

Relationship between Physical Activity and Falls in Older Adults with Type 2 Diabetes Mellitus

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Abstract

Physical inactivity (PA) is a modifiable risk factor for Type 2 Diabetes Mellitus (T2DM). Falls is a major concern for older adults with T2DM. This study aimed to identify the association between PA and falls in older adults with T2DM attending to selected hospitals in Colombo district. In this cross-sectional study, 180 participants with T2DM, aged 60 years and above were recruited using non probability sampling. Demographic data and retrospective falls in previous 12 months were assessed using interviewer administered questionnaire. International Physical Activity Questionnaire-Short Form (IPAQ-SF) was used to assess physical activity. Descriptive statistics, spearman correlation test and Mann Whitney U test were used for data analysis in SPSS version 20.0. Among 180 T2DM participants (mean age=66.61±5.35 years), 38.3% (n=69) were males and 61.7% (n=111) were females. Mean weekly energy expenditure for total PA was 1567.78 (±1216.99) metabolic equivalent of task (MET) minutes per week. Among 180 participants 20% (n=36) were physically inactive, while 68.9% (n=124) were moderately active and 11.1% (n=20) were highly active. Approximately, 22% of T2DM patients experienced falls during previous 12 months and 59.2% of falls resulted in injuries. Total PA of non-fallers (median=1359.0MET- minutes/week) was significantly higher than total PA of fallers (median=972.0MET-minutes/week, $p=0.022$). There was a significant negative relationship between PA and number of falls ($p=0.021$, $r=-0.172$). Majority of the T2DM older adults were physically inactive or moderately active. Physical inactivity leads to increase in fall rate in older adults with T2DM.

Keywords: *Physical activity, T2DM, Falls*