

# Is Walking Barefoot on Different Natural Terrains Effective to Improve Balance in The Elderly?

Dr. Jignesha Hulawle\*, Dr. Suroshree Mitra, Dr. Apurv Shimpi, (PT)

Sancheti Institute College of Physiotherapy, Thube Park, Shivaji Nagar, Pune, Maharashtra, India

\*Corresponding author

## ABSTRACT

**Objectives:** To study the effects of barefoot walking on three different surfaces for balance, lower limb strength, and confidence in the elderly.

**Methods:** 45 healthy subjects (mean age  $65.08 \pm 4.86$ ) were randomly divided into three groups of different surfaces namely grass, sand, and soil. After the assessment, they were made to walk barefoot on either surface for 30 minutes/day, five days/week for six weeks. Data were analyzed using the 'paired-t' test and One-Way ANOVA with  $\alpha$  set  $\leq 0.05$  at a 95% confidence interval.

**Results:** All groups showed statistically significant improvement in balance, lower limb strength, and confidence post-intervention ( $p < 0.05$ ). However, the inter-group analysis showed no significant difference, indicating no one surface is better than the other ( $p > 0.05$ ).

**Conclusion:** Barefoot walking improved balance, lower limb strength and confidence equally in all three groups with no statistically significant difference found.

**Keywords:** Surfaces, Cutaneous proprioception, Walking rehabilitation, Fall prevention program

