0.0001
Low	29 (34.1)	37 (53.6)	0.97	0.325
Very low	6 (7.1)	24 (34.8)	7.20	0.007
Total	85 (55.2)	69 (44.8)		

Table 4: Comparing the effect of acute wounds to that of chronic wounds on the patient’s QOL. The correlation is significant at: $p < 0.05$.

QOL	Male n (%)	Female n (%)	X ²	P Value
Very high	1 (0.6)	0 (0.0)	1.000	0.317
High	6 (6.4)	6 (10)	0.000	1.000
Moderate	32 (34.0)	13 (12.7)	8.022	0.005
Low	41 (48.6)	25 (41.7)	3.879	0.061
Very low	14 (14.9)	16 (26.7)	0.133	0.715
Total	94 (61.0)	60 (39.0)		

Table 5: The relationship between patients’ sex and quality of life. The correlation is significant at: $p < 0.05$.

Out of all the patients in these age ranges 21 - 24, 25 - 34, 35 - 44, 45 - 54, 55 - 64 and > 64, majority of them (50.0%, 40.9%, 38.9%,40.0%,57.1%, 14.3%) respectively scored values matching to a low QOL on the DLQI. The p value for a low and a high QOL is greater than the significant p value (0.05), implying no significant difference between the effects of wounds on young and middle age or elderly patients’ QOL (Table 6).

QOL	21-24 n (%)	25-34 n (%)	35-44 n (%)	45-54 n (%)	55-64 n (%)	>64 n (%)	X ²	P Value
Very high	0 (0.0)	0 (0.0)	1 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)	4.902	0.428
High	1 (2.6)	6 (36.4)	4 (11.1)	0 (0.0)	1 (7.1)	0 (0.0)	15.000	0.100
Mod- erate	11 (28.9)	13 (29.5)	11 (30.6)	6 (40.0)	4 (28.6)	0 (0.0)	16.432	0.06
Low	19 (50.0)	18 (40.9)	14 (38.9)	6 (40.0)	8 (57.1)	1 (14.3)	24.27	0.0001
Very low	7 (18.4)	7 (15.9)	6 (16.7)	3 (20.0)	1 (7.1)	6 (85.7)	6.000	0.306
Total	38 (24.7)	44 (28.6)	36 (23.4)	15 (9.7)	14 (9.1)	7 (4.5)		

Table 6: The relationship between patients’ age group and quality of life. The correlation is significant at: $p < 0.05$.

The participants’ responses to pain and the effect of wound on leisure and social life was further investigated with respect to gender, 42.6% male and 33.5% female participants reported moderate pain as a result of the wound respectively. With regards to the effect of wound on their leisure and social life 25.5% of male and 33.3% of female participants respectively said their wounds had a very much effect. The p values for a very much effect for both variables is greater than the level of significance, ($p = 0.371$, $p = 0.546$) (Table 7).

Variable	Category	Male n (%)	Female n (%)	X ² Value	P value
Patients response to pain	Not at all	6 (6.4)	7 (11.7)	0.076	0.783
	A little	40 (42.6)	20 (33.3)	6.667	0.010
	Moderate	40 (42.6)	21 (35.0)	5.918	0.015
	Very much	8 (8.5)	12 (20.0)	0.800	0.371
	Total	94 (61.0)	60 (39.0)		
Effect of wound on patients’ leisure and social life	Not at all	18 (19.1)	9 (15.0)	3.000	0.083
	A little	34 (36.2)	20 (33.3)	3.630	0.060
	Moderate	18 (19.1)	11 (18.3)	1.690	0.194
	Very Much	24 (25.5)	20 (33.3)	0.364	0.546
	Total	94 (61.0)	60 (39.0)		

Table 7: A distribution of male and female patients’ responses to pain and wound effect on leisure and social life. The correlation is significant at: $p < 0.05$.

Discussion

This study aimed at investigating the quality of life (QOL) of patients with both acute and chronic wounds and the correlation between patients’ demographic data and their QOL. Worthy of note is the fact that proper planning and delivery of appropriate health education to patients by nurses will create awareness in patients and upgrade their knowledge regarding their disease [11]. This may go a long way to stabilize them psychologically while dealing with the condition. According to the findings of this study the number of male patients who participated in the study was significantly higher than the number of females with a p value of 0.000. Generally, males are more prone to injuries (of all types) since they are more involved in diverse activities and even more risky occupations [12]. The study also revealed a higher number of single patients, most of the participants were youths, and a significantly higher number of patients had secondary level of education. This finding is in line with that of the study conducted by Eta., *et al.* [13] whereby majority of the study participants were found to have attended secondary education.

Concerning the patients' QOL the finding revealed that majority of the patients experienced a low QOL. The difference between the quality of life ratings is significant with a p value of $p = 0.000$ and chi square value of $X^2 = 109.64$. This finding concurs with the finding of Maicon, *et al.* which revealed that most of the patients rated high in the quality-of-life index had a low quality of life [14]. It worth mentioning that patients with wounds and especially those with chronic wounds go through pain, loss of self-esteem, and an interruption with their daily activities. In most cases, the patient may be unable to wear dresses of their choice and the wound also affects the patient's comfort hence, it is not strange to find the patient with a low QOL [15].

The study also looked at the quality of life of the participants with respect to either acute or chronic wounds, the findings revealed that a significant number of patients with acute wounds had a moderate QOL. The QOL of life scale rating for patients with chronic wounds was dominated by those with a low QOL. Chronic wounds affect an individual's ability to perform activities of daily living, further contributing to social isolation and reduced levels of social interaction [16]. This results in higher levels of perceived stress, which in turn leads slower wound-healing time, further affecting quality of life [17]. The study revealed no significant difference between the QOL for acute wounds that occurred due to surgery (SAW) and those from accidents (AAW). However, at the level of a moderate QOL rating the number of SAW patients with moderate QOL was significantly higher than that of patients with AAW.

Patient's specific responses to some of the indicators of QOL revealed that almost all of them either felt a little or a lot of pain on the wound site, and majority of the participants said their wounds had a little effect on their social and leisure time. Also, most of the participants said their dress preferences, school and work had also been altered a lot as a result of the wound. The p values showed a significant difference between the different response categories. This finding conforms to the finding of the study conducted by Malin, *et al.* [18] on the impact of leg ulcer on the patient's quality of life, which revealed that a majority of patients reported pain affected their physical activities and sleep at night and interfered with mobility. Their study also revealed that, many of the patients said their wounds restricted their daily normal activities, their jobs, and house works, social life and interaction with others [18].

It is worth noting that quality of life is not just a physical phenomenon that can be handled with physical observations and medications, but has to do with the physical, mental and the psychological aspects of life [19]. Therefore, a patient's physical parameters may all be recorded as normal meanwhile the social life, leisure time and dressing preferences among others may be affected, and this information can be gotten only when the patient's opinion is sought. Health related quality of life (HRQOL) is a multi-dimensional concept that includes domains related to physical, mental emotional and social functioning, it goes beyond direct measure of population health, life expectancy and causes of death but also focuses on the impact health status has on quality of life [20].

It is important to mention that a good nursing approach for wound care is one which focuses on both the physical and psychological factors affecting wound healing thus, the impact of a wound on the quality of life is examined from the patient's perspective [21]. Therefore, the nurse or any other health care practitioner's perception about the patient's QOL may be quite different from the patient's own opinion and hence, measuring the patient's QOL cannot be based only on observations.

Patients with chronic wounds may encounter more challenges than patients with acute wounds, since they must live with the wound for a longer period of time [22]. In this study the number of participants with acute wounds was slightly higher, although there was no significant difference between them ($p = 0.197$). It was found that the number of patients with acute wound having a high quality of life was significantly higher than that of patients with chronic wounds. On the other hand, patients with chronic wounds had a significantly very low quality of life than patients with acute wound. A majority of patients with acute wounds had a moderate QOL followed by a fair number of patients with a low quality of life. Whereas, the majority of chronic wound patients had a low quality of life with just a fair number of them with a moderate QOL. The P value of the cross tabulation was less than the level of significance. This indicated that, there is a significant difference between the effects a chronic wound has on a patient's QOL compared to an acute wound. This is contrary to

the finding of the Wound Care Center which revealed that there were no significant differences between the groups for overall HRQOL or satisfaction with HRQOL, although there was a trend for those with chronic wounds to rate their overall HRQOL as higher than those with acute wounds [23].

In general, chronic wound patients have a lot to deal with, there is a lot of alteration of daily life's activities and since it is long-term most of them have other health problems [24]. Patients with acute wounds may be able to deal with the short-term interruption of their normal life style and preferences because they get their wound healed within shorter a period of time. Chronic wound patients are vulnerable to the development of neuropathic pain due to protracted and reoccurring noxious stimulation, and pain can in turn impair wound healing [25]. It is worth noting that patients with wounds especially chronic wounds have to deal with pain, odour, wound exudates, loss of body image, reduced self-esteem and decreased mobility amongst others, which are predisposing factors of a decreased quality of life [26].

Investigating whose quality of life (QOL) is more affected with respect to age group and gender, it was found that majority of the male patients had a low QOL, likewise most of the female patients. However, the number of female patients with a very low QOL was higher than that of the male patients. The p value of the correlation was greater than the level of significance except at the level of a moderate QOL which implies that, the QOL of a patient with a wound is not determined by their sex. These findings agree with the findings from a study conducted by the US National Library of Medicine Team on 758 patients with leg ulcers. They reported that women had lower QOL scores than men though results vary with gender in relation to specific factors, and there was no correlation between a patient's sex and the patients QOL score since the QOL scores varied with each specific QOL indicator [27].

The patient's gender was individually cross matched with their responses to pain and social life, the findings revealed that a higher number of male patients rated their pain level as a little and moderate on the scale as compared to female patients. The P value showed no significant relationship between the patient's gender and their pain ratings. The cross tabulation between the patient's social life revealed that a higher number of female patients scored higher for wound effect on leisure and social life than the male patients, although the P value showed no relationship between the two variables. This is in line with the findings of the study conducted by the team of US National Library of Medicine [28]. This group found that when pain and physical mobility were considered, QOL scores were lower in men than in women, and with regards to validity, social and physical functioning, women had lower QOL scores than men [28]. Another study revealed that the proportion of men with satisfactory QOL scores was higher than in women in terms of physical activities, whereas, more women than men had satisfactory feelings, household duties and social relationships QOL scores [29].

Patient's ages were also cross matched with their QOL to determine the correlation. Majority of all the patients in the different age groups (21 - 24, 25 - 34, 35 - 44, 45 - 54, 55 - 64 and > 64) scored values matching to a low QOL respectively. The P values were greater than the level of significance for three QOL score grades (very high, moderate and very low QOL) and lower than the level of significance for two DLQI rating (low and high QOL). This implies that the QOL of a patient with a wound can be affected by his/her age. This finding is in agreement with the findings from a cross sectional study conducted on age and gender matched leg ulcer patients in which age was not found to be a statistically significant QOL determinant [30].

Conclusion

In general, the patients' quality of life was negatively affected by their wounds and the quality of life of patients with chronic wounds was more affected than that of patients with acute wounds. Patients' demographic data had no statistically significant relationship with their quality of life. Living with wounds could be very challenging, since the condition may interfere with one's adaptive lifestyle and daily activities. Thus, assessing the quality of life of this group of patients is very necessary since the knowledge of the patient's quality of life can be used to improve approaches to care. Therefore, health administrators should organized seminars and workshops to update nurses on the different quality of life scales for a specific diseases.

Limitation of the Study

Study had as limitation the fact that the findings are all based on self-reported information. There might have been some reporting bias by respondents due to fear of appearing to be seen as weak. That notwithstanding, the fact that the study was conducted in three different hospitals which serve as referral hospitals for the population within and around Fako Division made of patients with different background lends credence to the study.

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Authors' Contribution

All authors participated in all steps of the study from its commencement to writing. That is, conception and design, acquisition of data, analysis and interpretation of data as well as drafting and or revising and approving the final manuscript.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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