DOI: 10.15253/2175-6783.2014000400008
www.revistarene.ufc.br

Original Article

Characterization of care for patients with wounds in Primary Care

Caracterização do atendimento de pacientes com feridas na Atenção Primária

Caracterización de la atención a pacientes con heridas en la Atención Primaria

Isabel Cristina Ramos Vieira Santos[1], Marcos Antonio de Oliveira Souza[1], Luciana Naiara Vieira de Andrade[1], Mariana Pereira Lopes[1], Mônica Fidelis Ataide de Barros e Silva[1], Rosimery Tavares Santiago[1]

This study aimed to describe the treatment of patients with wounds in the Primary Health Care. A descriptive research with quantitative approach. Ninety-three Family Health Units of the city of Recife-PE, Brazil, were selected, and 112 nurses were interviewed from July to December 2011. The record book of bandages and procedures and the dressing form were used as an additional source of data. Frequencies, measures of central tendency and dispersion, prevalence and, for continuous variables, the analysis of variance were estimated. The prevalence of patients with wounds was 1.9% of the estimated covered population. Vascular ulcers accounted for 74.1% of the treated wounds. The dressing was predominantly performed by Nursing technicians, and the products available for this procedure did not match the current technological development.
Descriptors: Wound Healing; Primary Health Care; Nursing Care.

Objetivou-se caracterizar o atendimento de portadores de feridas na Atenção Primária. Pesquisa de caráter descritivo e abordagem quantitativa. Foram selecionadas 93 unidades de Saúde da Família da cidade do Recife, PE, Brasil, sendo entrevistados 112 enfermeiros, entre julho e dezembro de 2011. Como fontes adicionais de dados, foram utilizados o livro de registro de curativos e procedimentos, e o formulário de penso. Estimaram-se frequências, medidas de tendência central e dispersão, prevalência e, para as variáveis contínuas, foi realizada análise de variância. A prevalência dos portadores de feridas foi de 1,9% sobre a população coberta estimada. As úlceras vasculares corresponderam a 74,1% das feridas tratadas. O curativo foi predominantemente realizado pelo técnico de Enfermagem, e os produtos disponíveis para tal procedimento não corresponderam ao desenvolvimento tecnológico atual.
Descritores: Cicatrização; Atenção Primária à Saúde; Cuidados de Enfermagem.

El objetivo del estudio fue caracterizar la atención a portadores de heridas en la Atención Primaria de Salud. Investigación descriptiva con enfoque cuantitativo. Se seleccionaron 93 unidades de Salud de la Familia de Recife, PE, Brasil, y 112 enfermeros fueron entrevistados, entre julio y diciembre de 2011. Como fuentes adicionales de datos, se utilizaron el libro de registro de vendajes y apósito, y formulario de búsqueda. Se estimaron frecuencias, medidas de tendencia central y dispersión, prevalencia y, para las variables continuas, fue realizado análisis de variancia. La prevalencia de portadores de heridas fue de 1,9% de la población cubierta estimada. Las úlceras vasculares representaron 74,1% de las heridas tratadas. El vendaje se realizaba predominantemente por el técnico de Enfermería, y los productos disponibles para apósito no correspondían al desarrollo tecnológico actual.
Descriptores: Cicatrización de Heridas; Atención Primaria de Salud; Atención de Enfermería.

[1]Universidade de Pernambuco. Recife, PE, Brazil.

Corresponding author: Isabel Cristina Ramos Vieira Santos
Rua Teles Junior, 475, apto. 201. Rosarinho, CEP: 52050-040. Recife, PE. Brazil. E-mail: tutornad@yahoo.com.br

Received: June. 7th 2014; Accepted: Sept. 1st 2014.

Introduction

Skin lesions trigger a series of biochemical events aimed at restoring the vascular and cellular integrity. During the healing process, the tissue becomes vulnerable to several factors that can stop this process. The failure of any phase in the repair process can impede healing and lead to significant morbidity, thus resulting in costs[1].

Among other factors, the cost of treating wounds relates to the way they evolve. Acute wounds correspond to traumatic or surgical wounds that evolve in the healing process in predictable time and manner, from the moment of injury until closing[2]. These wounds compete for most skin lesions – keeping in mind that there are more than 110 million surgical incisions per year worldwide. Traumatic wounds occur at a rate of 1.6 million cases per year[3].

Moreover, there are also burns in this classification. These wounds, when do not require hospitalization, are treated at home, health units, or outpatient clinics. For this reason, a large number of these cases never enters the statistics of the health system. It is estimated that about 3.4 million patients belong to this category[2].

Chronic wounds are complex, caused by intrinsic or extrinsic factors, they do not progress according to the usual stages of healing and usually take a long time for repair, requiring more care[2].

Pressure ulcers, for example, present an incidence of approximately 8.5 million cases worldwide. Other ulcers are caused by circulatory problems. There are about 12.5 million venous ulcers and 13.5 million diabetic ulcers requiring treatment[4].

The incidence of chronic wounds has increased due to population ageing. With more cases of diabetes, the treatment of neuropathic ulcers tends to rise proportionally. Besides considering the underlying disease responsible for most of these wounds, the number of bedridden and elderly patients (over 65 years) has increased gradually, creating a population at higher risk of developing pressure ulcers and other injuries that affect public spending, besides interfering with the quality of life[2,4]. The cost of treating chronic venous insufficiency ulcers is about US$1 billion per year in the United States[2].

In Brazil, wounds represent a serious public health problem given the large number of patients with changes in skin integrity, despite the few records of these attendances.

Many of these patients seek Primary Care as a gateway or receive monitoring in it after high complexity care, which gives greater responsibility to this level of attention in the care for patients with skin lesions.

Although Primary Care has advanced greatly, in recent years, in ensuring citizen access to health care actions, it still lacks systematic information on the characterization of the population assisted, as well as resources available for assistance.

Since the Nursing professional is directly involved in wound care, there is need for a broad overview of the scenario in which they act, in addition to knowledge about the means used in the attempt of changing the situation. Nurses have mastery of this technique and, since they have more contact with the patient, they must be able to monitor the lesion evolution, guide the necessary care, and perform bandaging.

The impact the occurrence of wounds of several etiologies have on Primary Care and the lack of studies, especially regarding the characteristics of the clients and issues relating to the structure and operation of networks of this level of care, motivated this work, which aimed to characterize the care of patients with wounds in Primary Care from a Brazilian capital.

Method

Descriptive study of quantitative approach conducted in the Family Health Units of the city of Recife, Pernambuco, Brazil, from February to August 2013. In this period, the city had 1,536,934 inhabitants and, as regards the public health, 106 units distributed

in six territorial politico-administrative regions called Health Districts.

The sample size calculation for prevalence survey occurred based on the number of units (106), with confidence limit of 5% and a confidence interval of 95%, thus resulting in a sample of 84 units. Adding 10% for potential loss of information, the final sample consisted of 93 units. The study sample comprised 112 nurses of 128 Family Health Teams (87.5%). Those professionals who were on vacation, maternity or sick leave during the research were excluded.

For data collection, a structured interview with the nurses of the respective Family Health Teams took place through a questionnaire containing questions related to: patients with wounds treated and number of bandaging in the previous year; most common wounds; place of assistance and professional responsible for attendance; and products available for their realization.

The record book of bandages and procedures and the dressing form from the Family Health Unit were used as additional sources of data.

The descriptive statistical analyzes happened through the Statistical Package for the Social Sciences, version 14.0. Frequencies, measures of central tendency (mean and median) and dispersion (standard deviation), and prevalence were estimated; for continuous variables, analysis of variance occurred (to compare different means of districts as regards the variables of patients with wounds attended and bandaging performed per year). The significance level was set at $p<0.05$.

This was one of the articles that composed the project Structure of care provided to patients with wounds in Primary Care in Recife, approved by the Human Research Ethics Committees of the Universidade de Pernambuco (Certificate of Appreciation Presentation to Ethics: 0017.0.097000-11). Each subject was duly informed, agreed to participate and signed the Free and Informed of Consent Form.

Results

Table 1 presents the results regarding the number of patients with wounds treated and bandaging performed in the previous year in the Family Health Units of the six Health Districts of Recife. The mean of attendances was 2,699.17 (median of 2,256.00), with an average of 6,145.17 bandaging in the same period (median of 6,494.50). It was observed a higher frequency among patients with wounds treated in the Third and Fourth districts. As for the number of bandaging, the Sixth district presented the highest frequency of procedures performed, followed by the Second district. In the analysis of mean differences, there was a statistically significant difference for the variable patients with wounds treated per year ($p<0.05$).

Table 1 - Characterization of care according to patients with wounds and bandaging performed

Health district	Patients with wounds treated per yar		Bandaging performed per year	
	n = 16.195	X±SD	n = 36.871	X±SD
1st	620	88.6±45.4	2.349	234.9±55.9
2nd	1.443	120.2±69.6	8.190	390.0±266.3
3rd	3.418	244.0±234.0	7.409	463.0±255.4
4th	1.752	146.0±138.8	3.892	324.3±205.6
5th	2.760	184.0±144.5	5.580	372.0±333.5
6th	6.202	214.2±210.5	9.451	275.0±213.3
Analysis of variance		1.20		1.06
P-value		0.05		0.38

Table 2 presents the results related to the characterization of care according to the most common injuries reported by nurses of the Family Health Units of Recife. It was observed that the most commonly treated type of injury corresponded to vascular ulcers, accounting for 74.1% of wounds treated, while traumas represented 24.1%. The highest rate was reported by the Sixth district for both types of lesion.

Table 2 - Characterization of care according to most frequent wounds

Health district	Most frequent wounds		
	Vascular ulcers (%)	Pressure ulcers (%)	Traumatic wounds (%)
1st	10 (12.0)	-	-
2nd	20 (24.1)	-	3 (11.1)
3rd	12 (14.5)	-	5 (18.5)
4th	8 (09.6)	-	4 (14.8)
5th	9 (10.8)	2 (100.0)	5 (18.5)
6th	24 (29.0)	-	10 (37.1)
Total	83 (100.0)	2 (100.0)	27 (100.0)

The characterization of assistance with regard to the place and the professional performing the bandaging showed that the procedure took place predominantly within the Family Health Units (92.9%) by nursing technicians (99%).

Table 3 shows the products available in the Family Health Units to perform bandaging, the amount received per month, and mean and median for Health Districts. It was verified that the biggest quantitative material corresponded to Neomycin sulphate (5,090 units).

Table 3 - Products available in the Family Health Units to perform bandaging

Product	n	Mean	Median
Physiological saline (boxes with 12 units of 500ml each)	921	92.1	88.0
Topical povidone-iodine 10% (units of 1L)	143	28.6	20.0
Degerming povidone-iodine (units of 1L)	115	23.0	15.0
Essential fatty acids (units of 200mL)	178	25.4	21.0
Collagenase (units of 30g)	1.691	112.7	45.0
Neomycin sulfate (units of 20g)	5.090	509.0	450.5
Silver sulfadiazine (pots of 400g)	134	44.7	25.0
Plaster (units of 10cmx4,5m)	598	54.4	63.0
Gauze (packs with 500 units)	1.743	68.6	33.5
Surgical pad (packs with 50 units of 23x25cm)	36	12.0	16.0
Crepe bandage (packs with 12 units)	1.190	655.4	405.0
Examination gloves (boxes with 100 units)	867	74.7	52.0
Sterile gloves (pairs)	2.616	327.0	325.0

Discussion

The results revealed substantial frequencies of patients with wounds treated in the Family Health Units of Recife and consequently a large number of bandaging performed, which can be contrasted when considering the city population and the population covered by the Family Health Strategy, estimated at 1,536,934 inhabitants and 842,649 people[5-6], respectively. Thus, all patients with wounds treated in Family Health Units found in this study correspond to a prevalence of 1.05% of the general population of Recife and represented 1.9% of the estimated population covered.

These data highlight the situation of patients with wounds as a public health problem and, for that matter, we do not have any record of other study in Brazil that presented parameters for comparison.

There was a higher frequency of these patients in the Sixth Health District, which corresponds to the population of eight neighborhoods of the southern region of the city and that present conditions of extremely disparate human development, either among themselves or in the own neighborhood[7].

The most treated lesions followed the epidemiological picture of the region and country[8-9], represented mainly by chronic wounds (vascular ulcers), which are related to the aging process experienced by the population and that require especial assistance, given the secondary character of an underlying disease as well as its repercussions.

Chronic wounds have an important socioeconomic impact due to their frequency and social costs, particularly for the elderly. Studies indicate that approximately 100,000 patients have this problem at least once in a lifetime in the UK and four times that number in the United States[10-11].

The prevalence of lower extremity ulcers in the population of Spain is 0.16%; however, there are differences in the stages of life, and rates from 0.2 to 2.5% were observed in 41-60 year old people, and from 2.1 to 10% in people aged 80 years[12].

The chronicity and recurrence of these wounds constitute the main epidemiological aspects. 40 to 50% of lower extremity ulcers remain open and active for over 6 months. A similar percentage exceeds 12 months of evolution and about 10% remains unhealed over five-year intervals. One third of initially healed ulcers relapsed within 12 months after healing[12].

More than 7 million Americans suffer from chronic forms of venous insufficiency, corresponding to 70-90% of lower extremity wounds treated in the health system[11]. Although our study was limited by the lack of discrimination of vascular lesions in arterial and venous, the values found for vascular ulcers, which include the venous type (74.1%), are consistent with the literature[12-14].

A systematic review study showed that, in health care practices, patients with venous ulcer are often treated for dressing changes with successive changes of topical treatment. The patient may experience this situation that requires frequent and exhausting care for several years without, however, achieving ulcer healing[15].

Diabetes mellitus, other chronic disease, presents increasing statistics, despite the efforts of the public sector, and competes for assistance in Primary Care[16], often due to diabetic foot ulcers.

With regard to the specific prevalence of diabetic foot, studies in Brazil are scarce and punctual. Study conducted in Recife, with large sample of diabetic patients showed a prevalence of 9% of patients with diabetic foot[9].

Results concerning the products available to perform bandaging enable to identify that units have the most basic items, but do not yet incorporate the proven cost-effective products, which initially can result in higher costs to public management and higher suffering for the population assisted with regard to prolonging healing and stabilization of the situation, exposure to complications and pain.

The products reported by the nurses of Family Health Units can be divided into five groups: cleaning products, antiseptics and antibiotics, bioactive products and debridement, dressing material, and gloves.

Choosing the products to be used in wound treatment should take into account the stage of the healing process, the depth, the type of exudate, and the presence of infection[4]. We highlight the importance of the creation and implementation of a clinical protocol as an instrument to standardize and systematize the curative procedures.

Usually, if a wound is clean, simple irrigation with physiological saline is appropriate[4]. The study results showed an amount of 921 boxes with 12 units of physiological saline of 500mL per month for the six Health Districts, which corresponds to 11,052 units for the six Health Districts, or 1,842 units per district per month. If we consider that the higher frequency of patients with wounds (6,202) was found in the Sixth Health District, this amount seems insufficient to meet the demand, especially when knowing that this product has other purposes besides bandaging.

The use of antiseptics in wound care is controversial and there is no considerable research that reveals its effects on open wounds[4,17], however there is concern about its toxicity. The results presented in this study demonstrate that such products are used in small quantities for Primary Care in Recife in its two forms of presentation (topical and degerming).

The use of topical antibiotics in chronic wounds is not recommended due to development of resistance and awareness. In recent years, bandages (wound healing promoters) have been developed, based on iodine and silver[17-18]. Silver has proven broad-spectrum antimicrobial activity and inactivates almost all known bacteria, including methicillin-resistant Staphylococcus aureus and vancomycin-resistant Enterococcus. There are no reported cases of resistance, proving its use to reduce the biofilm on the surface or in the cavity of infected wounds[19].

In this study, it was observed a reduced use of silver sulfadiazine in the six Health Districts of the city of Recife (average of 44.7 pots per month). On the

other hand, there is a large use of neomycin sulfate (average 509.0 units per month per Health Districts). The indications for this product include: skin ulcerative lesions (varicose, pressure, and traumatic ulcers), burns and infected wounds; nevertheless, studies have demonstrated its efficiency is restricted for treating burns[20].

In the group of bioactive products and debridement, the Family Health Units in Recife have only essential fatty acids (average of 25.4 units per Health District per month) and collagenase (average 112.7 units per Health District per month). In the specialized literature produced in Brazil, there is frequent mention of the essential fatty acids indicated for the treatment of open wounds[21], which promote chemotaxis and angiogenesis, and maintain the humidity, accelerating the process of tissue granulation. Nonetheless, relevant clinical studies are still scarce[21].

Topical application of exogenous enzymes is a selective method of debridement. Collagenase acts dissolving the collagen holding the avascular tissue to the underlying tissue in the wound bed. This product is not active on dry necrotic tissues (eschar) and the additional use of other topical products, such as iodophor and silver, can decrease its therapeutic efficacy[4].

The dressing material and gloves were found in small quantities in the study period. Their frequency can be considered small both in terms of number of patients with wounds treated, and especially by having their use split between other clinical procedures of the units. Given the frequency of vascular ulcers found in this study, characteristically open lesions of varying depth and subject to infection, we highlight the importance of these items to bandaging.

According to nurses, the nursing technicians were responsible for the bandaging, and the Family Health Unit was the place chosen predominantly for performing these procedures. This finding leads us to reflect on the responsibility and training of these professionals, as regards the individualized and efficient care, and thus thinking the need for ongoing supervision by nurses, besides establishing guidelines for action through protocols.

Conclusion

This study estimated a prevalence of patients with wounds of 1.05% of the general population and 1.9% of the population covered by Primary Health Care, indicating a high percentage in the population.

The high frequency of bandaging points to issues related to the cost of treating injuries. There is urgent need of programs directed to the effectiveness of actions conducted in Primary Care, especially related to vascular wounds due to its chronicity, affecting much of the elderly population, mainly exposed to other factors such as reduced financial costs and that find in that level of health care the only possibility of solving their problem.

The technological development provides new products with proven cost effectiveness, since it involves fewer dressing changes and, consequently, less pain, less risk of contamination and infection by the dressing techniques carried out, or exposure to the environment. This reduces the burden related to treatment; however, as verified in this study, this practice has not yet been implemented in Family Health Units.

The wound treatment products available, besides requiring daily dressing changes, resulting in higher time spent by Nursing, pain, increased risk of infection and patient discomfort, require from Nursing professionals to reflect on the practice performed, consolidated on a scientific basis, so that justifies the actions adopted in treating injuries, seeking to optimize resources and provide quality assistance.

As verified, bandaging is a procedure performed predominantly by nursing technicians. Nurses must have oversight responsibility, including the prescription of appropriate products, guidance, monitoring, and development of educational processes, culminating in evaluating the results.

Collaborations

Santos ICRV and Souza MAO contributed to the design, analysis, data interpretation and final approval of the version to be published. Andrade LNV, Lopes MP, Barros e Silva MFA and Santiago RT contributed to the design, field data collection and drafting of the article.

References

1. Mendonça RJ, Coutinho-Netto J. Cellular aspects of wound healing. An Bras Dermatol. 2009; 84(3):257-62.
2. Broderick N. Understanding chronic wound healing. The Nurse Practitioner. 2009; 34(10):17-22.
3. McDermott-Scales L, Cowman S, Gethin G. Prevalence of wounds in a community care setting in Ireland. J Wound Care. 2009; 18(10):405-17.
4. Lawall H. Treatment of chronic wounds. Vasa. 2012; 41(6):396-409.
5. Ministério da Saúde (BR). Sistema de Informação de Atenção Básica (SIAB). Cadastramento Familiar. [Internet] 2010. Brasília: Ministério da Saúde; 2010 [citado 2014 Aug 18]. Disponível em:http://tabnet.datasus.gov.br/cgi/tabcgi.exe?siab/cnv/siabfPE.def
6. Instituto Brasileiro de Geografia e Estatística (IBGE). Censo 2010 - Primeiros Resultados [Internet] 2010 [citado 2014 Aug 18]. Disponível em: http://www.ibge.gov.br/home/estatistica/populacao/censo2010/
7. Prefeitura Municipal do Recife. Programa das Nações Unidas para o Desenvolvimento. Atlas do Desenvolvimento Humano no Recife. [Internet]. 2009 [citado 2010 Aug 15]. Disponível em: http://www.recife.pe.gov.br/noticias/arquivos/5916.pdf
8. Souza EM, Yoshida WB, Melo VA, Aragão JA, Oliveira LAB. Ulcer due to chronic venous disease: a sociodemographic study in Northeastern Brazil. Ann Vasc Surg. 2013; 27(5):571-6.
9. Santos ICRV, Sobreira CMM, Nunes ENS, Morais MCA. The prevalence and factors associated with diabetic foot amputations. Cienc Saude Coletiva. 2013; 18(10):3007-14.
10. Herberger K, Rustenbach SJ, Haartje O, Blome C, Franzke N, Schafer I, et al. Quality of life and satisfaction of patients with leg ulcers--results of a community-based study. Vasa. 2011; 40(2):131-8.
11. Moffatt CJ, Doherty DC, Smithdale R, Franks PJ. Clinical predictors of leg ulcer healing. Br J Dermatol. 2010; 162(1):51-8.
12. Collins L, Seraj S. Diagnosis and treatment of venous ulcers. Am Fam Physician. 2010; 81(8):989-96.
13. Wei C, Granick MS. Surgical management of chronic wounds. Wounds. 2011; 20(3):35-7.
14. Brito CKD, Nottingham IC, Victor JF, Feitoza SMS, Silva MG, Amaral HEG. Venous ulcer: clinical assessment, guidelines and dressing care. Rev Rene. 2013; 14(3):470-80.
15. Barbosa JAG, Campos LMN. Diretrizes para o tratamento da úlcera venosa. Enferm Glob [periódico na Internet]. 2010[cited 2014 Aug 18]. Available from: http://dms.ufpel.edu.br/ares/handle/123456789/175
16. Simms KW, Ennen K. Lower extremity ulcer management: best practice algorithm. J Clin Nurs. 2011; 20(2):86-93.
17. Sibbald RG, Leaper DJ, Queen D. Iodine made easy. Wounds [Internet] 2011 [cited 2014 Aug 18]. Available from: http://www.woundsinternational.com/pdf/content_9860.pdf
18. Plotner NA, Mostow EM. A review of bioactive materials and chronic wounds. Cutis. 2010; 85(5):259-66.
19. O'Meara S, Al-Kurdi D, Ologun Y, Ovington LG. Antibiotics and antiseptics for venous leg ulcers. Cochrane Database Syst Rev. 2010; 20;(1):CD00355.
20. Rossi LA, Menezez MAJ, Gonçalves N, Caroline L, Farina-Junior JA, Stuchi RAG. Local treatment with burn injuries. Rev Bras Queimaduras [periódico na Internet]. 2010[cited 2014 Aug 18]; 9(2):54-9. Available from: http://www.rbqueimaduras.com.br/detalhe_artigo.asp?id=35.

21. Ferreira AM, Souza BMV, Rigotti MA, Loureiro MRD. The use of fatty acids in wound care: an integrative review of the Brazilian literature. Rev Esc Enferm USP. 2012; 46(3):752-60.