

EFFECT OF AN NURSING EDUCATIONAL INTERVENTION ON THE MENTAL ADJUSTMENT OF THEPATIENT WITH CHRONIC ULCER IN THE LOWER LIMBS: AN INTERVENTIONAL STUDY

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Abstract: This study aimed to evaluate the effect of an educational intervention carried out by nurses for the mental adjustment of people with chronic ulcers in the lower limbs. A prospective analytical and interventional quantitative study was chosen, in which a convenience sample of 21 people with chronic ulcers in the lower limbs followed in two Primary Health Care Units in the Central Region of Portugal was studied. Data collection was carried out through the application of the Mental Adjustment to Illness Scale before and one month after the educational intervention, between September 2017 and February 2018, fulfilling all inherent ethical requirements. With the study, it was found that in the evaluation before the educational intervention (moment 1) the subscales with the largest number of participants classified as adjusted were “Fighting spirit” and “Despair/Hopelessness”. After the educational intervention (moment 2), the subscales that possibly revealed a more fruitful intervention were “Anxious Worry” and “Avoidance/Denial”, with all participants classified as “non-adjusted” at moment 1 to become “adjusted”. at moment 2. The only subscale whose number of participants was the same in both moments was “Fighting Spirit”. Thus, we conclude that the educational intervention carried out by the Nurse is relevant for the mental adjustment of people with chronic ulcers in the lower limbs, contributing to the increase of knowledge, improvement of prevention and self-care practices, facilitating the experience of the health/disease transition process..

Keywords: Adjustment, Mental, Family Nursing, Leg Ulcer, Foot Ulcer.

INTRODUCTION

Chronic lower limb ulcers (UCMI) are defined as a wound that does not heal within 6 weeks, despite adequate treatment.

(Langer, 2014; *Leg Ulcer Guidance: 2015–2016 - Ewma.Org*, n.d.). A myriad of factors can lead to delayed wound healing such as: chronic diseases, vascular insufficiency, diabetes, neurological deficiencies, nutritional deficiencies, age and local factors (pressure, infection and edema) (Kahle et al., 2011; Rayner et al., 2009).

Epidemiological data show that the average duration of ulcers is 6 months to 1 year in about 0.11% to 0.18% of the population and 1% to 2% suffer from recurrences. (Agale, 2013; Jockenhöfer et al., 2016). According to *Australian and New Zealand Clinical Practice Guideline for Prevention and Management of Venous Leg Ulcers*(n.d.; Cheng et al., 2018), in 2003, it was estimated that 0.1 to 1.1% of the world population had leg ulcers. In the United States, chronic ulcers affect 2.4 to 4.5 million people, with UCMI occurring predominantly in adults with vascular disease or diabetes and being related to chronic venous insufficiency, arterial disease, prolonged pressure, or neuropathy.(Frykberg & Banks, 2015). In Portugal, through the research work carried out by Passadouro et al.(2016), the prevalence of chronic wounds in the population studied was shown to be 0.84/1000, 1.1/1000 in men and 0.69/1000 in women ($p < 0.05$). People over 80 years old have a higher prevalence, of 5.68/1000, when compared to younger people ($p < 0.05$). As for the type, vascular wounds are the most common (36%) and of these, 77.7% are of venous origin.

People with ulcers will discover and feel a multitude of emotions and require an adaptation, through adjustment, of lifestyles, of new behaviors that, together with knowledge about their injury, treatment and social integration, will contribute for your physical, mental and social well-being(Franks et al., 2016; Guest et al., 2018; Passadouro et al., 2016; Weller, Team, et al., 2021). Ebbeskog and Ekman(2001), identified

different problem areas with regard to having a chronic ulcer, namely negative emotions and limitations in daily activity. In this context, achieving well-being becomes a daily struggle and feelings such as hope and despair are present and fluctuate during the day due to the prolonged healing process and associated pain. Regarding the emotional area, Costa et al. (2011) and Saraiva et al.(2013) add that changes in mood, self-esteem, self-image and decreased quality of life lead to poor social interaction and isolation.

Ridder et al.(2008) refer that mental adjustment to a given illness has also been classified as a predictor of good quality of life, “subjective” well-being, vitality, positive affect, life satisfaction and global self-esteem. The same authors also mention that mental adjustment is a response to a change in the environment, allowing an adaptation to occur to that same change.

Given the chronicity of the injury, the nurse’s role is crucial to facilitate the mental adjustment to the limitations and changes resulting therefrom and to provide resources and strategies capable of contributing to the improvement of their well-being. (Bernatchez et al., 2022; Sá, 2001; Shi et al., 2021; Weller, Richards, et al., 2021). The importance of educating people, psychological and physical support is highlighted, which have an effective impact on the quality of life on which the complex and adequate adherence to treatment depends, in order to reduce healing time and prevent relapses. (Reis et al., 2013; Weller, Team, et al., 2021). As they refer Finlayson et al. (2010) informed people are more likely to cooperate with treatment regimens, demonstrating better management of their problems.

Considering this problem, the objective of the study was to evaluate the effect of an educational tool used by nurses for the mental adjustment to the chronic illness of

patients with UCMI, followed in two Primary Health Care Units in the Central region of Portugal and enrolled in the program of “Wound care” from the information system “SCLínico”(SCLínico | *Cuidados de Saúde Hospitalares (CSH) – SPMS*, n.d.).

METHODOLOGY

KIND OF STUDY

A prospective and analytical study was carried out in which the effectiveness of an educational tool for the mental adjustment of the person with UCMI was tested. This is an interventional study that evaluated the effect of a standardized educational intervention in promoting mental adjustment in participants who were not mentally adjusted in any dimension of the Mental Illness Adjustment Scale. (EAMD)(Sá, 2001).

POPULATION AND SAMPLE

We studied a convenience sample of 21 people with UCMI undergoing treatment both at home and in an outpatient clinic, enrolled in two Primary Health Care Units in the Central Region of Portugal.

The inclusion criteria were: age 18 years or older, being enrolled in the Health Units of the study and enrolled in the “Wound Treatment” program, with the diagnosis: “Ulcer” or “Venous Ulcer” or “Arterial Ulcer” or “Traumatic Wound” or “Burn” for 6 or more weeks. Exclusion criteria were: lack of command of the Portuguese language (important for the educational intervention to be applied) and having diagnosed psychiatric disorders or not having the cognitive ability to understand the questions (score no Mini Mental State Examination (MMSE) less than 22 (Perneckzy et al., 2006)).

DATA COLLECTION AND NURSING EDUCATIONAL INTERVENTION

Data collection was carried out in two moments: before and one month after the educational intervention, valuing the self-assessment of the participants in the study. These assessments took place between September 2017 and February 2018, at the users' homes or at the aforementioned health units.

Participants answered a hetero-completion questionnaire, justified by the reason that most participants were elderly and with low literacy. The data collection instrument consisted of a section with questions related to sociodemographic and clinical characterization and another section with the EAMD.

The EAMD made it possible to assess a set of cognitive and behavioral responses to the presence of a UCMI, in order to determine the mental adjustment to this chronic alteration. This scale was adapted and validated by Sá(2001) and originated from the Mental Adjustment Scale to Cancro(Watson et al., 1988). This same scale has already undergone subsequent updates for the area of Oncology (Pais-Ribeiro et al., 2003; Samarina Vilaça de Brito Santos et al., 2006). In the adaptation and validation carried out by Sá (2001), the scale was able to be used in any chronic

disease other than cancer and therefore the word “cancer” was replaced by “disease”. It consists of 47 items, divided into five areas: fighting spirit, despair/hopelessness, anxious worry, fatalism, avoidance/denial. For each item there are four response options, scored from 1 to 4 points, which are respectively: “Does not apply to me at all” (1), “Does not apply to me” (2), “Applies to me” (3) and “It totally applies to me” (4), with the calculated score representing the sum of the questions in each area. Table 1 shows the internal consistency values obtained in other previous studies.(Alves et al., 2021; Nordin et al., 1999; Sá, 2001; Schwartz et al., 1992; Watson et al., 1988).

After the first moment of data collection, the score of each dimension was calculated and then the “adjusted” or “non-adjusted” classification of each participant in each dimension was performed, as indicated in the Table 2.

Then, a standardized educational intervention was planned and applied, adjusted to each participant, according to the subscales where they were maladjusted, carried out in the environment of care provision (home or Primary Health Care Unit). The educational intervention sought to inform the individual about the nature and causes of health/disease and the level of risk associated with their

Subscale	<i>α de cronbach</i>				
	Watson et al. (1988)	Schawartz et al. (1992)	Nordin et al. (1999)	Sá (2001)	Alves et al. (2021)
Fighter spirit	0,84	0,78	0,81	0,86	0,22
Despair / Hopelessness	0,79	0,83	0,78	0,83	0,92
anxious worry	0,65	0,43	0,62	0,60	0,92
Fatalism	0,65	0,67	0,61	0,64	0,94
Avoidance / Denial	n.a.	n.a.	n.a.	n.a.	n.a.

Table 1. EAMD internal consistency values by subscale by calculating the cronbach's alpha of the different studies

Subscales EAMD	Total number of questions	Score Min.	Score Máx.	Adjusted (score)	Maladjusted (score)
Fatalism	9	9	36	9 a 23	24 a 36
anxious worry	9	9	36	9 a 23	24 a 36
Despair / Hopelessness	6	6	24	6 a 15	16 a 24
Fighter spirit	22	22	88	56 a 88	22 a 55
Avoidance / Denial	1	1	4	1 a 2	3 a 4

Table 2. Cut-off points for the classification “adjusted” versus “misadjusted in the various dimensions of the EAMD (Alves et al., 2021)

lifestyle-related behavior, trying to motivate the person to accept the process of behavior change, through direct influence on values, beliefs and system of attitudes (Marques, 2018). The second moment of data collection, at least one month apart from the first evaluation, was performed for all participants, regardless of their “adjustment” or “non-adjustment” at the first moment.

ETHICAL CONSIDERATIONS

The study met all requirements of the World Medical Association Declaration of Helsinki. Thus, it was authorized by all the management bodies of the Health Units after a favorable opinion from the Ethics Committee of the Regional Health Administration of the Center - Portugal (Process number 78/2017 – approved in 25/10/2017). The use of the Scales applied in the study by their authors was also authorized. Free and Informed Consent was obtained from all participants after they were invited to participate in the study, explained its objectives and guaranteed anonymity and data confidentiality, through the assignment of a sequential numerical code to each participant, which was used for the identification of participants in the two evaluation moments.

DATA ANALYSIS

Data analysis was performed using the program *Statistical Package for the Social*

Science (SPSS) version 24.0 for Windows. For the analysis of sociodemographic and clinical data, descriptive statistics were used as measures of central tendency and data dispersion (frequencies, percentages, means and standard deviations). Regarding the characterization of mental adjustment, this was carried out according to each of the subscales presented (Fighting Spirit, Despair/Hopelessness, Anxious Worry, Fatalism and Denial Avoidance), for each of the data collection moments.

RESULTS

SOCIODEMOGRAPHIC AND CLINICAL CHARACTERIZATION OF THE PARTICIPANTS

Regarding the sociodemographic characterization, it can be seen in Table 3 that the sample was composed mostly of male participants (52.4%), with a predominance of elderly people (68.9% aged 65 years or over), with a mean age of 72.24±13.14 years. Most of the sample have low literacy (66.7%), report living with their family (90.5%) and are already retired (62.0%).

As for the clinical characterization, most participants (76.2%) reported having one or more associated pathologies and not having smoking habits (95.2%). In relation to BMI, 42.9% are categorized as pre-obese and 23.9% with normal weight. Regarding Diabetes Mellitus, most participants (61.9%) reported

not having this chronic disease. In the Barthel index, most participants (61.9%) demonstrate “total independence” to perform activities of daily living (see Table 3).

In Table 4, regarding the characterization of chronic wounds, it can be seen that most wounds had an evolution time of more than 3 months (62.0%), in terms of etiology these were mostly of venous origin (47.6%) and were mainly located at the level of the anterior and/or middle 1/3 of the leg (38.1%). With regard to pain, most participants verbalized feeling it (71.4%) and already referred to experience of compression therapy (61.9%). It is also noted that most wounds had an area greater than 50 mm² (76.2%) and reached the dermis/epidermis (66.7%). Most participants had tolerable sensitivity (81%) when performing the treatments and had no signs of infection (85.7%). Regarding the characteristics of the drained exudate, most were moist (71.4%) and odorless (90.5%).

COMPARATIVE ANALYSIS OF MENTAL ADJUSTMENT BETWEEN MOMENT 1 AND MOMENT 2 THROUGH THE CLASSIFICATION “ADJUSTED/UNADJUSTED” BY SUBSCALE

Regarding the assessment of mental adjustment before the educational intervention, it was found that, overall, most participants were classified as “adjusted” in the different subscales, except for the “Fatalism” subscale, in which 38.1% of the participants were “adjusted”.

Making the comparative analysis of the results obtained before and after the educational intervention, represented in Table 5, it is possible to verify the impact of the intervention, in almost all the subscales, except for the “Spirit of Fight” where the results remained unchanged in the 2 moments, that is, the number of participants

classified as “adjusted” at moment 1 remained the same after the educational intervention. In the remaining subscales, the results obtained demonstrate that there was a positive change from “non-adjusted” to “adjusted”. It should be noted that in the “Anxious Worry” and “Avoidance/Denial” subscales, all participants became “adjusted” after the nursing educational intervention.

DISCUSSION

Nurses play a key role in involving patients and their families in decision-making related to treatment or in discussing and expressing feelings associated with the chronic condition. (Franks et al., 2016; Reis et al., 2013). They also have an essential role in promoting adaptation mechanisms to deal with crisis situations, induced by the condition of chronicity, with particular emphasis on self-efficacy and motivation, which allow facing the situation more as a challenge, than as a challenge. threat, building bridges for positive adaptation (Guest et al., 2018). Through their educational intervention, nurses should value the diversity of roles in the search for the person’s integrity, in order to guarantee their adherence to treatment, emphasizing their participation in the process. (Reis et al., 2013; Weller, Richards, et al., 2021). It was in this sense that the educational intervention was carried out to all “non-adjusted” participants in some subscale of the EAMD.

Regarding mental adjustment to the presence of a chronic ulcer, prior to the educational intervention, it was found that most participants were already adjusted in most subscales, except for the “Fatalism” subscale, which shows that these participants had a set of active responses to the disease, which facilitated an optimistic view of the future and belief in the possibility of some control over the disease (Sá, 2001).

Sociodemographic variables	n (%)	Clinical variables	n (%)
Sex		Comorbidities	
Masculine	11 (52,4)	No	5 (23,8)
Feminine	10 (47,6)	Yes	16 (76,2)
Age (years)		Hábitos Tabágicos	
less than 65	8 (38,1)	Yes	1 (4,8)
65 to 74	3 (14,3)	No	20 (95,2)
75 to 84	5 (23,8)		
greater than or equal to 85	5 (23,8)		
Literary abilities		IMC	
Can't read or write	1 (4,8)	Low Weight I (17-18.49)	0
1st cycle of basic education	14 (66,7)	Normal Weight (18.5-24.99)	5 (23,8)
2nd cycle of basic education	2 (9,5)	Pre-Obesity (25-29.99)	9 (42,9)
3rd cycle of basic education	2 (9,5)	Obesity I (30-34.99)	3 (14,3)
High school	2 (9,5)	Obesity II (35-39.99)	2 (9,5)
University education	0	Obesity III (greater than 39,99)	2 (9,5)
Household Composition		Diabetes Mellitus	
Live alone	2 (9,5)	No	13 (61,9)
Live with family	19 (90,5)	Yes	8 (38,1)
Professional situation		Index of Barthel	
Employee	4 (19,0)	Total dependency (0-8)	0
Unemployed	4 (19,0)	Severe addiction (9-12)	1 (4,8)
Retired	13 (62,0)	Moderate dependence (13-19)	7 (33,3)
		total independence (20)	13 (61,9)

Table 3. Sociodemographic and clinical characterization of the participants (n=21)

Variables	n (%)	Variables	n (%)
Wound evolution time (months)		Wound area (mm²)	
less than 3	8 (38,0)	Less than 50	5 (23,8)
from 3 to 6	6 (28,6)	50 – 100	6 (28,6)
from 6 to 9	3 (14,3)	100 – 150	5 (23,8)
from 9 to 12	1 (4,8)	150 – 200	0
greater than 12 months	3 (14,3)	200 – 250	2 (9,5)
		Higher than 250	3 (14,3)
Etiology of wounds		Depth of affected tissues	
arterial	1 (4,8)	dermis/epidermis	
venous	10 (47,6)	hypodermis	14 (66,7)
mixed	8 (38,1)	muscles	5 (23,8)
Diabetic foot	2 (9,5)		2 (9,5)
First wound on lower limbs		Sensitivity	
Yes	9 (42,9)	Intense	4 (19)
No	12 (57,1)	Bearable	17 (81)
Wound location		Presence of signs of infection	
Above the middle malleolus	4 (19)	Yes	3 (14,3)
lateral malleolus	5 (23,8)	No	85,7)
foot and fingers	3 (14,3)		
Circling the ankle	1 (4,8)		
Front and/or middle 1/3 of leg	8 (38,1)		
Presence of pain		Amount of exudate	
Yes	15 (71,4)	damp	15 (71,4)
No	6 (28,6)	Wet	4 (19)
		Saturated	1 (4,8)
		With exudate leakage	1 (4,8)
Compression therapy		Presence of odor	
Yes	13 (61,9)	Absent	19 (90,5)
No	8 (38,1)	Gift	2 (9,5)

Table 4. Chronic wound characterization (n=21)

Subescalas		Momento 1		Momento 2	
		n (%)	M±DP	n (%)	M±DP
Espírito de Luta	Ajustados	18 (85,7)	67,61±4,62	18 (85,7)	70,89±4,25
	Não ajustados	3 (14,3)	53,33±1,53	3 (14,3)	52±2
Desespero / Desesperança	Ajustados	19 (90,5)	11,05±2,50	20 (95,2)	9,15±2,78
	Não ajustados	2 (9,5)	17,50±0,71	1 (4,8)	16±0,13
Preocupação Ansiosa	Ajustados	11 (52,4)	21,01±1,22	21 (100)	22,05±1,32
	Não ajustados	10 (47,6)	27±2,62	0	n.a.
Fatalismo	Ajustados	8 (38,1)	21,13±1,13	17 (81,0)	20,18±2,38
	Não ajustados	13 (61,9)	26,69±1,84	4 (19,0)	25±0,82
Evitamento / Negação	Ajustados	16 (76,2)	1,69±0,48	21 (100)	1,52±0,51
	Não ajustados	5 (23,8)	3±0,23	0	n.a.

Table 5. Results of the comparative analysis of mental adjustment between moment 1 and moment 2 through the classification of “adjusted / unadjusted” by subscale (n=21)

These results are not coincident, in part, with those of the Vermeiden study et al.(2009), as these authors found that patients with leg ulcers did not present an active approach (calm interpretation of a situation from all points of view, working towards a solution with confidence and purpose) when faced with a stressful situation. However, they developed comforting thoughts about the situation (reassuring themselves with comforting thoughts, with other previous difficulties, with other worse things that could happen, feeling brave).

Regarding the effect of the educational intervention, there was a positive change in the classification from “non-adjusted” to “adjusted” in most of the EAMD subscales. Highlighting the subscales where more positive results were obtained, it appears that in the subscale “Anxious Concern” the ten participants classified as “non-adjusted”, at moment 1, became “adjusted” at moment 2 and in the subscale “Avoidance / Denial”, the five participants classified as “non-adjusted” at moment 1, became “adjusted” at moment 2, thus becoming all participants “adjusted” in the two subscales. In this way, the educational intervention may have had a greater impact

on these two subscales and the factors that characterized the participants, in these two subscales, as “non-adjusted” were corrected by the nurse’s intervention, namely at the level of teaching techniques to reduce anxiety and reduce anxiety. demystifying erroneous beliefs.

With regard to the “Fatalism” subscale, of the thirteen participants classified as “non-adjusted” at moment 1, nine became “adjusted” at moment 2, translating the effectiveness of the educational intervention by encouraging the participant to talk to their health care nurse. family, by making them aware of the importance of their collaboration in the healing of the ulcer, but above all by making them aware of the possibility of recurrence of the wounds and the way in which they can be prevented or postponed and by emphasizing the importance of non-isolation. According Nakamura e Orth(2005), individuals characterized by passive acceptance have given up many activities and roles and allowed the disease to take central control of their lives. These individuals basically organized their lives around illness and treatment and were strongly influenced by it in their self-perceptions and identities. Now, it seems

possible to us to conclude that in the case of the present study, after the educational intervention, there is an acceptance, an adaptation to this condition that helps them to maintain their psychological well-being and the ability to act, facing reality even if it is not fits your expectations or desires.

The presence of odor, exudate, pain, reduced mobility, lack of sleep and increased frequency of dressing changes are factors that are often interrelated and contribute to the production of a negative effect on the quality of life of patients with ulcers (Schroepel DeBacker et al., 2021; Shaydakov et al., 2022; Shi et al., 2021). Added to the above is the fact that many of these ulcers took a long time to heal, which can lead to loss of independence, mood swings, compromised self-esteem and self-image, social and family isolation, sometimes causing anxiety and anxiety, depression (Franks et al., 2016).

According Colloca et al. (2017), pain in chronic ulcers can cause depression and a feeling of constant tiredness, and the experience of pain associated with UCMI is considered a loss of quality of life and increased dependence and that pain, when unresolved, can have a negative impact on adherence, healing and adjustment. Thus, we can dare to infer that the same was observed in our study, as most participants classified as “non-adjusted” reported feeling pain.

To Sousa (2009), the intense exudate and odor associated with ulcers influence the lives of their bearers, causing various implications ranging from the psychological domain of individuals, to interference in the way the person sees and evaluates himself, to the way he influences his relationship with others, which may condition the normal performance of social roles of this individual. In this sense, we consider that we can explain the results obtained in our study, as most participants classified as “non-adjusted” had exuding

wounds and some with odor.

Ulcer recurrence is also a source of concern for participants, as it is not the first time that they are affected by the situation and the fear of recurrence is present (Sousa, 2009). Thus, in our study we found that the majority of “unadjusted” participants had recurrent ulcers.

The main limitation in carrying out this study is related to the fact that our sample was small, which does not allow us to infer conclusions in a more generalized way. Another limitation was related to the lack of studies regarding the mental adjustment of UCMI patients and their families, so the work carried out was conditioned to studies carried out in other etiological contexts. Thus, it is suggested to carry out more studies in the same scope and with larger samples, in order to deepen and consolidate the results obtained.

CONCLUSION

In this study, we found that the educational intervention implemented in participants who were “non-adjusted” to the UCMI had a positive effect on decreasing the number of “non-adjusted” classifications in the multiple categories of Mental Adjustment to Illness. Thus, it is considered that this work made it possible to evaluate, in the context in which it was carried out, the mental adjustment of people with UCMI and, above all, to understand the impact of the intervention of the family nurse with them, so that, in this way, the nurses, can, at the most diverse levels of prevention, anticipate the problems arising from chronic ulcers and, in this way, provide holistic and individualized care for both the patient and his family.

The mental adjustment assessments, carried out before and after the educational nursing intervention, have highlighted the importance of a structured and targeted

intervention by the family nurse, as it has allowed the perception of the impact of motivation, the reduction of anxiety, the expression of emotions, the development of strategies for the individual's self-involvement in the treatment process, the involvement of family or significant others in a path leading to the individual's mental adjustment and family balance.

It is up to the family nurse to identify situations that cause stress and family maladjustment, making this the focus of intervention. For this, it should activate forces and resources (internal and external)

of the individual/family, in order to initiate a structured and directed nursing intervention, in order to encourage the adoption of adaptive strategies, constituting these, the answer of the individual to situations of maladjustment and, thus, promote their balance and integrity, always taking into account their beliefs, values and motivations (family vision), taking care to involve the person in this whole process.

REFERENCES

- Agale, S. V. (2013). Chronic Leg Ulcers: Epidemiology, Aetiopathogenesis, and Management. *Ulcers*, 2013, 1–9. <https://doi.org/10.1155/2013/413604>
- Alves, A. M., Rodrigues, A., Sa-Couto, P., & Simões, J. L. (2021). Effect of an Educational Nursing Intervention on the Mental Adjustment of Patients with Chronic Arterial Hypertension: An Interventional Study. *International Journal of Environmental Research and Public Health* 2022, Vol. 19, Page 170, 19(1), 170. <https://doi.org/10.3390/IJERPH19010170>
- Australian Wound Management Association. (n.d.). Retrieved January 5, 2022, from <https://www.awma.com.au/>
- Bernatchez, S. F., Eysaman-Walker, J., & Weir, D. (2022). Venous Leg Ulcers: A Review of Published Assessment and Treatment Algorithms. *Advances in Wound Care*, 11(1), 28–41. <https://doi.org/10.1089/wound.2020.1381>
- Cheng, Q., Gibb, M., Graves, N., Finlayson, K., & Pacella, R. E. (2018). Cost-effectiveness analysis of guideline-based optimal care for venous leg ulcers in Australia. *BMC Health Services Research*, 18(1). <https://doi.org/10.1186/s12913-018-3234-3>
- Colloca, L., Ludman, T., Bouhassira, D., Baron, R., Dickenson, A. H., Yarnitsky, D., Freeman, R., Truini, A., Attal, N., Finnerup, N. B., Eccleston, C., Kalso, E., Bennett, D. L., Dworkin, R. H., & Raja, S. N. (2017). Neuropathic pain. *Nature Reviews. Disease Primers*, 3, 17002. <https://doi.org/10.1038/NRDP.2017.2>
- Costa, I. K. F., da Nóbrega, W. G., Costa, I. K. F., Torres, G. de V., Lira, A. L. B. de C., Tourinho, F. S. V., & Enders, B. C. (2011). Pessoas com úlceras venosas: estudo do modo psicossocial do modelo adaptativo de Roy. *Revista Gaúcha de Enfermagem*, 32(3), 561–568. <https://doi.org/10.1590/S1983-14472011000300018>
- de Ridder, D., Geenen, R., Kuijer, R., & van Middendorp, H. (2008). Psychological adjustment to chronic disease. *The Lancet*, 372(9634), 246–255. [https://doi.org/10.1016/S0140-6736\(08\)61078-8](https://doi.org/10.1016/S0140-6736(08)61078-8)
- Ebbeskog, B., & Ekman, S. L. (2001). Elderly persons' experiences of living with venous leg ulcer: living in a dialectal relationship between freedom and imprisonment. *Scandinavian Journal of Caring Sciences*, 15(3), 235–243. <https://doi.org/10.1046/J.1471-6712.2001.00018.X>
- Finlayson, K., Edwards, H., & Courtney, M. (2010). The impact of psychosocial factors on adherence to compression therapy to prevent recurrence of venous leg ulcers. *Journal of Clinical Nursing*, 19(9–10), 1289–1297. <https://doi.org/10.1111/J.1365-2702.2009.03151.X>
- Franks, P. J., Barker, J., Collier, M., Gethin, G., Haesler, E., Jawien, A., Laeuchli, S., Mosti, G., Probst, S., & Weller, C. (2016). Management of Patients With Venous Leg Ulcers: Challenges and Current Best Practice. *Journal of Wound Care*, 25 Suppl 6, S1–S67. <https://doi.org/10.12968/JOWC.2016.25.SUP6.S1>

Frykberg, R. G., & Banks, J. (2015). Challenges in the Treatment of Chronic Wounds. *Advances in Wound Care*, 4(9), 560. <https://doi.org/10.1089/WOUND.2015.0635>

Guest, J. F., Fuller, G. W., & Vowden, P. (2018). Venous leg ulcer management in clinical practice in the UK: costs and outcomes. *International Wound Journal*, 15(1), 29–37. <https://doi.org/10.1111/iwj.12814>

Jockenhöfer, F., Gollnick, H., Herberger, K., Isbary, G., Renner, R., Stücker, M., Valesky, E., Wollina, U., Weichenthal, M., Karrer, S., Kuepper, B., Roesch, A., & Dissemmond, J. (2016). Aetiology, comorbidities and cofactors of chronic leg ulcers: Retrospective evaluation of 1 000 patients from 10 specialised dermatological wound care centers in Germany. *International Wound Journal*, 13(5), 821–828. <https://doi.org/10.1111/IWJ.12387>

Kahle, B., Hermanns, H.-J., & Gallenkemper, G. (2011). Evidence-Based Treatment of Chronic Leg Ulcers. *Deutsches Ärzteblatt International*, 108(14), 231. <https://doi.org/10.3238/ARZTEBL.2011.0231>

Langer, V. (2014). Quality-of-life with leg ulcers. *Indian Dermatology Online Journal*, 5(4), 536. <https://doi.org/10.4103/2229-5178.142561>

Leg Ulcer Guidance: 2015–2016 - ewma.org. (n.d.). Retrieved January 5, 2022, from <https://ewma.org/what-we-do/projects/leg-ulcer-guidance>

Marques, S. M. S. S. (2018). *A intervenção do enfermeiro de família no ajustamento mental da pessoa com úlcera crónica nos membros inferiores.* <https://ria.ua.pt/handle/10773/24186>

Nakamura, Y. M., & Orth, U. (2005). Acceptance as a coping reaction: Adaptive or not? *Swiss Journal of Psychology*, 64(4), 281–292. <https://doi.org/10.1024/1421-0185.64.4.281>

Nordin, K., Berglund, G., Terje, I., & Glimelius, B. (1999). The mental adjustment to cancer scale—a psychometric analysis and the concept of coping. *Psycho-Oncology*, 8(3), 250–259. [https://doi.org/10.1002/\(SICI\)1099-1611\(199905/06\)8:3<250::AID-PON379>3.0.CO;2-J](https://doi.org/10.1002/(SICI)1099-1611(199905/06)8:3<250::AID-PON379>3.0.CO;2-J)

Pais-Ribeiro, J. L., Ramos, D., & Samico, S. (2003). Contribuição para uma validação conservadora da escala reduzida de ajustamento mental ao cancro (Mini-MAC). *Psic., Saúde & Doenças*, 4(2). http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S1645-008620030002000005

Passadouro, R., Sousa, A., Santos, C., Costa, H., & Craveiro, I. (2016). Characteristics and Prevalence of Chronic Wounds in Primary Health Care. *Journal of the Portuguese Society of Dermatology and Venereology*, 74(1), 45–51. <https://doi.org/10.29021/spdv.74.1.514>

Perneczky, R., Wagenpfeil, S., Komossa, K., Grimmer, T., Diehl, J., & Kurz, A. (2006). Mapping scores onto stages: Minimal state examination and clinical dementia rating. *American Journal of Geriatric Psychiatry*, 14(2), 139–144. <https://doi.org/10.1097/01.JGP.0000192478.82189.a8>

Rayner, R., Carville, K., Keaton, J., Prentice, J., & Santamaria, N. (2009). Leg ulcers: atypical presentations and associated comorbidities. *Wound Practice and Research*, 17(4), 168–185. https://espace.curtin.edu.au/bitstream/20.500.11937/20787/2/131738_13661_Leg%20ulcers%20atypical%20presentations.pdf

Reis, D. B. do, Peres, G. A., Zuffi, F. B., Ferreira, L. A., & Poggetto, M. T. D. (2013). Cuidados às pessoas com úlcera venosa: percepção dos enfermeiros da estratégia de saúde da família. *Revista Mineira de Enfermagem*, 17(1), 102–112. <https://doi.org/10.5935/1415-2762.20130009>

Sá, E. M. C. dos S. (2001). *A influência da adaptação mental à doença oncológica na qualidade de vida do doente hematológico, em ambulatório* [Instituto Superior de Psicologia Aplicada]. <http://repositorio.ispa.pt/handle/10400.12/881>

Samarina Vilaça de Brito Santos, C., Pais Ribeiro, J., & Lopes, C. (2006). *Estudo de adaptação da Escala de Ajustamento mental ao cancro de um familiar (EAMC-F)* (Vol. 7, Issue 1). <http://www.scielo.mec.pt/pdf/psd/v7n1/v7n1a03.pdf>

Saraiva, D. M. R. F., Bandarra, A. J. F., Agostinho, E. D. S., Pereira, N. M. M., & Lopes, T. S. (2013). Quality of life of service users with chronic venous ulcers. *Revista de Enfermagem Referencia*, 2013(10), 109–118. <https://doi.org/10.12707/RIII1241>

Schroepel DeBacker, S. E., Bulman, J. C., & Weinstein, J. L. (2021). Wound Care for Venous Ulceration. *Seminars in Interventional Radiology*, 38(2), 194–201. <https://doi.org/10.1055/s-0041-1727161>

Schwartz, C. E., Daltroy, L. H., Brandt, U., & Friedman, R. (1992). A psychometric analysis of the mental adjustment to cancer scale. *Psychological Medicine*, 22(1), 203–210. <https://doi.org/10.1017/S0033291700032864>

SClínico | Cuidados de Saúde Hospitalares (CSH) – SPMS. (n.d.). Retrieved January 5, 2022, from <https://www.spms.min-saude.pt/2020/07/sclinico-hospitalar/>

Shaydakov, M. E., Ting, W., Sadek, M., Aziz, F., Diaz, J. A., Raffetto, J. D., Marston, W. A., Lal, B. K., Welch, H. J., Shaydakov, M., Diaz, J., Henke, P., Labropoulos, N., Malgor, R., Obi, A., Onida, S., van Rij, A., & Vellettaz, R. (2022). Review of the current evidence for topical treatment for venous leg ulcers. *Journal of Vascular Surgery: Venous and Lymphatic Disorders*, 10(1), 241–247.e15. <https://doi.org/10.1016/j.jvsv.2021.06.010>

Shi, C., Dumville, J. C., Cullum, N., Connaughton, E., & Norman, G. (2021). Compression bandages or stockings versus no compression for treating venous leg ulcers. *Cochrane Database of Systematic Reviews*, 2021(7). <https://doi.org/10.1002/14651858.CD013397.pub2>

Sousa, F. A. M. do R. (2009). “O corpo que não cura-Vivências das pessoas com ulcera venosa crónica de perna.” <https://repositorio-aberto.up.pt/handle/10216/19159>

Vermeiden, J., Doorn, L. P. V., da Costa, A., Kaptein, A. A., & Steenvoorde, P. (2009). Coping Strategies Used By Patients With Chronic and/or Complex Wounds. *Wounds : A Compendium of Clinical Research and Practice*, 21(12), 324–328. <https://pubmed.ncbi.nlm.nih.gov/25902921/>

Watson, M., Young, J., Inayat, Q., Burgess, C., & Robertson, B. (1988). Development of a questionnaire measure of adjustment to cancer: The MAC scale. *Psychological Medicine*, 18(1), 203–209. <https://doi.org/10.1017/S0033291700002026>

Weller, C. D., Richards, C., Turnour, L., & Team, V. (2021). Patient Explanation of Adherence and Non-Adherence to Venous Leg Ulcer Treatment: A Qualitative Study. *Frontiers in Pharmacology*, 12, 663570. <https://doi.org/10.3389/fphar.2021.663570>

Weller, C. D., Team, V., Probst, S., Gethin, G., Richards, C., Sixsmith, J., Turnour, L., & Bouguettaya, A. (2021). Health literacy in people with venous leg ulcers: A protocol for scoping review. *BMJ Open*, 11(5). <https://doi.org/10.1136/bmjopen-2020-044604>