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### Walking performance and its multifaceted associations with physical function, health status, and depression in individuals with COPDD

#### Abstract:

Chronic obstructive pulmonary disease (COPD) is a significant contributor to global morbidity and its progression is often accompanied by reduced physical capabilities and psychological distress. This study aimed to delineate the predictive effect of depressive symptoms, health status, and extremity function, along with peak oxygen uptake ( $VO_{2peak}$ ), on walking performance in patients with COPD. Participants were classified according to their 6 MWT distance - those surpassing a threshold of 350 meters ( $n=40$ ) indicated higher walking performance, and those below ( $n=30$ ) indicated low walking performance. Comprehensive assessments including the Patient Health Questionnaire-9 (PHQ-9) for the assessment of depression, St. George's Respiratory Questionnaire (SGRQ) for measure of health status, and the Upper and Lower Extremity Function Index (UEFI/LEFI), were administered. The predicted  $VO_{2peak}$  was measured using the Duke Activity Status Index. Seventy participants (mean age,  $63\pm 11$  years; 20 % female) participated in the study. Participants in the low-walking group had higher SGRQ scores and lower predicted  $VO_{2peak}$  than those in the high-walking group (all  $p < 0.05$ ). PHQ-9, SGRQ, UEFI/LEFI, and  $VO_{2peak}$  explained approximately 49.5 % ( $F = 7.48$ ,  $p=0.0006$ ) of the variance in walking performance. The findings of this study showed that individuals with significant impairment of walking distance are at a greater risk of impaired health status and lower predicted  $VO_{2peak}$  along with depressive symptoms and UEF/LEF functions. These findings warrant the examination of interventions to improve walking performance and reduce the likelihood of associated health risks in this population.

#### Biography

**Monira Aldhahi** is an accomplished researcher and dedicated professional in the field of rehabilitation sciences and He has published more than 65 papers in reputed journals. Currently, she is working as an associate professor of rehabilitation science and head of the respiratory care program and CHRS research unit at the College of Health and Rehabilitation Sciences of PNU. She is a PT consultant at KAAUH and world rugby medical educator. Her educational journey is marked by significant achievements, including a Master of Science in Physical Therapy from the University of Pittsburgh, a Post-Professional Doctor of Physical Therapy from Loma Linda University, and the culmination of her academic pursuits with a Doctor of Philosophy in Rehabilitation Science from George Mason University in 2019.