A Statistical Study on the Prevalence of Physical inactivity among Cardiovascular Diseases patients: The Predictive role of Demographic and Socioeconomic Factors

Mirza Rizwan Sajid[1], Noryanti Muhammad[1,2]*, Ahmad Shahbaz[3], Roslinazairimah Zakaria[1]
[1]Centre for Mathematical Sciences, College of Computing and Applied Sciences, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang, Kuantan, Pahang Darul Makmur, Malaysia.
[2]Centre of Excellence for Data Science and Artificial Intelligence, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang, Kuantan, Pahang Darul Makmur, Malaysia.
[3]Associate Professor of Cardiac Surgery, Punjab Institute of Cardiology, Pakistan.
*Corresponding Author E-mail: **noryanti@ump.edu.my**

ABSTRACT:
Physical inactivity (PI) is an established modifiable risk factor of cardiovascular diseases (CVDs) which is the leading cause of global mortality. Researchers and practitioners have been trying to reduce the surge of PI in the population but still, a substantial chunk of the world population is struggling with the issues of PI. This study is aimed at determining the prevalence and associated background factors of PI among CVDs patients. Further, profiles of potentially physically inactive people will also be identified for the future. A cross-sectional study was conducted at Punjab Institute of Cardiology (PIC) Lahore, Pakistan spanning the duration of September 2018 to February 2019. A sample of 230 CVDs patients, using 95% confidence interval (CI), 80% power of test and 5% margin of error was selected in the study. The data on PI was collected using standardized international physical activity questionnaire. In addition to descriptive statistics, bivariate analysis, multiple logistic regression analysis and odds ratios (OR) were also used. The study included 230 participants, in which 156 (68%) were males. The average age of the CVDs patients was 50.11 ± 11.15 years. One hundred thirteen (49%) of the patients were physically inactive. Forward stepwise logistic regression estimated that good subjective financial well-being (OR= 0.560; 95% CI: 0.439-0.714), high years of schooling (OR = 0.932; 95% CI: 0.871-0.998), male gender (OR = 0.336, 95% CI: 0.162-0.698) and advanced ages (OR = 1.041, 95% CI: 1.011-1.072) were the strong factors in determining the likelihood of PI. This study concludes that the prevalence of PI in CVDs patients is alarming and background factors are the strong predictors of PI. These factors can be used to design customized strategies for the reduction of PI which would ultimately help in reducing the incidence of CVDs in the population.

KEYWORDS: Cardiovascular diseases, physical inactivity, background factors, logistic regression, area under the curve.