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Assessing Risk Factors of Hypertension and Ischemic Heart Disease among School Teachers in Georgiaa

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Abstract

Hypertension and Ischemic Heart Disease are vastly common causes of death and disability across the world. In Georgia, the prevalence of these pathologies is gradually increasing. School teachers in particular due to stress, busy schedule and physical inactivity are at high risk of developing hypertension and ischemic heart disease alongside with other disorders. In this study our aim was to assess and allocate the main risk factors of hypertension and ischemic heart disease among different teaching level school teachers in Georgia. The study began in March 2024 and continued till the end of April. Study design was cross-sectional using questionnaire. The target population comprised school teachers and the cluster sampling technique was used in three schools – one in Tbilisi, two in Kutaisi. Total 160 teachers participated in the study - 94% females and 6% males. Data regarding socio-demographic risk factors like age, gender, BMI, marital status and behavioral factors like tobacco use, physical inactivity, alcohol intake, eating pattern and sleeping deprivation were collected. For elaborate results we also gained information about chronic, familial diseases and complications aroused after getting COVID-19 single or multiple times, as well as the vaccination. Data was analyzed by using proportions of percentages. The results showed that primary and secondary level school teachers compared to elementary suffered of high level of stress, sleep problems, eating disorders and chronic diseases: hypertension (15%), diabetes (4%), ischemic heart disease (63%), COPD (3%), gout (12%). Most of them (66%) had no familial history of chronic diseases and 22% have connected the diseases with COVID-19. Other complaints after COVID-19 included: arrhythmia, distorted perception, musculoskeletal fatigue, allergic reactions and kidney problems. The recommendations were given for prevention.

Keywords: Hypertension; Ischemic Heart Disease; Cross-sectional study.

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Introduction

Chronic Noncommunicable Diseases (NCDs), particularly Hypertension and Ischemic Heart Disease, are leading causes of mortality and disability globally. Hypertension defined as systolic blood pressure (SBP) of 140 mmHg or higher or diastolic blood pressure (DBP) of 90 mmHg or higher, is one of the most important risk factors for cardiovascular diseases. Ischemic Heart Disease, also called Coronary Artery Disease (CAD)/Coronary Heart Disease (CHD) is a type of heart disease involving the reduction of blood flow to the cardiac muscle due to a build-up of atheromatous plaque in the arteries of the heart. In Georgia, the prevalence of these pathologies is gradually increasing. According to WHO (World Health Organization) 2014 Health Report, noncommunicable diseases account for nearly 94% of all deaths, among them 69% due to CVDs. Among CVDs the biggest share in terms of mortality and morbidity falls on Hypertension-more than 50%. (Country report Georgia – August 2017, Zurab Klimiashvili.) School teachers in particular due to stress, busy schedule and physical inactivity are at high risk of developing Hypertension and Ischemic Heart Disease alongside with other disorders. [3] [4]

Research Methods

In this study our aim was to assess and allocate the main risk factors of Hypertension and Ischemic Heart Disease among different teaching level school teachers in Georgia. The study began in March 2024 and continued till the end of April. Study design was cross-sectional using questionnaire based on WHO STEPS protocol. The target population comprised school teachers and the cluster sampling technique was used in three randomly chosen schools – one in Tbilisi, two in Kutaisi. Total 160 teachers participated in the study - 94% females and 6% males. The behavioural and anthropometric data using the WHO STEPS instrument for NCD risk factor surveillance were collected: data regarding socio-demographic risk factors like - age, gender, BMI, marital status and behavioral factors like -tobacco use, physical inactivity, alcohol intake, eating pattern and sleeping deprivation. For elaborate results we also gained information about chronic, familial diseases and complications aroused after getting COVID-19 single or multiple times, as well as the vaccination. Data was analyzed by using proportions of percentages. [1] [2]

Research Results

The most frequent age range among teachers was 40-59, secondly 20-39 and lastly 60 and older. The average height was 168cm and average weight-74kg and more. Most of the teachers were married -56%, 30%- single, 8% -widowed and 6% -divorced. The average working time in a week included: 20-39hours (50,6%), 1-19hours (28,1%) and 40-60hours (21,3%). Most of the teachers were secondary (51,2%), primary (27,5%) and both primary and secondary (21,3%). Majority of them (90%) were not tobacco users, only 5% passive smoker, 3,1% active smoker and 1,9% had past history of smoking. The frequency of alcohol intake: occasionally- 37,5%, regularly- 10,6%, doesn't drink-51%. Physical activity: occasionaly-32,5%, rarely-32,5%, very rarely-20,6%, frequently-14,4%. The eating habit information included: mainly homemade food-66,3%, mainly school cafeteria meals or fast food-5%, combined-28,7%. 43% of the participants complained of bad sleeping habits and 35% of them named the reason behind it stress in their everyday life. From 160 participants when asked about chronic diseases, 15% answered Hypertension, 7% Ischemic Heart Disease, 13% gout, 3% diabetes, 2% Chronic obstructive pulmonary disease (COPD). The average Blood Pressure of participants was 120/70. 65% of the participants had no family history of chronic diseases, 21,9% answered positively and 13,1% didn't have precise answer. 89,8% had COVID-19, mainly two or three times and 78% got the vaccine. The diseases identified after COVID-19 included: joint pain, Hypertension, Brain fog, allergic reactions to antibiotics, cognitive dysfunctions.

Discussion

The risk factors of Hypertension include: older age, genetics, obesity, lack of physical activity, high-salt diet, excessive alcohol intake, sleep deprivation, consuming unhealthy foods, diabetes, metabolic syndrome, chronic kidney disease, whereas Hypertension, hyperlipidemia, diabetes mellitus, obesity, tobacco use, poor diet and sedentary lifestyle appear to be the risk factors of Ischemic Heart Disease.

The study showed that primary and secondary level school teachers compared to elementary suffered of high level of stress, sleep problems, eating disorders and chronic diseases, mainly Hypertension, diabetes, Ischemic Heart Disease, COPD, gout. Most of them had no familial history of chronic diseases and 11% have connected the diseases with COVID-19. Other complaints after COVID-19 included of: arrhythmia, distorted perception, musculoskeletal fatigue, kidney problems.

The recommendations that were given the teachers for preventing Hypertension and Ischemic Heart Disease included: salt restriction, high consumption of vegetables and fruits, appropriate weight control, regular physical activity, quitting smoking, moderating alcohol consumption, keeping blood pressure under control. [5] [6]

Conclusion

The teaching profession is highly stressful occupation due to enhanced psychosocial stress at the work place. School teachers face high amount of stress during teaching. Unhealthy diet, low level of physical activity and occupational stress are common risk factors of Hypertension and Ischemic Heart Disease. Health education for teachers regarding risk factors, symptoms and complications of Hypertension and Ischemic Heart Disease is the need of the hour. Life style modification for prevention and control of diseases has to be given importance among school teachers..

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