1. Abstract

INTRODUCTION: Due to the extended time involved, the treatment of hard-to-heal and chronic wounds should take place in a home environment under the supervision of specialists. In 2019, the Outpatient Specialised Care (OSC) and Comprehensive Chronic Wound Management (CCWM) programmes were separated into the Outpatient Nursing Care (ONC) programme. They play a vital role in the management of chronic wounds in the home environment.

AIM: The aim of this study was to assess various factors that influence the social functioning of individuals with chronic skin injuries in the lower extremities due to vascular diseases who are eligible for CCWM-1. These factors include nutritional status, level of self-care, quality of life and wound-related complaints.

Material and methods: Patients with chronic wounds of vascular origin in the lower extremities who met the inclusion criteria were enrolled in the study. The inclusion criteria included declaration of consent, skin damage according to NPIAP min. 2°, WIfI 1 and vascular etiology, time of wound onset min. 6 weeks, but no longer than 36 months. The study group consisted of CCWM -1 subjects aged between 39 and 94. The gender distribution of the participants was as follows: 41.3% (n=31) of the subjects were female, and 58.7% (n=44) were male. The largest age group was in the 70-79 age range (32.0%), followed by 60-69 (26.7%) and 80-94 (26.7%). The demographic with the lowest numerical representation was that of individuals between the ages of 50 and 59, constituting 6.7% of the total. The mean age of the subjects was 71.56 years (median; range 72 years). The mean deviation was 12.10 years. The study design was based on the estimation and observation method. A review of the literature on skin damage in selected vascular diseases was conducted. A scientific research protocol was meticulously formulated, encompassing two distinct sections: A and B. Section A encompassed a comprehensive array of sociodemographic data, including age, gender, place of residence, and social status. In addition, it incorporated essential clinical data pertaining to the wound, such as its type, area, location, and depth of injury. The depth of injury was evaluated using the NPIAP, RYB, and WIfI scales. Further, the protocol detailed information regarding exudate, pain medications administered, biochemical test results, and the level of self-care in the Barthel index. The nutritional status of the subject was assessed in NRI. The second part of the study comprised an interview questionnaire on the eligibility of patients for treatment in CCWM -1, in addition to the following tools: the WHOQoL-Bref, the Wound-QoL-17, and the MPQ. The protocol was utilised on two occasions: initially during

the first appointment (Study 0) and subsequently after a four-week period (Study 1) in the study group (n=75). The second assessment was conducted at an interval of not less than four weeks. In Part B, the interview questionnaire for the CCWM -1 assessment was modified. The control group comprised individuals with chronic wounds associated with angiopathy who were not eligible for the programme (n=75).

Approval for the study was obtained from the director of the medical facility (see Appendix 3) and a favourable opinion from the Bioethics Committee at the University of Rzeszow (opinion no. 2023/03/0017). Furthermore, the guidelines set out in the Declaration of Helsinki were adhered to throughout the study. The statistical analysis was conducted using IBM SPSS Statistics v. 21. A range of analytical techniques were employed to evaluate the variables, including descriptive statistics, histograms, box plots and scatter plots, as well as Kolmogorov-Smirnov tests of normality of distributions.

Results: The majority of subjects had previously received treatment from a medical specialist (56.0%, n=42) or a general practitioner (42.7%, n=32) prior to undergoing the CCWM-1 procedure. Self-medication was reported by 9.3% (n=7) of the subjects. The application of nursing care was reported by 12.0% of the study's subjects, including 6.7% (n=5) who received care from a wound care nurse, and 5.3% (n=4) of patients were managed by community nurses. It was found that wound self-care activities prior to the CCWM could be performed by 32.0% (n=24) of respondents. The majority of respondents who did not have the ability to independently manage a wound constituted 61.3% of the total sample (n=46). The biochemical assessments were conducted at the initial qualifying appointment. In the study sample, the mean of the biochemical parameters was NRI 143.56 ± 16.89, with albumin concentration 41.39 ± 4.86, haemoglobin (HGB) 13.0 ± 1.72, leukocytes (WBC) 8.4 ± 2.95 and C-reactive protein (CRP), an acute-phase protein, 21.57 ± 37.84. No cases of malnutrition were identified according to the NRI score (>100). The study revealed that 37.2% (n=28) of subjects in the study group were affected by venous ulcers, 30.7% (n=23) by mixed ulcers, and 29.3% (n=22) by diabetic foot ulcers. Wounds of arterial etiology occurred in 2.7% (n=2) of the subjects. In the control group, venous ulcers were the most prevalent, accounting for 37.2% of cases (n=28), followed by diabetic foot ulcers, which constituted 29.3% of cases (n=22). Mixed ulcers occurred in 26.7% (n=20), and wounds of arterial etiology in 6.7% (n=5). Prior to the CCWM, pain was untreated (or the patient experienced no pain) by 44.0% (n=33) of patients. At the baseline (Study 0), the use of weak opioids was observed in 14.7% (n=11) of the subjects, while coanalgesics were used in 2.7% (n=2). Furthermore, the use of

strong opioids was confirmed in 1.3% (n=1) of the subjects. Following a period of four weeks in Study 1, it was found that 48.0% of subjects (n = 36) were not taking pain medication. 17.3% (n=13) were receiving weak opioids, while 10.7% (n=8) were receiving coanalgesics. It is noteworthy that no strong opioids were utilised in any of the subjects. Prior to the programme's implementation - in Study 0, the proportion of subjects demonstrating 3° wound in NPIAP (full-thickness skin damage) was 74.7% (n=56). In contrast, a 4° indicating the loss of full-thickness skin and subcutaneous tissue with exposure of underlying tissues such as bone, was observed in 14,7% (n=11). 2° (incomplete skin damage) was determined in 9.3% (n=7) of the subjects. 1.3% (n=1) were not classified to any degree of damage. There were improvements in quality of life in the Wound QoL17 and WHOQoL Bref scales at 4-week follow-up ($p<0.05$).

After 4 weeks in study 1; 60.0% (n=45) of wounds were assessed as 2° in NPIAP, and 3° in 25.3% (n=19). 4° according to NPIAP affected 8.0% (n=6) and I (non-fading redness) affected 5.3% (n=4) of wounds.

Conclusions: Participation in the CCWM programme accelerates wound healing, thus improving quality of life. Variables such as age, gender, marital status and place of residence do not affect the overall or specific assessment of quality of life in subjects with chronic wounds. The nutritional status of the study group does not determine quality of life. Those with a higher level of self-care report a higher subjective quality of life in the physical domain. Respondents with diabetic foot ulcers have a lower quality of life than those with venous ulcers. Satisfaction, as measured by the Wound-QoL-17, is higher in the study group than in the control group for all dimensions of the scale. Similarly, significantly higher levels of satisfaction were recorded for the overall satisfaction scale and the scale covering the environmental domain in the study group than in the control group.

Keywords: quality of life, Comprehensive Chronic Wound Management, wounds, nursing care