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The Cost-Effectiveness of Collagen Laminin-Based Dermal Matrix Combined with Resveratrol Microparticles in Treatment of Diabetic Foot Ulcer Treatment in Turkey

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OBJECTIVES

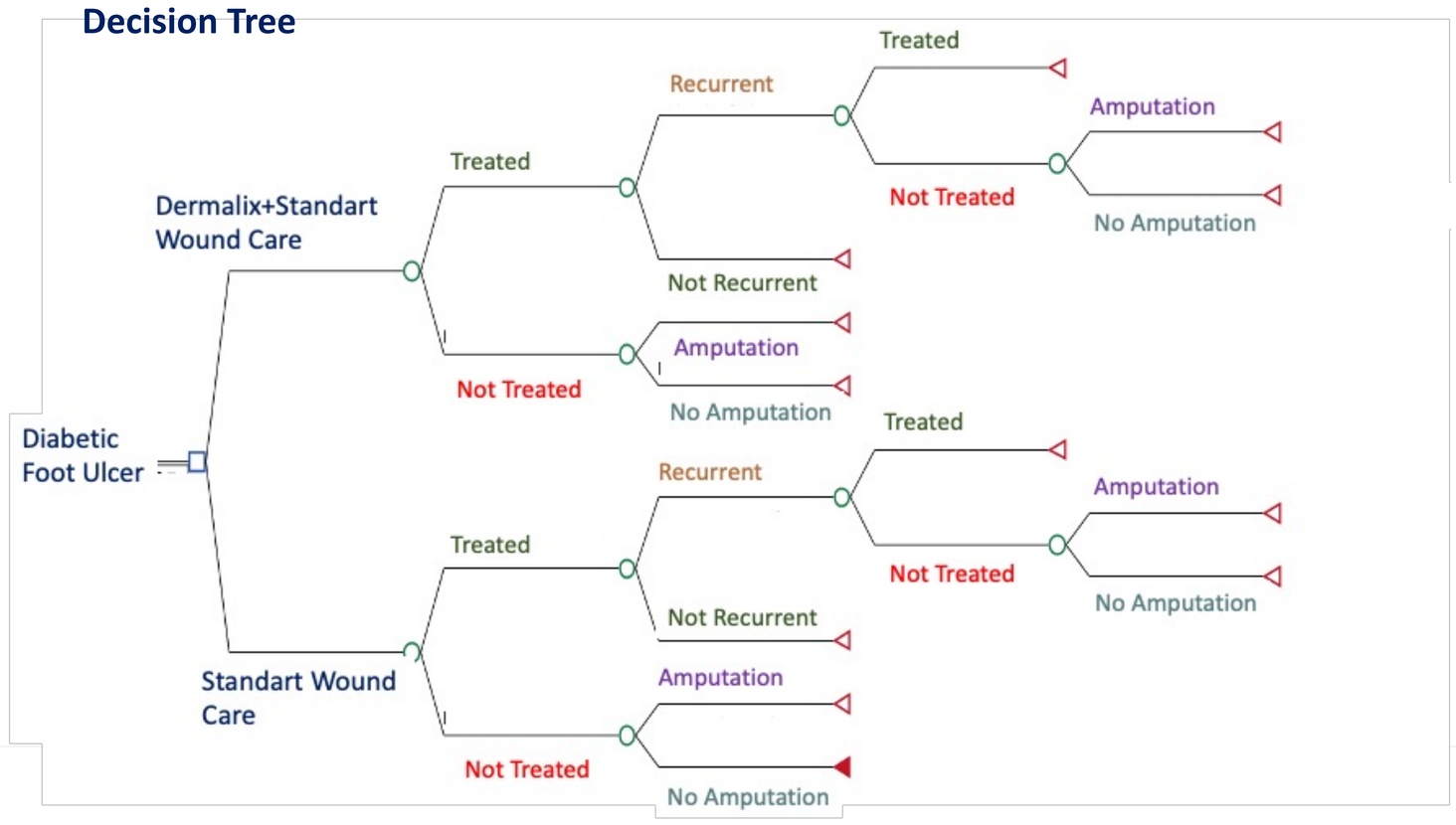
Collagen Laminin-Based Dermal Matrix Combined with Resveratrol Microparticles (Dermalix®) is a wound dressing developed to heal the diabetic wounds. Diabetic foot wound is a major complication of diabetes with considerable burden both on patients and health systems. Around a quarter of diabetic foot infections end with amputation and around a quarter of health expenditures on diabetes are made to treat this complication. This implies the importance of cost-effective interventions for treatment. The objective of this study is to assess the cost-effectiveness of Dermalix® + standard wound care in treatment of diabetic foot ulcers in comparison to only standard wound care in Turkey.

METHODOLOGY

The analysis was made from the payer perspective (SGK). A decision tree was developed to meet the objectives of the study. Effectiveness was assessed by the level of wound healing of the ulcer, measured by wound area. Probabilities in the model were taken from the clinical trial (DERMAN) of Dermalix®. Diabetic foot ulcer recurrence and amputation probabilities were taken from the literature.

Costs included the public reimbursement price of Dermalix®, standard wound care, amputation, prothesis and monitoring costs. Amputation costs and monitoring costs were derived from expert views. A Healthcare Resource Utilization Tool was developed to this end. The ICER was estimated as the incremental cost for incremental healing in the wound.

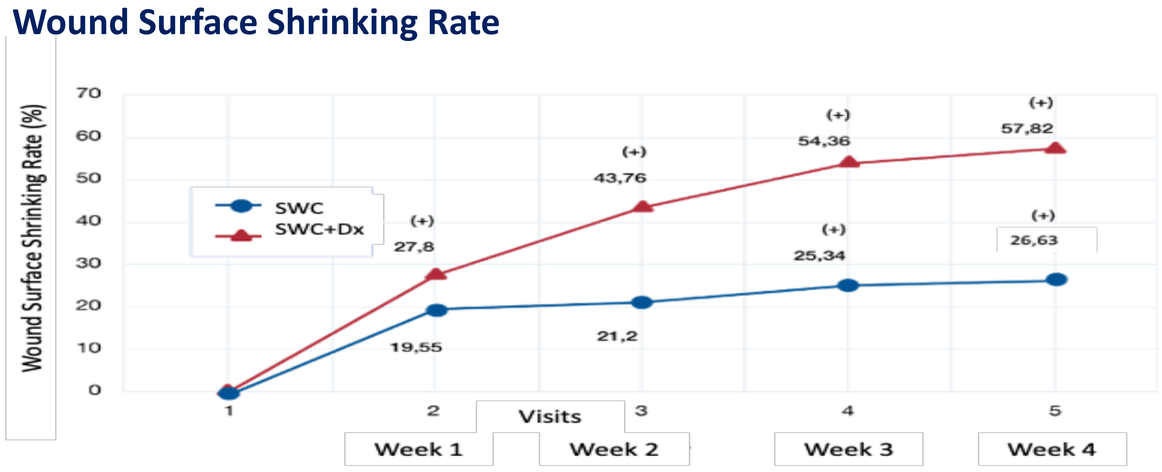
Decision Tree



Standard wound care was comprised of cleaning with saline solution and standard dressing. The duration of treatment was 4 weeks, and no discounting was applied to the results.

RESULTS

Wound Surface Shrinking Rate



Çetinkalp Ş, ve diğerleri, (2020), 'Comparative Evaluation of Clinical Efficacy and Safety of Collagen Laminin–Based Dermal Matrix Combined With Resveratrol Microparticles (Dermalix®) and Standard Wound Care for Diabetic Foot Ulcers', The International Journal of Lower Extremity Wounds, DOI: 10.1177/1534734620907773

The wound surface shrinking rate was 57.82% at the 4th week from baseline for Dermalix® +SWC and 26.7% for SWC. Based on this, the incremental cost per incremental wound surface shrinking was estimated as 14,290 TRY. There is no officially published threshold to be used in cost-effectiveness analysis in Turkey. According to the recommendations based on GDP per capita calculations, the ICER is below the amount estimated for 2021 (GDP per capita=85.672 TRY).

Treatment	Cost (TRY)	Incremental Cost (TRY)	Wound Surface Shrinking Rate	Incremental Wound Surface Shrinking Rate	ICER
Dermalix®+SWC	6,135	4,456	0.5782	0.3119	14,290
SWC	1,678		0.2663		

*SWC: Standard Wound Care

One-way sensitivity analysis showed that the results were robust.

DISCUSSION

Treatment of diabetic foot ulcer wounds with Dermalix® + standard wound care is a cost-effective option in Turkey.

*This study was supported by Abdi İbrahim Turkey