Emotional Quality of Life Is Severely Affected By Keloid Disease: Pain and Itch Are the Main Determinants of Burden

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INTRODUCTION: Keloids are benign tumors of excessive scar tissue, which are prominent due to their color and size. They can be painful and itching and cosmetically disturbing but the burden of keloid disease is not yet determined.[1,2] We aimed 1) to evaluate the effect of keloid disease on health related quality of life (HRQL) and 2) to identify predictors of burden.

MATERIALS AND METHODS: This cross-sectional study included 106 adult keloid patients without other skin disease, from the departments of dermatology or plastic surgery of two academic hospitals. They completed a self-administered online survey, comprising a scar assessment scale (POSAS) one disease specific HQRL measure: Skindex-29, and two generic HRQL measures; SF-36 and EQ-5D-5L.[3,4] Predictors were identified after bivariate and multivariate regression analyses.

RESULTS: Keloid disease had a large impact on the emotional wellbeing of patients. Almost half of the patients (48%) had severe emotional symptoms and about a quarter reported severe problems on the symptomatic and functional scale of the Skindex-29 questionnaire (Table 1). Keloid patients scored significantly lower on the SF-36 (generic instrument) dimensions bodily pain, vitality, and social functioning as well as on the mental component summary, meaning keloid patients reported a worse HRQL. This in contrast to the physical component summary, which was similar to that of the reference population. Even the EQ-5D-5L index score (utility instrument) was lower (0.80 SD 0.23 compared to 0.87 SD 0.18) as assessed in a Dutch reference population.
The HRQL reduction is comparable with the burden of major diseases like psoriasis, dermatitis, arthritis, and cancer.[5] Itching and painful keloids were associated with the largest HRQL impairment, while cosmetic factors such as color, thickness, pliability, and irregularity of the scar were less related.

CONCLUSION: Keloid disease was related to a low mental and emotional HRQL. Itching and pain were the strongest predictors for this burden, while cosmetic factors seemed less important. These findings supports priority setting, as cosmetic issues can be interpreted as ‘pleasure seeking, instead of ‘pain avoidance’, which relates to its current lower priority in health policy decision making. Patients with keloids require access to effective treatment in order to alleviate the physical symptoms and the negative impact on their wellbeing.

REFERENCES:

1. Goldstein BG, Goldstein AO. Keloids. In: Dellavalle RP, Levy ML, eds. *UpToDate*. Waltham, MA.: UpToDate; 2014.
2. Brown BC, McKenna SP, Siddhi K, McGrouther DA, Bayat A. The hidden cost of skin scars: quality of life after skin scarring. *J Plast Reconstr Aesthet Surg.* 2008;61(9):1049-1058.
3. Lindeboom JA, Bruijnesteijn van Coppenraet ES, Kuijper EJ, et al. Interpretation and precision of the Observer Scar Assessment Scale improved by a revised scoring. *J Clin Epidemiol.* 2008;61(12):1289-1295.
4. Prinsen CAC, Lindeboom R, De Korte J. Interpretation of Skindex-29 scores: cutoffs for mild, moderate, and severe impairment of health-related quality of life. *J Invest Dermat.* 2011;131(9):1945-1947.
5. Aaronson NK, Muller M, Cohen PD, et al. Translation, validation, and norming of the Dutch language version of the SF-36 Health Survey in community and chronic disease populations. *J Clin Epidemiol.* Nov 1998;51(11):1055-1068.

TABLE LEGEND:
Table 1. Table 1. Overview of Skindex-29 outcomes of the keloid patients analyzed. SD: standard deviation of the mean. Skindex-29 (dermatology specific quality of life instrument) scores on an 1-100 scale, higher scores indicate worse health related quality of life (HRQL). Keloid patients are grouped into minimal, mild, moderate and severe impairment on the Skindex-29 scale using cut-off scores reported by Prinsen et al. (2010), the distribution over impairment levels for each skindex-29 scale is shown.