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## Public knowledge of cardiovascular diseases and its risk factors among early adulthood: A review

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### Abstract

cardiovascular diseases is estimated to be a cause of 17.3 million death in 2008, Over 80% of CVD deaths take place in low- and middle-income countries. By 2030 more than 23 million people will die annually from CVDs. The most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. The effects of behavioural risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity. These “intermediate risks factors” can be measured in primary care facilities and indicate an increased risk of developing a heart attack, stroke, heart failure and other complications. Risk of developing cardiovascular diseases in early adulthood is very high, Clearly, the development of cardiovascular disease in adulthood is influenced by growth very early in life, even prior to birth (Kate Kirley, 2013). Young adult levels of modifiable risk factors predict the odds of developing heart disease in middle age as well as or better than levels of risk factors measured in middle age, (National Heart, Lung, and Blood Institute, 2007). Various studies have reported that higher measured blood pressure in early adulthood is associated with an elevated risk of total, CVD, and CHD mortality several decades later, which appeared to persist even after accounting for self-reported hypertension in middle age (Linsay, 2011). The present need is to improve the nutritional management and knowledge regarding CVD among adults so that pre-preparation can be made to cope with the risk factors that elevate the diseases. In a study conducted to assess the knowledge on cvd and stroke that results showed that In terms of gender differences, women were consistently reported to have more knowledge of the risk factors and warning signs for CHD and stroke.

**Keywords:** CVD, Early adulthood, risk factors.

### Introduction

Heart diseases is one of the leading cause of deaths in India, the estimated death in 2010 was 2.25 million which is expected to reach a booming level of 2.94 million in 2015 (WHO, 2005) [2]. In 2014 coronary heart diseases was one of the leading causes of deaths in India which lead to 14% out of total 10.3 million deaths and 13.07 deaths per 100,000 population (sancd.org). Because of the rising level of deaths in the recent years due to heart diseases India has also experienced a socio economic burden causing it to spend 8.7 billion dollars because of CHD's, strokes and diabetes (WHO, 2005) [2]. The burden of this is pretty much evident from the fact that increasing lifespan and adverse lifestyle has caused in the prevalence of cardiovascular diseases through urban and semi-urban areas across India. With the already present infectious and malnutrition-related illnesses, the additional burden of CVD will only add up to the already restrained health infrastructure (Reddy, 1997) [3]. Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels and they include (WHO, 2013) [4]

- coronary heart disease – disease of the blood vessels supplying the heart muscle;
- cerebrovascular disease – disease of the blood vessels supplying the brain;
- peripheral arterial disease – disease of blood vessels supplying the arms and legs;
- rheumatic heart disease – damage to the heart muscle and heart valves from rheumatic fever, caused by streptococcal bacteria;
- congenital heart disease – malformations of heart structure existing at birth;
- Deep vein thrombosis and pulmonary embolism – blood clots in the leg veins, which can dislodge and move to the heart and lungs.

This literature review will explore the public knowledge regarding cardiovascular disease and the risk factors involved in igniting the problem of CVD among early adulthood. Mostly people have an insufficient knowledge about CVD or its risk factors because of the fact that they have dichotomous understanding of risk rather than continuum (Webster, 2010) <sup>[5]</sup>. Today various scales are available to assess 10 years risk or healthy heart assessment for CVD patients as well as healthy patients, but certainly due lacks of proper knowledge people are not aware of it (Lola, 2010) <sup>[6]</sup>. A Framingham Global Risk Assessment tool is an extensively used tools among both the sexes along with a number of ethnic groups. They are considered the “gold standard” for risk assessment. The lipid profile and anthropometric measures are needed to complete the risk assessment (medscape.com). Another scale that is used is perception of risk of heart disease scale which includes a scale of 20 items where the perception of people are marked into three categories such as “dread risk”, “risk”, and “unknown risk”. The PRHDS is validated to be correlated with health promotion lifestyle profile (Ammouri, 2008) <sup>[8]</sup>. Various studies have been performed to assess the knowledge of people at mass level along with their attitude and practices towards cardiovascular diseases, its management and the risk factors provoking the disease (Ahmed, 2013; Ranimah, 2012) <sup>[9, 10]</sup>.

### **Knowledge of Cardiovascular Disease and Its Symptoms among Early Adulthood**

In most of the studies conducted when people were asked to define CVD, most of the people replied ‘diseases that affect the heart and veins’ and when asked about the symptoms of CVD the most frequent answers were chest pain(82%), shortness of breath (57%), and pain in arms and shoulder (42%) study conducted on the people of Jordan reported that people lack sufficient knowledge of CVD and they could have a better knowledge of CVD if they were non-smoker, and the people who held some professional degree or were highly educated paid a little more attention towards their diet and lifestyle and had a better scoring on the questionnaire plus people having a family of CVD had more knowledge than the ones who had no history of any such disease running in their family. (Tareq, 2012) <sup>[11]</sup>. In another study conducted for assessing the knowledge on CVD, the results showed that the median score for the knowledge of six types of CVD was extremely low, 59.4% people could not identify any type of CVD while only 15.6% identified four or more types, also the knowledge regarding the symptoms was fairly low with the most heart attack symptom identified as “chest pain” (50.4%), difficulty in breathing or shortness of breath’ (48.0%), and ‘pain or discomfort in arms or shoulder’ (41.2%). In one of the studies conducted in Africa (Winham, 2011) <sup>[12]</sup> it was observed in the self efficacy of prevention of heart disease, only 51% without college education strongly disagreed that they could not prevent heart disease in contrast to 84% of educated students. In a study conducted to assess the knowledge on signs and symptoms the respondents scored an overall mean of 5.0 (SD = 2.4) out of 8 for heart attack, while they scored an overall mean of 6.8 (SD = 2.9) out of 10 for stroke. 85.1% correctly identified the various symptoms like prolonged crushing, squeezing, or burning pain in centre of heart as a symptom of heart attack, while 72.9% recognized shortness of breath as another symptom, while only 66.6% could identify the other very important

symptoms of pain radiating from chest area to neck, arms, shoulders, or jaw as a possible presenting symptom. (Quah, 2014) <sup>[17]</sup>. Another study conducted among the Nepalese community to assess their knowledge, attitude and behaviour showed that the burden of the disease was high 20.1% were current smokers, 43.3% exhibited low physical activity and 21.6% were hypertensive. The causes identified by the participants were hypertension (29.7%), overweight (11%) and physical activity followed by diabetes as only 2.2%. most of the people did not know any of the symptoms of heart attack. Also 44% of the people had an insufficient knowledge whilst 20% had sufficient knowledge (Vaidya, 2013) <sup>[18]</sup>. The knowledge regarding the symptoms related to heart attack is very scarce, most of the studies have shown that the most common symptom include shortness of breath and chest pain (Awad, 2014) <sup>[19]</sup>, almost half of the population did not know about any type of Cardiovascular disease.

### **Knowledge of CVD risk factors among early adulthood**

A person having an adequate knowledge of CVD risk factors helps him in engaging into activities that make informed decision such as smoking, not exercising, or consuming high-fat foods also it helps him in his continuing education of preventing CVD through modified lifestyle (Homko, 2008) <sup>[13]</sup>. In a study conducted to assess the knowledge of modifiable risk factors among the masses it was observed that the majority (58%) of individuals sampled lacked adequate awareness of modifiable risk factors. A significant percentage (70%) of participants failed to identify DM as a risk factor. Importantly, 67.7% of participants correctly identified smoking cigarettes as a modifiable risk factor of CVD. (Saeed, 2009) <sup>[14]</sup>. Hypertension, dyslipidemia, and diabetes are established risk factors for cardiovascular disease (CVD) morbidity and mortality (Rosamond *et al.*, 2007) <sup>[15]</sup>. The females’ knowledge of CVD averaged 10.203.91 (out of 20). Females who suffered from a history of CVD, mortality due to CVD, diabetes mellitus, hypertension, and hyperlipidemia in an immediate family member, showed a higher than average mean knowledge compared with those who did not, (Mazloomi, 2014) <sup>[16]</sup>. Studies conducted to know about the risk factors have shown that the knowledge is moderate among the masses. The most factors that have been attributed to risk the life’s are smoking, obesity, unhealthy diet and physical inactivity (Awad, 2014) <sup>[19]</sup>.

### **Conclusion**

The knowledge of risk factors and symptoms of CVD stands of utmost importance, but no such measure has been taken to initiate the work in the given area. In a country like India where the case of heart diseases are increasing at an alarming rate. This paper is a suggestive measure to let people know that still a lot has to be attained in the area of knowledge, attitude and practice and still a lot is to be known about the risk factors along with modifiable risk factors. Educational interventions is the sole way to make the public aware of risk factors, signs and symptoms, a less rigid education instead based on informal pattern with pictorial presentations could help people to retain the knowledge in a healthy way and it would be a preventive measure for all. The public would require a continued effort to learn about the nature of cardiac disease, their risk, their symptoms etc. the current need is to enhance the knowledge of the people towards CVD, and divert attention towards primordial techniques. Lives can be saved if a person exactly knows of what to do in a given

situation, lack of knowledge not only will affect their health status but would also deteriorate their condition in case of need such as during a heart attack or stroke.

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