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PREVALENCE AND PROFILE OF WOMEN WITH CHRONIC WOUNDS IN THE LOWER EXTREMITIES

PREVALÊNCIA E PERFIL DE MULHERES COM FERIDAS CRÔNICAS EM EXTREMIDADES INFERIORES

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ABSTRACT: Objective: To identify the prevalence of women with chronic wounds in the lower extremities, along with their socioeconomic, clinical, and intimate partner violence profiles. **Methods:** A descriptive, population-based study with 1,086 respondents, of whom 39 had wounds in the lower extremities. We analyzed data using Stata®. **Results:** The prevalence of chronic wounds was 3.6%, mostly affecting older, non-white women with up to eight years of schooling, from socioeconomic classes A/B, with a partner, religious affiliation, and no private health insurance. Regarding health conditions, 59.0% did not use tobacco, 56.4% did not consume alcohol, 46.2% reported pain, 44.0% had arthritis, 46.2% hypertension, 33.3% diabetes, 38.5% high cholesterol, and 35.9% depression. Chronic wounds affected daily activities in 51.0%, while 13.0% experienced physical violence and 28.2% experienced psychological violence during the pandemic. **Conclusion:** Although prevalence was low, chronic wounds significantly affected daily life and were linked to violence exposure.

KEYWORDS: Lower Extremity. Women. Leg Ulcer. Intimate Partner Violence.

RESUMO: Objetivo: identificar a prevalência de mulheres com ferida crônica em extremidade inferior, o perfil socioeconômico, clínico e de vitimização por parceiro íntimo. **Métodos:** estudo descritivo baseado em pesquisa populacional com 1086 entrevistadas, resultando em 39 participantes com feridas em extremidades inferiores. A análise foi realizada no Stata®. **Resultados:** a prevalência de lesões foi de 3,6%, sendo frequente entre as idosas, não brancas, escolaridade até oito anos, da classe econômica A/B, que tinham companheiro, possuíam religião e sem plano de saúde. A respeito da saúde, 59,0% não usavam tabaco; 56,4% não usavam álcool; 46,2% referiam dor; 44,0% apresentavam artrite; 46,2% hipertensão; 33,3% diabetes; 38,5% colesterol aumentado e 35,9% depressão. 51,0% alegaram que as lesões impactaram as atividades diárias, 13,0% sofreram violência física e 28,2% psicológica durante a pandemia. **Conclusão:** a presença da ferida representou um impacto nas atividades da vida diária e na vitimização de violência, apesar da baixa prevalência.

PALAVRAS-CHAVE: Extremidade Inferior. Mulheres. Úlcera da Perna. Violência por Parceiro Íntimo.

INTRODUCTION

Chronic wounds are defined as lesions involving loss of skin integrity to varying degrees. They may arise due to ischemic skin conditions or trauma affecting one of the three skin layers.[1] Wounds, particularly those in the lower extremities, are recognized as a growing public health concern given their high treatment costs. Literature findings indicate that individuals with chronic wounds are prone to depression and low self-esteem, which can hinder treatment and care processes, potentially leading to social isolation.[2-3]

These lesions include diabetic foot ulcers, lower extremity arteriovenous wounds, and pressure ulcers.[4] Epidemiological data on chronic wounds remain scarce, with most studies focusing on specific populations rather than estimating prevalence through population-based research. A meta-analysis and systematic review by Probst et al. (2023) highlight heterogeneity among studies, with a global prevalence of venous leg ulcers at 0.32% and a combined incidence of 0.17%.[5] In Brazil, over 70% of hospital admissions related to venous ulcers in the lower extremities occur in women.[6] Additionally, estimates indicate that lower extremity wounds affect more than 6.5 million Americans annually, significantly increasing healthcare costs worldwide.[7]

Chronic wounds pose therapeutic challenges not only due to their prevalence but also because of their high morbidity and negative impact on quality of life, as they are characterized by delayed healing and difficulty in achieving complete recovery.[8] Moreover, individuals with these health conditions must develop coping strategies since chronic wounds can greatly affect daily life—not only due to the time required for healing but also because of lesion size, odor, and pain, all of which can directly influence daily activities.[9] Chronic wounds may also result from violent experiences or mistreatment, appearing after an episode or repeated exposure to violence. Likewise, the literature indicates that women with chronic wounds may experience rejection, stigma, discrimination, and violence due to their prolonged healing process, lesion size, exudate, odor, and other characteristics that negatively affect their physical and psychosocial health in the short, medium, and long term.[10-11]

Understanding the sociodemographic characteristics of individuals with chronic wounds—such as age, race/ethnicity, and family history—is essential for assessment and care.[7] In this context, nurses play a crucial role in providing individualized care that addresses patients' unique needs. Care should be ethical, holistic, and comprehensive, regardless of the possibility of cure, focusing on self-care promotion to enhance patients' quality of life and available resources.[12]

Thus, to contribute to a more targeted and comprehensive approach to these patients, this study aimed to identify the prevalence of women with chronic wounds in the lower extremities, their socioeconomic and clinical profiles, and their experiences of intimate partner violence during the pandemic.

METHODOLOGY

This is a cross-sectional, descriptive study conducted in the municipality of Vitória, the capital of the state of Espírito Santo. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist, translated into Portuguese, was used to ensure the proper reporting of essential research items.[13]

This study is part of a larger population-based research project primarily aimed at assessing the prevalence of violence against women in Vitória. We interviewed 1,086 participants aged 18 years or

older who had an intimate partner in the past 24 months. From this sample, we selected all participants with chronic wounds in the lower extremities, resulting in a final sample of 39 women.

We randomly collected data for the population-based study in households between January and May 2022. Before data collection, we carried out a pilot study in December 2021, but the data obtained were not included in the final study sample. We analyzed the database for consistency and identification of missing data.

The exclusion criteria included self-reported cognitive or speech impairments that could prevent comprehension of the instrument or participation in the study. To identify the presence of chronic wounds, participants were asked, "Do you have a chronic wound in the lower extremities?" (Yes/No).

The socioeconomic variables used to characterize the sample included: age group (18–29, 30–39, 40–49, 50–59, 60 or older), marital status (with or without a partner), skin color (white or non-white), years of education (0–8, 9–11, or 12+ years), religious affiliation (Yes/No), and private health insurance status (Yes/No). Economic class was estimated using the Brazilian Association of Research Companies (ABEP) classification system, which categorizes individuals into classes A/B, C, or D/E.[14]

We assessed the health profile of women with chronic wounds in the lower extremities using the following variables: history of smoking (never smoked; yes, currently smokes; or yes, but quit smoking), frequency of alcohol consumption (never; monthly or less; 2–4 times per month; 2–3 times per week; or 4+ times per week), and presence of chronic pain (Yes/No). To identify chronic diseases, participants were asked whether they had received a medical diagnosis for the following conditions: arthritis, osteoarthritis, or rheumatism (Yes/No); hypertension (Yes/No); diabetes (Yes/No); hypothyroidism or hyperthyroidism (Yes/No); and high cholesterol (Yes/No).

To assess depressive symptoms, we used the Beck Depression Inventory (BDI), a validated and reliable instrument for assessing depressive symptomatology in the Brazilian population, with an intraclass correlation of 0.89 and a Cronbach's alpha coefficient of 0.93.[15]

For violence screening, we applied the World Health Organization Violence Against Women (WHO VAW Study) instrument, which has been translated and validated in Brazil. This tool has high internal consistency, with an average Cronbach's coefficient of 0.88, and is effective in identifying various forms of violence against women in different social contexts. The instrument consists of 13 questions and is considered comprehensive yet relatively brief.[16] In this study, we assessed physical and psychological intimate partner violence during the pandemic.

Another factor analyzed was whether chronic wounds affected daily activities. Participants were asked: "Has the presence of the wound affected your ability to perform daily activities?" with a Yes/No response option. Additionally, participants were asked whether they observed negative reactions from others regarding their wounds (Yes/No).

We analyzed data using Stata® (version 15.0) and presented it as absolute and relative frequencies with corresponding confidence intervals. The Research Ethics Committee of the Federal University of Espírito Santo approved the study under approval number 4.974.080/2021, CAAE: 41628820.6.0000.5060.

RESULTS

The prevalence of chronic wounds in the lower extremities among residents of Vitória, Espírito Santo, was 3.6% (95% CI: 2.6–4.9).

Table 1 shows that most women with chronic wounds were older adults (33.3%), lived with a partner (84.6%), were non-white (66.7%), belonged to socioeconomic class A/B (48.7%), had up to eight years of education (41.0%), were affiliated with a religion (79.5%), and did not have private health insurance (51.3%) (Table 1).

Table 1. Socioeconomic characteristics of women with chronic lower extremity wounds. Vitória, ES, Brazil, 2022.

Socioeconomic characteristics	n (%)	95%CI
Age (years)		
18 - 29	4 (10.3)	3.8-25.0
30 - 39	5 (12.8)	5.3-27.9
40 - 49	7 (18.0)	8.6-33.7
50 - 59	10 (25.4)	14.1-42.0
≥60	13 (33.3)	20.1-49.9
Marital status		
With partner	33 (84.6)	69.1-93.1
Without partner	6 (15.4)	6.9-30.9
Skin color		
White	13 (33.3)	20.1-49.9
Non-white	26 (66.7)	50.1-80.0
Economic class		
A/B	19 (48.7)	33.2-64.5
C	15 (38.5)	24.3-54.9
D/E	5 (12.8)	5.3-27.9
Years of education		
0 - 8	16 (41.0)	26.5-57.3
9 - 11	11 (28.2)	16.0-44.7
≥12	12 (30.8)	18.0-47.3
Religious affiliation		
No	8 (20.5)	10.4-36.5
Yes	31 (79.5)	63.5-89.6
Private health insurance status		
No	20 (51.3)	35.5-66.8
Yes	19 (48.7)	33.2-64.5

Source: Prepared by authors.
n: absolute frequency.
%: relative frequency.
95%CI: 95% confindence interval.

Regarding behavioral characteristics, most women had never smoked (59.0%) and did not consume alcohol (56.4%). In terms of clinical conditions, 43.6% had arthritis, osteoarthritis, or rheumatism, 46.2% had hypertension, and 33.3% had diabetes. Thyroid disorders were reported by 38.5%, and 46.2% of participants experienced chronic pain. High cholesterol was self-reported by 38.5%, and depressive symptoms were present in approximately 36.0% of participants (Table 2).

Tabela 2. Behavioral and clinical characteristics of women with chronic lower extremity wounds. Vitória, ES, Brazil, 2022.

Behavioral and clinical characteristics	n (%)	95%CI
History of smoking		
Never smoked	23 (59.0)	42.7-73.5
Yes currently smokes	9 (23.1)	12,2-39.3
Yes, but quit smoking	7 (17.9)	8.6-33.7
Frequency of alcohol consumption		
Never	22 (56.4)	40.2-71.3
Monthly or less	5 (12.8)	5.3-27.9
2 - 4 times per month	5 (12.8)	5.2-27.9
2 - 3 times per week	6 (15.4)	6.9-30.9
4+ times per week	1 (2.6)	3.4-17.0
Arthritis, osteoarthritis or rheumatism		
No	22 (56.4)	40.3-71.3
Yes	17 (43.6)	28.7-59.8
Hypertension		
No	21 (53.8)	37.8-69.1
Yes	18 (46.2)	30.9-62.2
Diabetes		
No	26 (66.7)	50.1-79.9
Yes	13 (33.3)	20.1-49.9
Hypothyroidism or hyperthyroidism		
No	24 (61.5)	45.1-75.7
Yes	15 (38.5)	24.3-54.9
Presence of chronic pain		
No	21 (53.8)	37.8-69.1
Yes	18 (46.2)	30.9-62.2
High cholesterol		
No	24 (61.5)	45.1-75.7
Yes	15 (38.5)	24.3-54.9
Depressive symptoms		
No	25 (64.1)	47.6-77.8
Yes	14 (35.9)	22.2-52.4

Source: Prepared by authors.
n: absolute frequency.
%: relative frequency.
95%CI: 95% confindence interval.

More than half of the women (51.3%) reported that the presence of wounds in the lower extremities affected their ability to perform daily activities, and 23.1% perceived negative reactions from others regarding their wounds. As for experiences of intimate partner violence during the pandemic, 12.8% had been victims of physical violence, and 28.2% had experienced psychological violence (Table 3).

Tabela 3. Experience in the lives of women with chronic lower extremity wounds. Vitória, ES, Brazil, 2022.

Variables	n (%)	95%CI
The presence of the lesion caused changes to perform daily activities		
No	19 (48.7)	33.2-64.5
Yes	20 (51.3)	35.5-66.8
Observed negative reactions from others regarding their wounds		
No	30 (76.9)	60.7-87.8
Yes	9 (23.1)	12.2-39.3
Physical violence during the pandemic		
No	34 (87.2)	72.1-94.7
Yes	5 (12.8)	5.3-27.9
Psychological violence during the pandemic		
No	28 (71.8)	55.3-84.0
Yes	11 (28.2)	16.0-44.7

Source: Prepared by authors.
n: absolute frequency.
%: relative frequency.
95%CI: 95% confindence interval.

DISCUSSION

The findings indicate a 3.6% prevalence (95% CI: 2.6–4.9) of lower extremity wounds among the participants. A study on healthcare services for individuals with lower limb wounds reported a 5.8% prevalence of patients receiving outpatient treatment for these lesions.[17] Additionally, the literature suggests that women have a higher prevalence of lower extremity wounds, which may be associated with their longer life expectancy or greater likelihood of seeking healthcare services.[18]

The results of this study show a higher prevalence of wounds among older women with a partner, a finding similar to that of a study on individuals with complex wounds.[19] For women with chronic wounds, having a partner may serve as a source of security.[19]

Another finding from this household-based study was the presence of wounds among women who self-identified as non-white. In contrast, research on the sociodemographic and clinical profile of hospitalized patients with skin lesions indicates a higher prevalence among white women.[20] This result raises concerns about healthcare access among non-white populations, as previous studies have shown that non-white individuals face greater barriers to accessing healthcare services, leading to fewer opportunities for treatment and diagnosis.[21]

Regarding socioeconomic characteristics, most participants had low education levels and belonged to socioeconomic class A/B, which aligns with previous studies showing that most women with lower extremity wounds have completed primary education and have a monthly income between one and three minimum wages. A study found that 49.0% of individuals with venous ulcers had incomplete primary education, and the majority (75.4%) worked in service and trade sectors.[22]

These findings prompt reflection on the racial and economic disparities identified and their impact on healthcare access. A recently published scoping review highlights income as a major determinant of healthcare access disparities. Higher socioeconomic status is associated with better recognition of health needs and improved access to healthcare services. In contrast, the more vulnerable a population, the lower their awareness of health demands and access to care. Therefore, comprehensive and intersectoral policies should be implemented, as barriers to healthcare access reflect broader social inequalities.[23]

Most participants in this study reported having a religious affiliation. Spirituality and family support are important factors contributing to better quality of life and aiding in disease management. Spirituality serves as a source of resilience and emotional support during health crises. Participation in religious services, prayer, and meditation can promote a sense of inner peace and strengthen connections with others and spiritual beliefs.[24-25] Spirituality is recognized as a tool for coping with and overcoming health challenges, with evidence supporting its role in pain relief and anxiety reduction. Healthcare professionals should be open to and respectful of the role spirituality plays in the patient experience.[25]

Most of the women in this study depend on the Unified Health System (SUS), as they reported not having private health insurance. Beyond ensuring treatment for individuals with chronic wounds, SUS should also focus on prevention. In this system, Primary Health Care (PHC) serves as the main entry point for wound treatment. PHC operates through territorialized actions centered on individuals, aiming for resolution through continuity and care coordination.[26] In countries without a public healthcare system, the situation is concerning. For instance, in the United States, the cost of treating chronic lower extremity wounds can reach 40,000 dollars per case, with an estimated annual cost of 1 billion dollars.[27]

Despite most women in this study never having smoked or consumed alcohol, a significant portion had been exposed to nicotine, a substance found in cigarettes that reduces blood flow and impairs tissue nutrition, potentially leading to ischemia.[28] Regarding alcohol consumption, this substance can interact with the body, promoting oxidative and systemic inflammatory states, which contribute to tissue damage and hinder wound healing.[29]

Approximately 44% of participants had arthritis, osteoarthritis, or rheumatism. These conditions can worsen chronic wounds due to their systemic effects on the skin, lungs, and cardiovascular system, negatively impacting physical mobility and functional capacity, as well as prolonging inflammation.[30] Similarly, diabetes increases the risk factors for chronic wounds by compromising blood circulation and altering growth mediators responsible for vascular regeneration, leading to poor tissue nutrition and delayed wound healing.[31]

Four in ten participants reported thyroid disorders and chronic pain, while more than half stated that their wound affected their ability to perform daily activities. Clinically evident thyroid disorders present as nodular enlargement of the gland, with common symptoms including insomnia, excessive fatigue, restlessness, nervousness, and sweating. Such dysfunctions can significantly influence quality of life.[31]

Chronic pain causes discomfort and limitations in daily life, affecting social interactions, mobility, and wound healing, potentially leading to social isolation. The pain and physical limitations associated with venous ulcers can make it difficult for women to walk, work, and engage in social activities. Activity restrictions can lead to social withdrawal and loss of enjoyment, contributing to depression.[25,32]

The literature indicates that women have a higher prevalence of self-reported depression, being twice as likely as men to experience depression over their lifetime. This study identified depressive symptoms among participants, along with impairments in daily activities. Chronic wounds can significantly impact individuals' lives, contributing to a higher prevalence of depression among affected women, as these wounds cause physical, social, and psychological changes, leading to lifestyle modifications and functional limitations.[33]

Some women in this study were victims of physical and psychological intimate partner violence during the pandemic. Domestic violence was exacerbated by social isolation measures during the COVID-19 pandemic, reflecting the deep-rooted structures of a patriarchal and sexist society.[34] The findings highlight the greater vulnerability of women with chronic wounds to intimate partner violence,

underscoring the importance of understanding violence within this specific group and reinforcing the need to strengthen policies to combat this issue.

As we explore the implications of these findings, it is essential to recognize healthcare beyond treatment and self-care, encompassing the social dynamics influencing disease and health-related risks. The results emphasize the need for comprehensive care approaches that address individual needs within a broader social context, thereby contributing to a holistic perspective. Health promotion is operationalized in daily healthcare settings through partnerships with individuals to improve quality of life and reduce risks, always respecting cultural habits and traditions while fostering patient participation in care evaluation.[35]

STUDY LIMITATIONS

A key limitation of this study is its low statistical power due to the sample size. However, it is important to note that the primary objective was not to represent the entire population of women with lower extremity wounds. Despite this limitation, our study seeks to fill a scientific gap by providing population-based data on chronic wounds in women. It is also the first population-based study in the state of Espírito Santo to estimate prevalence and describe the characteristics of this population.

Another limitation to consider is the potential for prevalence bias, as this is a population-based study, and women with more severe health conditions may not have been included in the sample, particularly those institutionalized in hospitals, nursing homes, correctional facilities, or other institutions. The questionnaire contained sensitive questions, such as those related to experiences of violence, and subjective aspects, such as perceived negative reactions to wounds, which may introduce errors due to recall bias or hesitation in reporting such experiences. Additionally, the findings cannot be generalized to other populations, as the study was conducted among women from a single municipality in southeastern Brazil. Nevertheless, the study's methodological rigor and its valuable findings allow for comparisons with similar groups.

IMPLICATIONS FOR PRACTICE

This study encourages a broader perspective on women with chronic wounds, emphasizing the various social, familial, clinical, and behavioral aspects that influence their health and daily lives. It highlights the importance of a multidisciplinary team in providing user embracement, humanized care, and comprehensive support to these women, given the significant impact of this condition.

Work processes in healthcare must evolve so that professionals can engage in interactive and dialogical practices that foster strong therapeutic relationships. Respect for dignity and recognition of personal values, beliefs, expectations, and reactions must guide care approaches that promote self-care and autonomy among women affected by chronic lower extremity wounds. Similarly, incorporating psychosocial interventions for this group is essential, considering the impact of depression and stigma associated with chronic wounds.

Raising awareness of these data can drive public policies tailored to this population and improve the care provided to these women, reinforcing the need for holistic approaches that address the profound impact of wounds on their lives.

CONCLUSION

This study found a low prevalence of women with lower extremity wounds, with the most affected group consisting of older, non-white women with up to eight years of education, belonging to socioeconomic class B, living with a partner, affiliated with a religion, and without private health insurance. Most participants had never smoked or consumed alcohol. A significant proportion had arthritis, osteoarthritis, or rheumatism, hypertension, diabetes, chronic pain, high cholesterol, and depressive symptoms.

It is noteworthy that, for most women, the presence of wounds resulted in changes to their daily activities, and some reported experiencing negative reactions from others due to their condition. This study also identified occurrences of intimate partner violence, both physical and psychological, during the pandemic, highlighting the vulnerability of this group to domestic violence.

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