

# **The influence of balance ability on prosthetic mobility and social activity among individuals with a unilateral lower extremity amputation attending to Colombo Friend in Need Society**

P. P. Chamika, D. G. S. K. L. Jayawardana

*Department of Allied Health Sciences, Faculty of Medicine, University of Colombo, Sri Lanka*

Balance ability plays a critical role in prosthetic mobility and social activity among individuals with a unilateral lower extremity amputation. While balance training is a key component of rehabilitation, the specific influence of balance ability on functional mobility and social participation remains underexplored. This study aimed to assess the relationship between balance ability and both prosthetic mobility and social activity among individuals with a unilateral lower extremity amputation attending the Colombo Friend in Need Society. A cross-sectional study was conducted among 81 individuals with a unilateral lower extremity amputation. Balance ability was assessed using the Berg Balance Scale (BBS). Prosthetic mobility capability was measured using the Prosthesis Evaluation Questionnaire – Mobility Section, prosthetic mobility performance using the Houghton Scale, and social activity using the Frenchay Activities Index. Descriptive statistics and Spearman’s correlation test were used for statistical analysis. The study included 81 participants (81.5% male), aged 18–60 years (mean age  $48.07 \pm 12.10$ ). The average score on the BBS was  $51.64 \pm 9.04$ . Participants demonstrated varying levels of prosthetic mobility capability (mean:  $37.66 \pm 7.10$ ), performance (mean:  $9.67 \pm 2.15$ ), and social activity (mean:  $35.03 \pm 7.14$ ). The results revealed a significant moderate positive correlation between balance ability and prosthetic mobility capability ( $r=0.324$ ,  $p=0.003$ ), along with a strong positive correlation with prosthetic mobility performance ( $r=0.560$ ,  $p<0.001$ ). Furthermore, a moderate positive correlation was identified between balance ability and social activity ( $r=0.465$ ,  $p<0.001$ ). The results suggest that balance ability is crucial for improving prosthetic mobility and social participation in individuals with unilateral lower limb amputation. These findings highlight the importance of incorporating targeted balance training into rehabilitation programmes to enhance mobility outcomes and overall quality of life.

**Keywords:** *Balance ability, Prosthetic mobility, Social activity, Unilateral lower extremity amputation, Rehabilitation*