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Perceived usability of therapeutic footwear in diabetic patients with neuropathy and prior foot ulceration

M.L.J. Arts^a, M. de Haart^a, J.P.J Bakker^b, H.G.A. Hacking^c, S.A. Bus^a and F. Nollet^a

Departments of Rehabilitation at the ^aAcademic Medical Center, University of Amsterdam, Amsterdam, ^bMedical Center Alkmaar, Alkmaar, and ^cSt. Antonius Hospital, Nieuwegein, The Netherlands.

Background: Custom-made therapeutic footwear is often prescribed to diabetic patients with neuropathy and high foot (re-)ulceration risk. Effectiveness in ulcer prevention probably depends heavily on adherence, in which the perception of footwear usability may play an important role. This study aimed to determine the perceived usability of custom-made footwear in diabetic patients at high risk for plantar foot ulcers and to associate the findings with patient and footwear characteristics and with footwear use. **Methods:** 153 diabetic patients with neuropathy, prior plantar foot ulceration, and newly prescribed custom-made footwear were included. The published Questionnaire of Usability Evaluation for custom-made footwear was used to assess patient perceptions of footwear usability. This included appearance, comfort, weight, durability, stability, maintenance and ease of use, each assessed with visual analogue scales (VAS, 10 = best outcome). Patient's individual footwear priorities and actual use of footwear were evaluated. Associations between perceptions of usability and both patient- and footwear characteristics and footwear use were analyzed with Mann-Whitney U tests ($p < 0.05$). **Results:** Median VAS scores ranged from 6.5 to 9.1 for all domains. Comfort was identified as most important priority, by 30% of patients. Younger patients and higher educated patients were less satisfied with the appearance of their shoes than older patients and less educated patients ($p < 0.01$). A high shaft support was less appreciated than no shaft support ($p = 0.02$). Low perceived benefit of using footwear at home was associated with less footwear use ($p < 0.001$). Large inter-individual differences in outcomes were found. **Conclusions:** Despite individual differences in footwear priorities and perceptions, the usability of custom-made footwear was rated as quite positive. Footwear use was lowest in patients who perceived the least benefits of using therapeutic footwear at home, which emphasizes the need to educate high-risk diabetic patients about the value of footwear in protecting against foot ulcers. The results of this study underscore the importance of insight in patient's considerations and priorities of footwear usability to direct prescription practice and to improve wearing behaviour.