

The Point Prevalence and Cost of Wound Management in a Nigerian Teaching Hospital

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SUMMARY

Background: Chronic wounds as a cause of patient morbidity represent a major health burden and drains on resources. There is paucity of information on the actual cost of wound management in Nigeria. Studies have calculated the cost of wounds to the NHS in United Kingdom to be about £1bn a year.

Objective: This study was conducted to provide data on the point prevalence of wounds in a Nigeria Teaching Hospital, the aetiology and the cost implication of managing the wound.

Methods: The study was carried out on a Sunday morning to minimize disruption to patient care. Data on all in patients with chronic wounds were documented in a designed proforma.

Results: Two-hundred and six patients were on admission on the day of study out of which sixty-five patients (31.55%) were being managed for one type of wound or the other. There were thirty-six males and twenty-nine females with a male to female ratio of 1.1:1. Twenty-four patients (36.9%) had surgical wounds of different aetiology which seventeen patients (26.2%) were being managed for traumatic ulcer. Twenty-nine patients (44.6%) spent between one hundred Naira to five hundred Naira on wound dressing per week. The costs of care of these patients were being settled by their relation in fifty-one patients (78.5%).

Conclusion: Wound management is a significant clinical and economic problem. The cost to the health system can be very significant, this is particularly so in a developing country like Nigeria. Our study showed that majority of our patients are petty traders and the cost of wound care was borne mainly by their relatives. The money being spent in a week on wound dressing alone is a bit high for an average Nigerian.

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INTRODUCTION

Simple surgical and traumatic wounds require simple, low-cost dressings since healing is likely to be rapid and

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uncomplicated. Normal wound healing in an acute wound is highly coordinated with movement of specific cell populations occurring as the wound progresses from injury through repair, and remodeling to healing. This process is however impaired in chronic wounds. Chronic wounds as a cause of patient morbidity represent a major health burden and drains on resources. There is a paucity of information on the actual cost of wound management in Nigeria. Studies have calculated the cost of wounds to the NHS in United Kingdom to be about one billion BP a year¹. Also in the United Kingdom, around 24000 admissions a year are patients with diabetic foot ulceration. The cost of this to the NHS is seventeen million BP². A major part of this sum are for dressing and community nurse visits. The sum shows only the direct costs and does not include loss of income, loss of man hours and reduced quality of life of the patients. The aim of this study is to provide data on the point prevalence of wounds in a Nigerian Teaching Hospital, the aetiology, care given and the cost implication of wound management.

METHODS

The study was carried out in a tertiary hospital located in Kwara state in the north central zone of Nigeria. This institution is the only tertiary institution that caters for patients in the state and the surrounding states such as Niger, Benue and Kogi with a total population of about 8,928,280 from the National population censuses of 1991. It also functions as a secondary health institution because of the unavailability of a functional secondary health centre. The hospital consists of two sections, the General wing and the Maternity wing. This study was conducted in the General hospital wing which consists of 8 wards, adult and paediatric emergency units.

The study date was on Sunday morning to minimize disruption to patients care. The study was carried out on 08/02/09. The data was collected by 5 observers who are experienced in wound evaluation and wound care. Data was collected and entered into a proforma. The informations collected are aetiology of wound, age, sex, type of wound, weekly cost and mode of wound dressing. This was entered into SPSS version 9 for analysis. The data was presented as percentages, proportions, means and standard deviations.

RESULTS

A total number of two-hundred and six patients were on admission. Sixty five patients were being managed for one type of wound or the other, this constitute about 31.55% of the total

THE POINT PREVALENCE AND COST OF WOUND MANAGEMENT IN A NIGERIAN TEACHING HOSPITAL

patients in the hospital. The age distribution is as shown in fig 1 with the majority of the patients in their third to fifth decades of life. The mean age 34.51(SD- 17.99) There were thirty-six males and twenty-one females with a male to female ratio of (1.7:1). Twenty six patients (40%) were traders, twelve patients (18.5%) were civil servants and fifteen (23.1%) of our patients were students. For the purpose of this study, wounds that were being managed were classified into six types as shown in fig 2. Twenty four patients (36.9%) had surgical wounds of different aetiology while seventeen patients (26.2%) were being managed for ulcers resulting from poorly managed traumatic wound. There were six patients (9.2%) with pressure sores while four patients (6.2%) were being managed for chronic leg ulcer from other causes apart from trauma such as sickle cell disease, varicose vein and diabetic foot. Burn wounds were classified under others.

Table 1 shows the cost of care for wound dressing per patient per week in the ward. Twenty nine patients (44.6%) spent between one hundred to five hundred Naira on wound dressing alone per week. Twenty one patients (32.3%) spent between five hundred Naira to one-thousand Naira on wound dressing per week while ten patients (15.4%) spent between one-thousand and one Naira to one thousand and five-hundred Naira on wound dressing per week. The result also showed that the costs of care of these patients was borne by relations in fifty-one patients (78.5%). Eleven patients (16.9%) were self-financed while only two patients (3.1%) have their employers taking care of their cost.

Frequency of the dressing revealed that 43 patients (66.2%) have daily wound dressing, 9 patients (13.8%) have alternate day wound dressing and 13 patients (20%) dress their wound twice in a week. Thirty seven patients (56.9%) will require wound cover in form of skin grafting or flap surgery for the final care of their wounds.

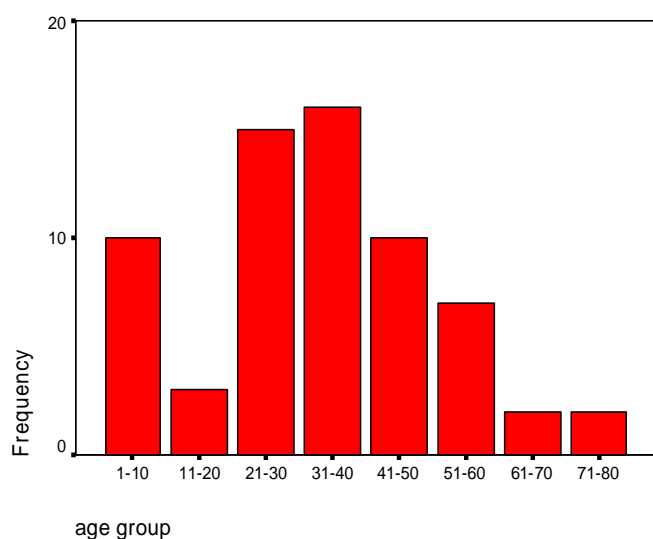


Fig. 1: Age distribution

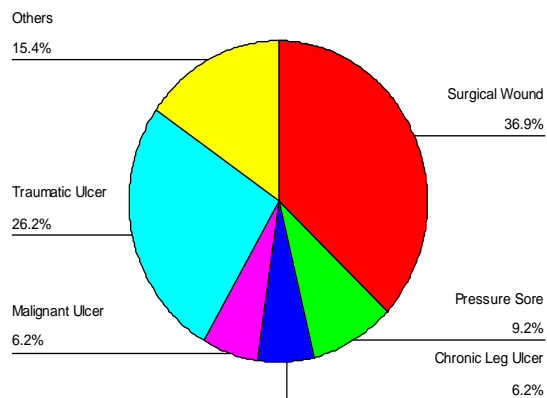


Fig 2: Type of wounds

Table 1: Cost of Care

Cost of care in Naira	Frequency	Percent
100-500	29	44.6
501-1000	21	32.3
1001-1500	10	15.4
1501-2000	3	4.6
2001-2500	1	1.5
3500-4000	1	1.5
Total	65	100.0

DISCUSSION

Wound management is a significant clinical and economic problem³. It is likely to be worse in developing countries than in developed nations of the world. Our study revealed that 31.55% of the total hospital patients were been managed for wounds. Though the authors could not lay their hands on a local comparative data, this figure was on a high side. National Health Insurance has taken off, but coverage is limited to those employed in the formal sector. Hence most of our patients are not covered by the NHIS and where the Gross per Capital (GP) of an average Nigerian is US \$915 and the expenditure as percentage of GP is 3.4%, the brunt of the cost of care of these patients will probably fall on the patients and their relatives. Majority of our patients (40%) are petty traders and in fifty one patients (78.5%), the cost of care was borne by their relatives. Twenty nine patients (44.6%) spent an average of one-hundred Naira to five hundred Naira in a week on wound dressing excluding the costs of drug treatment, investigations, hospital bed fee, physiotherapy and feeding. We think this is a bit high for an average Nigeria. Twenty four patients (36.9%) had surgical wounds of different aetiology such as wound dehiscence resulting from laparotomy done for patients with typhoid perforation; ruptured appendice. It also include wound of fecal fistula, complicating a major abdominal surgery. Seventeen patients (26.2%) were also being managed for traumatic ulcers, resulting from poorly managed traumatic wounds. Forty three patients (66.2%) had daily wound dressing, while 37 patients (56.9%) will require wound cover in form of autologous skin grafting or flap surgery.

All chronic wounds harbor bacteria. However, while some wounds are contaminated, others are colonized and some are

infected. A bacterial load of 10⁵ and 10⁶ organism per gram in a wound bed, irrespective of the organism will adversely affect wound healing^{4,5,6}. We did wound biopsy and not wound swab to confirm infection. Chronic wounds with necrotic tissue when surgically debrided accelerates the rate of wound healing^{7,8,9}. In addition to surgical debridements we make use of honey for wound dressing in our centre which is a good non-surgical debriding agent. We mostly use gamgee instead of gauze to cover our large wounds which serves as a good absorbent dressings. In the presence of clean healthy looking granulation tissue, healing can be disturbed if exudate is not controlled¹⁰.

We recommend that patients should be educated on the need to present early to hospital with traumatic wounds so that, adequate and proper care can be instituted. Primary attending Physician and private hospitals should refer cases that are meant for the specialists early enough, they should not hold on unnecessarily to the patient for personal or financial gain. The Physician at tertiary level should ensure adequate and proper care of patients to minimize post-operative complications such as wound dehiscence and fecal fistula.

CONCLUSION

Government hospitals should subsidize treatment of patients with chronic wounds by providing dressing materials at a highly subsidized rate, and some of them may be exempted from paying. When the NHIS is fully implemented in Nigeria it will remove the burden of cost of care away from the less privilege people.

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