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### Association of physical activity level with the body fat in people of different occupational categories in Anuradhapura Municipal Council area

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**Background:** Central body fat distribution increases the risk of, non-communicable diseases like diabetes mellitus and cardiovascular diseases. Different levels of physical activity in the occupations may lead to differences in body fat distribution.

**Objective:** This study was conducted to assess the associations of Physical Activity (PA) with the body fat distribution among different occupation groups in Anuradhapura Municipal Council area.

**Methods & Materials:** Five occupational groups; teachers (n=134), nurses (n=129), farmers (n=112), housewives (n=139) and undergraduates (121) were recruited. Total Body Fat (TBF), Visceral Fat (VF), Subcutaneous-Fat in Trunk (T-SCF), arms (A-SCF) and legs (L-SCF) were measured using 8-electrode bio-impedance analyzer (HBF-375: Karada-scan, Omron, Japan). The PA-intensity and diet were assessed using International PA Questionnaire and food frequency questionnaire respectively. Data were analyzed by Pearson-correlation and linear regression using beta-version of SPSS software. P<0.05 was considered significant.

**Results:** Farmers' total PA intensity showed significantly negative association with TBF% [B(SE)= -0.0001 (0.00004), p=0.013], A-SCF [B(SE)= -0.0001(0.00004), p=0.034], L-SCF [B(SE)= -0.0001(0.00005), p=0.027] and VF [B(SE)= -0.0001(0.00004), p=0.020], after adjusting for age, sex, sitting time, and dietary factors (consumption of carbohydrate, green leaves, and protein consumption of animal origin).The teachers' PA showed significantly negative association only with TBF% [B(SE)= -0.001 (0.0001), p<0.001] but not the regional fat distribution. Other occupation groups didn't show any significant association between PA and VF rating or TBF%. Sitting time per week among, nurses showed significantly negative correlations with TBF% [B(SE)= -0.001(0.0003), p=0.017], T-SCF% [B(SE)= -0.001(0.0004), p=0.005], A-SCF% [B(SE)= -0.001 (0.0005), p=0.033], L-SCF% [B(SE)= -0.001(0.001), p=0.013] and VF [B(SE)= -0.001 (0.0003), p=0.005] after adjusting for age, sex, total PA intensity, and dietary factors.

**Conclusion:** The association of physical activity with body fat distribution varies among different occupation groups.

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