OPENING MINDS:
RESEARCH FOR SUSTAINABLE
DEVELOPMENT

Contributory Factors of Coronary Heart Disease among Young Adults

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1 INTRODUCTION

Coronary Heart Diseases (CHD) continues to be a major public health issue in Sri Lanka (Annual Health Bulletin, 2012). The latest studies show that incidences of CHD among young adults have significantly increased in the recent years, even though it is rare among this population segment (Yunyun *et al.*, 2014). Variances of CHD have been classified in to chronic CHD, acute coronary syndromes, and sudden death and it also may present clinically, in many ways (Fuster *et al.*, 2011). The current study considers the array of CHD to identify factors that could be influential for those aged between 18 to 45 years who could suffer from CHD. This study intends to identify contributory factors of CHD among young adults aged between 18 to 45 years considering their life style patterns and describes diseases influencing CHD among those young adults.

2 METHODOLOGY

A quantitative, descriptive design was used in this study. Hundred and sixty seven (167) young adults with CHDs who sought care at the Cardiology Unit at National Hospital of Sri Lanka (NHSL) were selected using convenience sampling. A questionnaire was used to gather information. The first part of the questionnaire consisted of close-ended questions to be answered by the participants and the second part was filled by researchers using history and medical records of the participants. This tool was developed by researchers using standard literature and through the professional experience of working at the Cardiology Unit. Ethical approval was obtained from the Ethical Review Committee of the NHSL. Written consent was obtained from each participant prior to the study. The data analysis was conducted using Microsoft Excel to obtain descriptive statistics.

3 RESULTS AND DISCUSSION

The gender distribution of the study population was 73.7% male and 26.4% female among 167 participants. The majority of the participants were aged between 41 to 45 years and the remaining two percent were between 18 to 25 years of age. One hundred and thirty two (79%) were married and the rest were unmarried. Almost half of the participants had completed school up to the GCE Ordinary Level (49.1%) and 13 (7.8%) participants had completed their higher education, whereas, only two participants indicated a very low literacy level. The majority of the participants (85.6%) were employed.

3.1 Life style patterns of among young adults

Participants' smoking status, engagement in physical activities, food consumption patterns and perceived mental status such as work stress were factors that were considered. According to the findings, 59.3% were non-smokers, which included all the female respondents. Comparable findings of Incalcaterra *et al.* (2013) and Tamrakar *et al.* (2013) identified that more than half of the population were identified as smokers.

Table 1: Smoking status and Physical activities of young adults with CHDs

Characteristics	No of Participants (n=167)	
Smoker	12	7.20%
Non Smoker	99	59.30%
Former Smoker	56	33.50%
Physical exercise		
Yes	42	25.30%
No	125	74.70%

Table 2: Food consumption patterns of young adults with CHDs

Food consumption	Daily	Occasionally	Quit at Present	Never
Meat	47, (28.1%)	109, (65.3%)	10, (6.0%)	1, (0.6%)
Fish	97, (58.1%)	68, (40.8%)	2, (1.2%)	NA
Eggs	48, (28.7%)	104, (62.3%)	13, (7.8%)	2, (1.2%)
Seafood	18, (10.8%)	125, (74.8%)	14, (8.4%)	10, (6.0%)
Milk and Dairy Products	70, (41.9%)	87, (52.1%)	9, (5.4%)	1, (0.6%)
Use Oil Products for Cooking	89, (53.3%)	53, (31.7%)	19, (11.4%)	6, (3.6%)
Consuming Processed Foods	47, (28.1%)	103, (61.7%)	10, (6.0 %)	7, (4.2%)
Fast Foods and Snacks	55, (32.9%)	94, (56.3%)	14, (8.4%)	4, (2.4%)

Nearly three-quarters of the participants did not engage in any physical exercise. Likewise, in their study Sivajanani, Kuillini, and Madona (2014) identified the lack of exercise as the main influencing lifestyle factor for CHD. Perceived mental status of participants was measured using a five point Likert scale from 'strongly disagree' to 'strongly agree' on questions regarding their daily activities, including work. A large majority (80%) indicated that their work environment and tasks were very stressful. A similar percentage declared that they engaged in tasks that were time sensitive. More than 70% stated that they had driving related stress, engaged in work that required rushing or multi-tasking. Similarly, Yunyun *et al.* (2014) also found in a correlation between CHD and high work stress. The current

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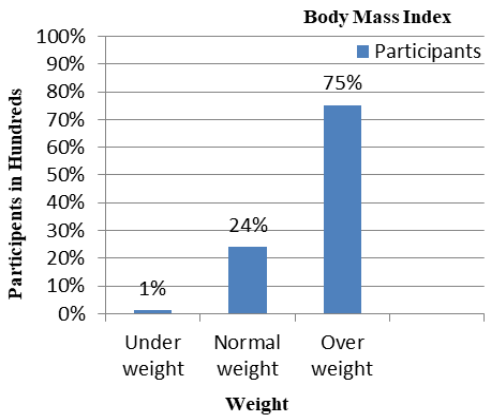
study only found 10% of the participants who did not seem to perceive high levels of stress in their lives, both in and outside of work. The majority of the participants consume animal food products and fatty food products.

3.2 Diseases influencing CHD among young adults

Existing medical conditions that might be influential towards early onset of CHD were gathered by asking questions that specifically listing Diabetes Mellitus, Hypertension, Hyper-cholesterolaemia and being overweight. A high consumption of animal food products and other non-healthy foods might be contributory towards the elevation of Body Mass Index (BMI) and cholesterol levels in the blood. Similarly, Yunyun *et al.* (2014) in China and Wong *et al.* (2010) in Singapore presented similar patterns in their studies. Nearly one-third of the population had Hypertension and Diabetes, similar to the results in studies conducted by Wong *et al.* and Incalcatterra *et al.* However, upon analysis of current findings, Hyper-cholesteroleamia seems to have a significance influence to also having CHD, when compared with those who had Diabetes and Hypertension. In other words, more people who had CHD also possessed Hyper-cholesteroleamia than the number of participants who had CHD and Diabetes or Hypertension. On the other hand, a combination of Diabetes, Hypertension and Hyper-cholesteroleamia was present in a combination by most of the young adults with CHD.



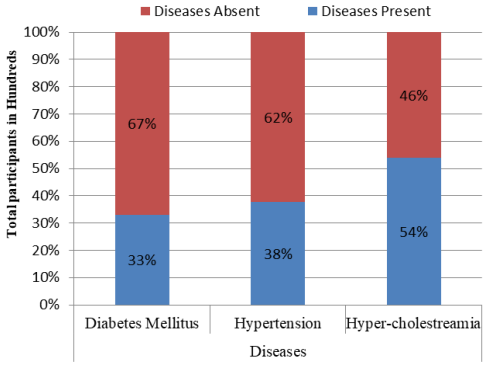


Figure 2: Diseases Influencing Coronary

4 CONCLUSION AND RECOMMENDATIONS

The distribution of the ages of study population showed a prevalence of and striking increase of CHD with ageing, even among young adults. According to the study findings, participants who were both married and employed were among the majority. This could indicate that employment and life responsibilities, as indicated by the perceived mental health status as declared by participants, are strong contributory factors towards CHD prevalence among young adults. The results also show that one-third of the participants who identified as early

smokers suffered from CHD. Most of the participants seem to perceive high stress in relation to employment tasks with extensive time-constraints. Further, it emphasised that those with poor participation in regular physical exercises of participants with CHD. The findings of this study also revealed that the participants were more likely to also have hyper-cholesteroleamia as opposed to Diabetes and Hypertension. Thus, it can be concluded that the existence of hyper-cholesteroleamia or a combination with Diabetes and Hypertension is contributory towards early onset of CHD. Therefore, the results of this could be utilised to form the basis of health education and awareness programs in schools so that preventative measures and development of healthy behaviours and lifestyles can be encouraged. Screening of young adults through related diseases, family history, lifestyle and behaviours as well as encouraging self-motivation through multimedia channels in clinics and hospitals will assist in mitigating the increase of these identified factors that contribute towards early onset of CHD. Similarly, the findings can be used to educate nursing professionals and address the existing knowledge gap related to CHD among young adults.

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