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Factors associated with total cholesterol and blood glucose levels among Afghan people aged 18–69 years old: Evidence from a national survey

The objective of this study was to determine the associated factors of total cholesterol (TC) and blood glucose (BG) levels in people aged 18-69 years in Afghanistan. This was an analytical cross-sectional study using data from the NCD-STEPs survey 2018 in Afghanistan. The total sample size in the original study was 3,972, and a multi-stage cluster sampling method was used. TC and BG were the outcome variables for this study; simple and multiple linear regression were performed to find the associated factors for the outcome variables using a designed-based modeling incorporating sampling techniques and weights. The result of univariate linear regression analysis indicates that age, marital status, hypertension, and BMI are positively associated with TC and BG levels while education, salt intake, and any type of physical activity are negatively associated with TC and BG levels (p-values<0.05). Each year of age increases TC by 0.42 mg/dl and BG by 0.48 mg/dl; ever-married individuals have higher TC (21.8 mg/dl) and BG (8.8 mg/dl) levels; hypertension increases TC by 16.8 mg/dl and BG by 14.5 mg/dl; and higher BMI is associated with increased TC (1.3 mg/dl) and BG (0.9 mg/dl). Moreover, multivariate analysis using multiple linear regression indicates the same result; however, the results of marital status and gender are not significant with BG level and results of education levels, salt intake and any type of physical activity are not significant with TC levels. The finding of this study shows that TC and BG increase in people of older age categories, married people, people with hypertension, overweight, and obesity; while decreases in people with higher education, people who always take salt, and people who do physical exercise.

Keywords: cholesterol, blood sugar, hypertension, body mass index, diabetes mellitus, physical activity

Biography

Ms. Giti Azim is an accomplished public health professional with a Master of Public Health from Kabul Medical University and an ongoing MSc in Epidemiology from the London School of Hygiene and Tropical Medicine. She currently serves as an Outbreak Response Officer at WHO, Afghanistan, and has extensive experience in epidemiology, disease surveillance, and health information systems. Ms. Azim has been recognized with multiple awards for her contributions to public health research, including studies on cholesterol, blood glucose, and COVID-19. She has published in reputable journals like PLOS and BMJ and actively participates in international conferences and training programs.