Health-related quality of life and physical activity of the patients with bronchiectasis: A cross-sectional descriptive study at Central Chest Clinic, Colombo and National Hospital for Respiratory Diseases, Welisara

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Bronchiectasis is a chronic respiratory disease characterized by irreversible dilation of the bronchial tubes, frequent infections, and often leads to impaired lung function. These features of bronchiectasis can greatly impact the patients' physical activity (PA) and their health-related quality of life (HRQoL). The aim of this study was to assess the PA levels, HRQoL and association between PA levels and HRQoL in individuals with bronchiectasis. A descriptive cross-sectional study was conducted at the National Hospital for Respiratory Diseases, Welisara, and the Central Chest Clinic, Colombo. A total of 141 clinically stable bronchiectasis patients aged 18-70 years were recruited. Data on sociodemographic factors and bronchiectasis-related data were collected using an interviewer-administered questionnaire. HRQoL was assessed using the EQ-5D-3L questionnaire and Visual Analogue Scale (VAS), while PA levels were measured using the International Physical Activity Questionnaire (IPAQ) – Short Form. The data were analyzed using Statistical Package for the Social Sciences (SPSS), version 22. The mean age of the study population is 48.4 (SD =13.17). The majority were male (56.7%). The EQ-5D-3L questionnaire revealed that mobility issues, difficulty with usual activities and pain/discomfort were more affected. IPAQ showed that 42.6% had low PA while 14.9% had high activity levels. Spearman's correlation analysis demonstrated a significant positive association between PA and both the EQ-5D health score ($r=0.225$, $p=0.007$) and VAS ($r=0.517$, $p<0.01$). Additionally, PA was negatively correlated with mobility ($r = -0.284$, $p = 0.001$), usual activities ($r= -0.276$, $p=0.001$), and pain/discomfort ($r=-0.337$, $p<0.001$), indicating that higher PA levels were associated with better HRQoL outcomes. This study highlights a significant relationship between PA and HRQoL in patients with bronchiectasis. Higher PA levels were associated with better mobility, fewer limitations in usual activities, and lower pain/discomfort. These findings emphasize the importance of incorporating PA interventions into bronchiectasis management to improve patients' overall well-being.

Keywords: *Bronchiectasis*, *Health-Related Quality of Life*, *Physical Activity*, *Mobility, Pain/Discomfort*, *Usual activity*