



Research Article

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Medicinal plants used in the wounds treatment

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ABSTRACT

*The present study aimed to know about the use of medicinal plants in the wounds treatment and its forms of use. This is a descriptive study with qualitative approach which was developed in a clinical nursing specialized in wound care and in a University Hospital in Maceió – Alagoas city, northeastern Brazil. Thirty patients bearers of wounds were interviewed, where 70% made use of medicinal plants to treat their injuries. The most cited species were *Stryphnodendron adstringens* (“barbatimão”), *Hyptis pectinata* (“sambacaitá”) and *Schinus terebinthifolia* Raddi (“aroeira”). The two etiologies most frequently cited by the participants patients were varicose ulcers and diabetic foot. The main form of preparation and administration was by bathing of the wound with tea made with dry plant leaf. Patients mainly followed their empirical knowledge, healers and elderly family members as a source of indication for use. Studies in this segment concerning use of medicinal plants by individuals with wounds can be useful in directing the choice of new plant species for experimental research on wound healing, in addition to contribute to the development of health systems more geared to the needs society.*

**Keywords:** medicinal plants, wound healing, community health

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INTRODUCTION

The wound is a integumentary damage that brings physical, psychological, social and economic interferences to the bearer and to the society that surrounds it. These repercussions take even larger dimensions when this wound slows to heal. There are several factors that interfere with the healing process, among them the infection, which is highlighted because it is a very common injury.

In recent years have seen a growth in the use of medicinal plants and a growing tendency to search for less aggressive therapies for human beings, due to the ineffectiveness of some synthetic products, the strong side effects and high cost of allopathic medicines[1].

Like other diseases, also for the treatment of wounds researchers have intensified research of medicinal plants that assist in the healing process, considering clinical, scientific and economic interests[2].

WHO (World Health Organization) recognizes that most of the population in developing countries depends on traditional medicine for its primary care, given that 80% of this population use traditional practices in its primary health care and 85% them use plants or preparation thereof[3].

The use of medicinal plants is not restricted to rural areas or devoid of any medical and pharmaceutical care, increasingly being used in urban areas as an alternative or complement to allopathic medicines[4].

Researches in the search for new phytotherapies treatments that assist healthcare professionals in the treatment of diseases, including wound care are essential to improving people's access to medicines, social and regional inclusions, industrial and technological development, and the sustainable use of Brazilian biodiversity [5].

The indications for the use of medicinal plants can provide subsidies for biochemical and pharmacological studies by decreasing the costs and time in the extraction of active substances, as well as allow the strengthening of cultural knowledge of the local community, encouraging environmental preservation of various medicinal plants used in the region [6].

### EXPERIMENTAL SECTION

This study aimed to know about the use of medicinal plants in the treatment of wounds and its forms of use. This is a descriptive study with qualitative approach that was conducted in two health institutions, one private and one public. A private institution referred to a nursing clinic specializing in wound care. The public institution referred to a referral University Hospital in Alagoas, both institutions located in the city of Maceió - Alagoas, northeastern Brazil.

A probabilistic intentional sample comprising 30 patients with wounds was used.

Data were collected through interviews, according to the demand of institutions, before or after the dressing changes of the wounds of patients, from September to October 2012, using a structured questionnaire involving personal data (age, gender, occupation and residence place), the cause of the wounds, species used in therapy, how to prepare and the person who made the statement to use them.

The interviews were written in full and collected data were stored in a electronic spreadsheet database (Microsoft Excel®). Thereafter, the data were tabulated and transferred to tables, where they were analyzed and presented in tables and texts.

This research was approved by the Ethics Committees in Research and Teaching Cesmac University Center by the number of protocol nº 1325/12 before the study.

### RESULTS AND DISCUSSION

Thirty patients with wounds with ages ranging among 20 years and 92 years were interviewed. All study participants signed a consent form before answering interview.

Among the interviewed, 53.33% were women and 46.67% men. Regarding the place of origin, 70% of participants live in Maceio and the remaining in surrounding towns. Patients interviewed characterized, in general, by being housewives and retirees, some are unemployed, maids and survive of trade and civil construction autonomously.

The wounds on the interviewed patients originated due to surgical procedures, work and automobile accidents, being mostly by circulatory problems, hospitalizations and complications arising from chronic diabetes mellitus. Figure 1.

During the period of interviews, about 77% of patients were with the treatment of their wounds in progress and only 23% had completed.

Eight species of plants were cited, belonging to seven families. The “barbatimão” (*Stryphnodendron adstringens*) was the plant with the highest number of citations, followed by “sambacaitá” (*Hyptis pectinata*) and “aroeira” (*Schinus terebinthifolia*) (Table 1).

Figure 1. Etiology of wounds of the interviewed patients

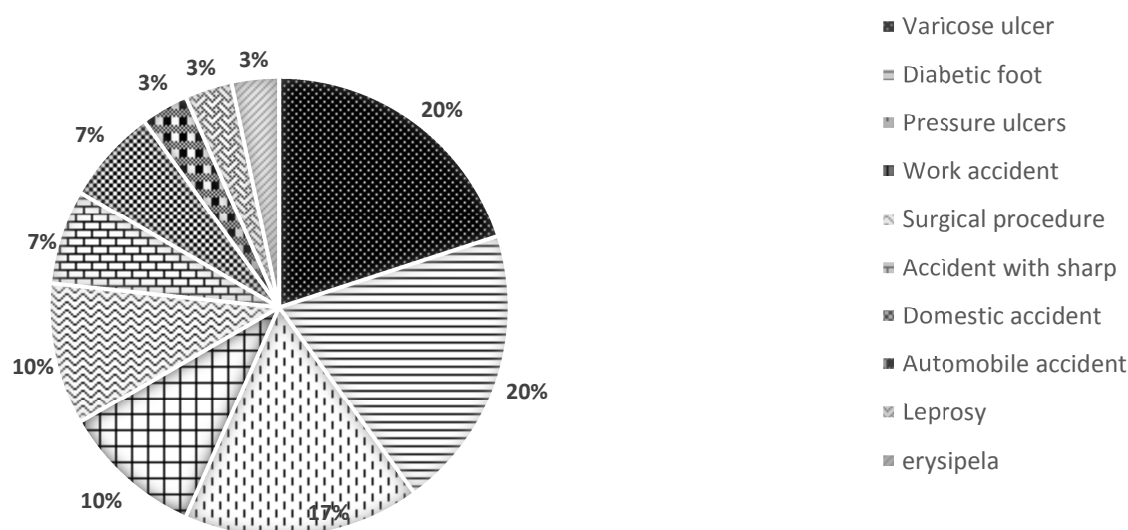


Table 1. Plant species used in the treatment of wounds by interviewed patients

PLANT SPECIES	FAMILY	POPULAR NAME	FREQUENCY	%
<i>Stryphnodendron adstringens</i>	Fabaceae	“Barbatimão”	12	40
<i>Hyptis pectinata</i>	Lamiaceae	“Sambacaitá”	8	26,67
<i>Schinus terebinthifolia Raddi</i>	Anacardiaceae	“Aroeira”	8	26,67
<i>Aloe arborescens</i>	Aloeaceae	“Babosa”	6	20
<i>Anacardium occidentale</i>	Anacardiaceae	“Cajueiro vermelho”	3	10
<i>Tabebuia aurea</i>	Bignoniaceae	“Para tudo”	2	6,67
<i>Ximenia americana Linn</i>	Olacaceae	“Ameixa brava”	1	3,33
<i>Alternanthera brasiliana</i>	Amaranthaceae	“Penicilina”	1	3,33

*Stryphnodendron adstringens*, known as “barbatimão” was the plant species most cited in this study, 40% of interviewed reported had used or be making use. Characterized by being a small tree with thick and rough peels. It is a plant that has an astringent effect and contains as active substance tannins, phlobaphenes and a soluble glicídio. Its pharmacological action as healing of wounds and ulcers is directly linked to its wealth of tannins [7].

Tannin is a phenolic compound that assists in the healing process of wounds. It acts by forming a layer, which can be a tannin-protein complex and/or polysaccharides on the epithelial tissues injured and can right below the layer of tissue that occur naturally in the healing process [8].

*Hyptis pectinata* is an herb of the Lamiaceae family, popularly known in Brazil as “sambacaitá” or “straw”. It was mentioned by 26.67% of the interviewed patients. It is a herbaceous plant with aromatic leaves that have crossed lines. The flowers are small, clustered in inflorescences, hermaphrodites, pentamerous, zygomorphic and bilabiadas [9].

*Hyptis pectinata* species is widely used in the Northeast for several disorders such as: gastric disturbances, wound healing, inflammation, fungal and bacterial infections, besides presenting antiedematogenic and antinociceptive activities [10].

*Schinus terebinthifolia*, popularly known as Aroeira is a common plant of coastal vegetation of northeastern states. Also mentioned by 26.67% of the interviewed patients, is a plant widely used in a folk medicine and can be administered orally or topically for healing various diseases. It has several effects, including anti-inflammatory, antimicrobial and healing actions. As well, it is a low cost option, easy access and manipulation, but most often is used without scientific knowledge [11].

*Aloe arborescens* known as “babosa”, is largely used by the Brazilian population for presenting the therapeutic properties including the facilitation of the healing process, the selective inhibition of microbial growth and no side effect on healthy skin [12].

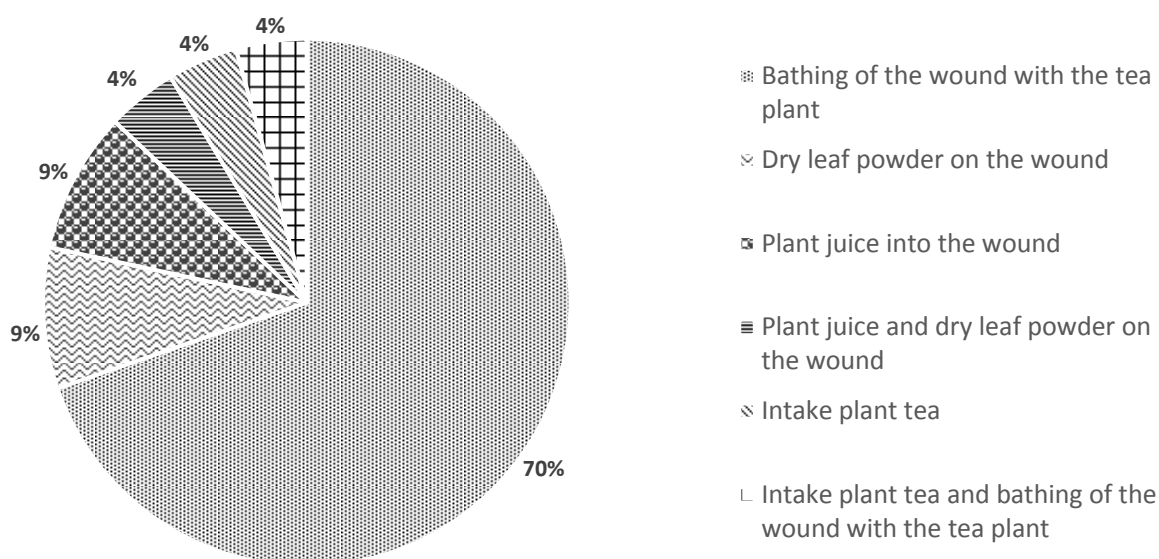
All the interviewed reported having knowledge about medicinal plants, however 70% cited them as therapy for their wounds. Regarding treatment, 67% made use of medicinal plants exclusively and only 3% as a complement to conventional.

Among the 70% of respondents who reported having used plants as a treatment for their injuries, 43% claimed to have their wounds in improvement in healing process or total healed with the use of plant species related.

With this result, it is noticed that most interviewees always seeks satisfaction in meet their needs in the health-disease field, and so they seek various resources and health strategies. These features include the popular measures, as we noted when 21 of them chose to use medicinal plants.

The preparation and administration of plant species used by survey participants were performed in 70% with bathing of the wound with the tea plant, followed by administration of the dry leaf powder on the wound (9%) and use of the plant juice into the wound (9%)(Figure 2).

**Figure 2. Methods of preparation and administration of medicinal**



With this study it is also possible to observe that the main form of preparation and use of medicinal plants was through of the bath of wound with tea made from dry plant leaf. The predominance of this type of preparation is related to its cultural importance. The use of teas have been used for generations and in the case of this study may be related to agility in preparation, ease in the storage conditions of the plant species and its liquid state to be suitable for cleaning the wounds.

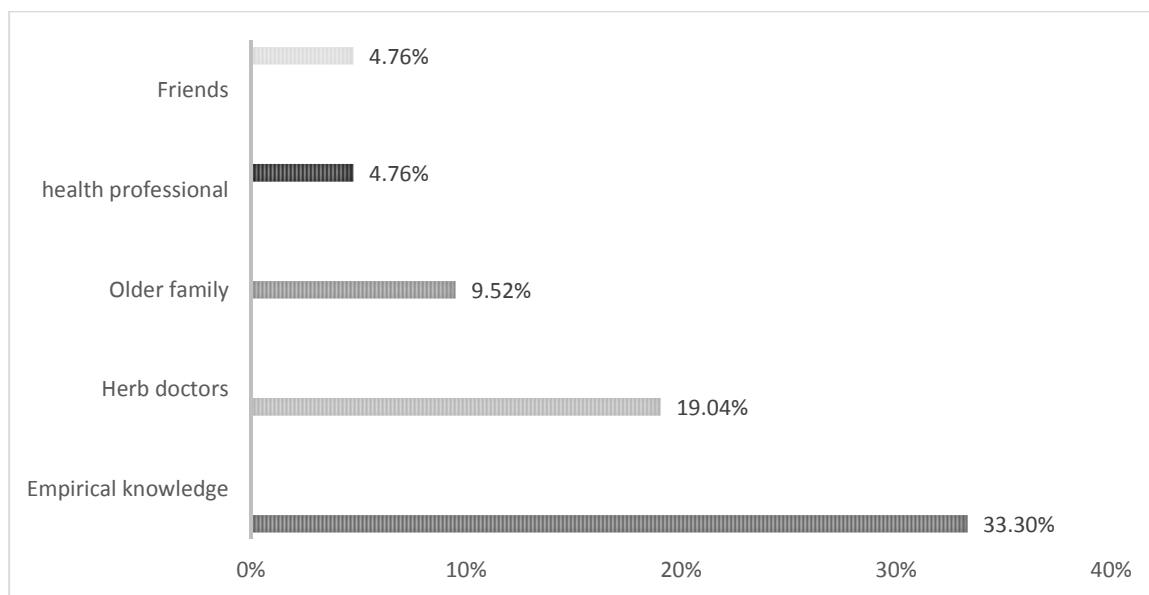
The fact undergo a cooking process makes solution becomes sterile, which may reduce the possibility of contamination during the dressing, because the obtaining adequate of the raw material and quality in all stages of acquisition of the end product, which is the transformation of the plant to the form of use is of paramount importance to the quality of this. Furthermore, compliance to the asepsis principles in all phases of the process contribute to the efficacy of the treatment.

When asked about indication the use of these medicinal plants, 33,33% reported that plants were use based on their empirical knowledge, while 19,04% had adopted the indications of herb doctors from the region and 9,52%, followed advice of older family. (Figure 3).

According to Figueiredo [13], popular practices traverse generations and go beyond ethnicities, races and social classes. According to the author, this is an authentic feature of popular knowledge, which is traditionally used in scope family and socialized in the neighborly relations. This affirms the findings of this study where the indications for use of medicinal plants were based on empirical knowledge of the patients, in the prescriptions made by herb doctors and experiences of elderly highlighting the cultural influences transmitted between generations about the healing properties of plants.

Nursing plays a key role in wound care, both on prevention and treatment. Incumbent on nurses the responsibility for making dressings, promote wellness to its bearer, advise patients about managing with wounds, preventing further injuries [5].

Figure 3 - Indication regarding the use of medicinal plants in the treatment of wounds



Contribute to wound healing through the use of medicinal plants reaffirms the significant role of nursing in the development of new alternatives for the treatment of wounds and, above all, strengthens the feeling of contentment to be able to provide full nursing care, contributing to strengthening the self-esteem of patients with injuries [14].

### CONCLUSION

Through this study it was possible to know about the use of medicinal plants by patients with wounds, where 70% of interviewed made use of medicinal plants to treat their injuries. The most frequent species were *Stryphnodendron adstringens* (“barbatimão”), *Hyptis pectinata* (“sambacaitá”) and *Schinus terebinthifolia* Raddi (“aroeira”). The main form of preparation and administration was by bathing the wound with tea from dried leaf of plant. Patients mainly followed their empirical knowledge, herb doctors and elderly family members as a source of indication for use.

The perception that even amidst industrial therapeutic techniques highly developed and specialized, the use of medicinal plants to treat wounds occupies an important space as a complementary solution for health care.

Investments in research to prove the efficacy of an existing biodiversity not yet investigated may be sources of great discoveries in the treatment of wounds, where ethnobotanical studies, such as this, can serve as guides for such discoveries.

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