

The 'Wound-QoL': A Short Questionnaire Measuring Quality of Life in Patients with Chronic Wounds

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BACKGROUND

Chronic wounds can heavily impair the patients' quality of life by causing for example severe pain, social isolation, restricted mobility, and sleeping problems.

Evaluation of health related quality of life (HRQoL) has become a standard in wound research and wound care [1]. Three wound-specific HRQoL questionnaires have been developed in, or translated to, German language and are currently being used in treatment evaluation: The **Freiburg Quality of Life Assessment for wounds (FLQA-w)** [2] consisting of 3 pages and 30 questions; the **Cardiff Wound Impact Schedule (CWIS)** [3] with 7 pages and 57 questions; and the **Würzburg Wound Score (WWS)** [4] with 4 pages and 21 questions.

For the CWIS, no global score can be calculated. The WWS, in contrast, provides no possibility of evaluating different domains of HRQoL by calculating subscale scores.

Furthermore, all three instruments are quite long and comprise a lot of text. This increases the patient burden for completing the questionnaires which may impair acceptance and increase the number of missing values. This is of particular relevance in chronic wounds, where the majority of affected patients are elderly [5] and benefit from short and easy-to-read questionnaires [6].

In this study, a short questionnaire measuring health-related quality of life in patients with chronic wounds was developed on the basis of the three established instruments.

METHODS

165 wound patients completed the 3 questionnaires

Prospective, non-interventional multi-center study on adult patients with chronic wounds under routine care

Grouping items by content

Items were grouped qualitatively; each group covered equal or similar content.

Psychometrical properties of items (missing values, convergent validity...)

Supporting data: % of missing values; Pearson intercorrelation of each pair of items; % of patients who chose top boxes

Item selection and adaptation by expert panel

Selection of items based on patient relevance, non-redundancy, generality, unambiguity, psychometrical properties

Determine subscales with factor analysis

Explorative principal axes factor analysis. Items were assigned to the factor they loaded highest on to derive subscales.

"Virtual validation"

Validation using the data of the longitudinal study on items selected for the Wound-QoL

The Wound-QoL was developed with a 6-step methodology

The Wound-QoL questionnaire

Quality of life with chronic wounds – "Wound-QoL" questionnaire

With the following questions, we aim to find out how your chronic wound(s) affect(s) your quality of life. In every line, please tick what has applied to you in the last 7 days

In the last seven days...

| | | | | | | |
|----|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | ...my wound hurt | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2 | ...my wound had a bad smell | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3 | ...there was a disturbing discharge from the wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4 | ...the wound has affected my sleep | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5 | ...the treatment of the wound has been a burden | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6 | ...the wound has made me unhappy | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7 | ...I have felt frustrated because the wound is taking so long to heal | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8 | ...I have worried about my wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9 | ...I have been afraid of the wound getting worse or of new wounds appearing | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10 | ...I have been afraid of knocking the wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11 | ...I have had trouble moving about because of the wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12 | ...climbing stairs has been difficult because of the wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13 | ...I have had trouble with day-to-day activities because of the wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14 | ...the wound has limited my leisure activities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15 | ...the wound has forced me to limit my activities with others | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16 | ...I have felt dependent on help from others because of the wound | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17 | ...the wound has been a financial burden to me | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

not at all a little moderately quite a lot very much

The Wound-QoL has been translated into English and is currently under validation in a longitudinal study.

RESULTS

54.5% male; mean age 65.3±14.8.

63.0% ulcerus cruris;
9.1% pyoderma gangraenosum;
8.4% ulcers due to surgery;
7.1% with vasculitis;
4.5% diabetic foot ulcers.

Average wound duration: 26.6±50.6 months

The 73 items were assigned to 12 different categories with 2-12 items each.

3 items with > 5% missing values: 'decreased income opportunities due to the wound' (WWS): 11.7%; 'family/friends being overly protective' (CWIS): 5.2%; 'difficulty in finding appropriate footwear' (CWIS): 5.2%.

17 items were selected: 7 from CWIS, 8 from FLQA-w, 2 from WWS; among these were none with pairwise correlation > r=0.8. Wound-QoL format: assessment for 'last 7 days' on five-step intensity scale with explicit relation to the wound.

Items were assigned to 3 subscales: 'Body' (5 items), 'Psyche' (5 items), 'Everyday life' (6 items). These 3 factors explained 51.6% of overall variance: Body 15.2%; Psyche 13.1%; Everyday life 23.3%.

Reliability (Cronbach's Alpha): Wound-QoL global score: .91; subscale #1: .91; #2: .83; #3: .71. Validity of global score: moderate correlation with overall QoL (-.48), satisfaction with QoL (-.55), EQ-5D-3L (r=.69), and EQ VAS (-.60)

CONCLUSION: The Wound-QoL contains the core content of three established questionnaires but it is much shorter (1 page) and relates explicitly to the wound in each item, thereby measuring disease-specific QoL. Results of virtual validation indicate good reliability and validity.

[1] Gottrup F, Apelqvist J, Price P. Outcomes in controlled and comparative studies on non-healing wounds: recommendations to improve the quality of evidence in wound management. *J Wound Care* 2010;19(6):237-68. [2] Augustin M, Herberger K, Rustenbach SJ, Schäfer I, Zschöcke I, Blome C. Quality of life evaluation in wounds: validation of the Freiburg Life Quality Assessment-wound module, a disease-specific instrument (FLQA-w). *Int Wound J* 2010;7(6):493-501. [3] Price P, Harding K. Cardiff Wound Impact Schedule: the development of a condition-specific questionnaire to assess health-related quality of life in patients with chronic wounds of the lower limb (CWIS). *Int Wound J* 2004;1(1):10-7. [4] Spech, Eva. Lebensqualität bei Patienten mit chronisch venösen und arteriellen Ulcera cruris [dissertation]. Universität zu Würzburg; 2003. URL: <http://opus.bibliothek.uni-wuerzburg.de/volltexte/2003/712/>. [5] Margolis, DJ, Bilker, W, Santanna, J, Baumgarten, M. Venous leg ulcer: incidence and prevalence in the elderly. *J Am Acad Dermatol* 2002;46(3):381-386. [6] Hickey A, Barker M, McGee H, O'Boyle C. Measuring health-related quality of life in older patient populations: a review of current approaches. *Pharmacoeconomics* 2005;23(10):971-93. **This study was not financially supported.**