Cost-Effectiveness Analysis of the Use of Negative Pressure Wound Therapy in the Treatment of Diabetic Foot Disease in Colombia

EE492

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OBJECTIVES

Chronic and difficult-to-heal wounds are a silent epidemic affecting a large percentage of the world's population. We aimed to analyze the costs and effectiveness of the use of Negative Pressure Wound Therapy (NPWT) compared to Topical Oxygen Therapy (TOT) and Nepidermin (human recombinant epidermal growth factor, hEGF) in the treatment of diabetic foot ulcers in Colombia

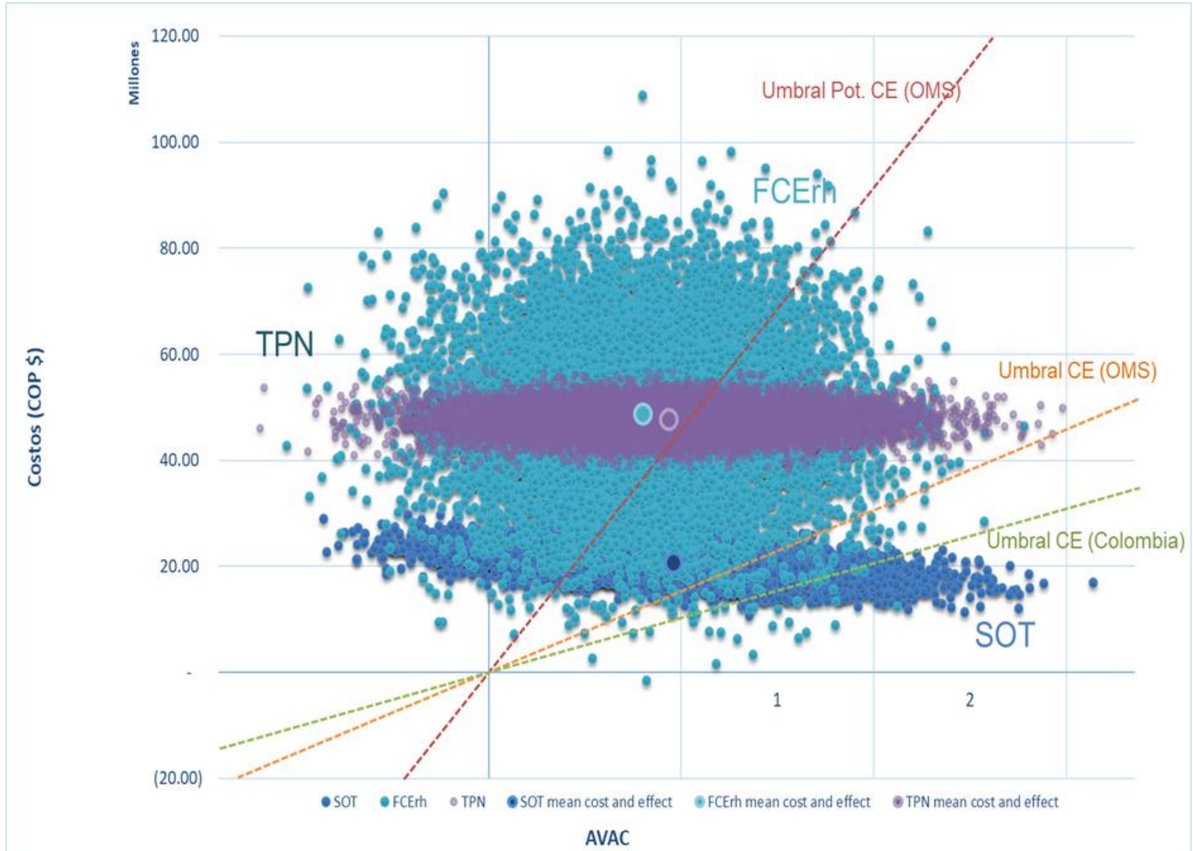
METHODS

A decision tree model evaluated three treatment strategies: NPWT, TOT, and hEGF. The model was performed for 12 weeks' weeks time horizon (8 weeks for hEGF). Clinical anand effectiveness inputs were extracted from clinical trials and effectiveness and safety reports. Costs Cost inputs were gathered from national tariffs (SISMED, ISS-2001). Cost Costs due to cures and patient follow-up visits were not included in the analysis because they were common elements among the treatments analyzed. Incremental cost-effectiveness ratios were estimated for the different alternatives considered. Sensitivity analyses were performed to test model robustness. Costs were expressed in US Dollars using the mean exchange rate of October of 2022

RESULTS

In the base case scenario, NPWT and hEGF are dominated by the TOT. The cost per QALY is USD 7,136.98 for the TOT compared to the NPWT and USD 7,460.58 compared to the hEGF. Sensitivity analyses and the tornado diagram showed that the variables with the greatest impact on the cost-effectiveness estimates of the TOT are the probability of response and suspension due to non-response of the hEGF.

Figure 1. Cost-effectiveness plane



CONCLUSION

NPWT seems to offer a better cost-effectiveness ratio with respect to hEGF, but not to TOT in Colombia. The main limitation of this study centers on the absence of non-inferiority clinical trials with a long-term horizon.

AFILIATIONS

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