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Full Length Article

The relationship between cardiovascular risk factors and knowledge of cardiovascular disease in African men in the North-West Province



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ABSTRACT

Background: South Africa has an established high prevalence of cardiovascular disease (CVD), particularly amongst urban African communities. However, it was unknown whether African men's CVD knowledge was associated with their CV health profiles.

Objective: To investigate the possible relationships between CV risk factors and CVD knowledge in a group of African men.

Method: Questionnaires were completed by 118 African men from the North-West Province, South Africa, and health screening, including anthropometry, blood pressure, fasting blood sugar and cholesterol measurements, were done.

Results: The mean CVD knowledge score was 75%. Participants' mean BP was 146/92 mmHg, falling within hypertensive ranges. Their mean fasting blood glucose of 5.8 ± 2.0 mmol/L exceeded the normal cut-off value of 5.6 mmol/L. There was a lack of association between CV risk factors and CVD knowledge, except for a borderline significant association between triglycerides and CVD knowledge ($r = 0.167$; $p = 0.071$), implying that men with higher CVD knowledge had higher levels of triglycerides.

Conclusion: Despite African men's high CV risk and a relatively good understanding of CVD risk factors, there was no significant correlation between their CV risk factors and CVD knowledge.

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1. Introduction

Cardiovascular disease (CVD) is a major health problem and a leading cause of mortality, morbidity and economic burden (World Health Organization, 2009). Worldwide the primary risk factors (hypertension, obesity, physical inactivity, poor diet, alcohol and smoking) are increasing as a result of urbanization (Mendis, Puska, & Norving, 2011). The African Union has identified hypertension as one of the continent's biggest health challenges after HIV/AIDS (UNAIDS, 2011). As with HIV, South Africa also has one of the highest rates of hypertension in the world (Lloyd-Sherlock, 2014). A recent paper published on hypertension in adults from low- and middle-income countries found that 78% of South African adults older than 50 years, were suffering from hypertension (Lloyd-Sherlock, Beard, Minicuci, Ebrahim, & Chatterji, 2014).

1.1. Background

Although several studies addressed the high prevalence of cardiovascular (CV) risk factors in Sub-Saharan Africa (SSA) (Seedat, 2009; Sliwa et al., 2008; Tibazarwa et al., 2009; Twagirumukiza et al., 2011), studies investigating relationships between CV risk factors and knowledge of CVD are limited. CVD will continue to be a health threat unless the CV risk factors at population level are identified and actions implemented to reduce their impact (Bergman, Reeve, Moser, Scholl, & Klein, 2011). It is therefore important for individuals to be able to identify their own risks and susceptibility by having acquired knowledge (Deaton et al., 2011).

1.2. Problem statement

The prevalence of CVD is high among African men (Seedat, 2009). Early detection and prevention of risk factors can help to reduce the impact of CVD (DoH, 2013, pp. 1–79). People require knowledge to identify and address CVD risk factors. As it was unknown whether CVD knowledge enabled African men to prevent CV risk factors, this study endeavored to investigate a relationship between African men's CV risk factors and CVD knowledge.

1.3. Purpose, objective and hypotheses of the study

The overarching purpose of this study was to investigate the relationship between CV risk factors and knowledge of CVD in a group of African men. The first objective was to describe the CV risk profile of the group according to the risk score system developed by the European Society of Cardiology (ESC) and the European Society of Hypertension (ESH) (Mancia et al., 2013, p. 1288). The second objective was to describe the demographic information and the level of CVD knowledge of this selected target group by using a General Health Questionnaire (GHQ) and a validated Heart Disease Knowledge Questionnaire constructed by Bergman and colleagues at the National Institutes of Health (Bergman et al., 2011, p. 20). The third objective was to determine whether relationships exist between the CV risk profile and CVD knowledge.

In light of the above stated objectives, the following hypotheses were formulated as statements of the expected relationship between the variables in the study:

(H0). There is no statistically significant relationship between CV risk factors and CVD knowledge of African men in the North-West Province.

(H1). There is a statistically significant relationship between CV risk factors and CVD knowledge of African men in the North-West Province.

1.4. Delimitation of the study

Although there might be a correlation between CV risk factors and CVD knowledge, numerous other factors (including behavior) could also influence this correlation. Behavior fell beyond the scope of the current study. This study focused only on a specific group of African men working at Vaalharts Waterscheme. CV risk factors can be affected by treatment, but adherence to treatment fell beyond the scope of the current study.

1.5. Definition of key concepts

1.5.1. Cardiovascular disease

Cardiovascular disease can be defined as the development of pathology that occur in the vascular system. CVD is associated with one or more characteristics of an individual that increases the likelihood of developing a disease (Kramer, Newton, & Sivarnjan Froelicher, 2008).

1.5.2. CV risk factors

CV risk factors are associated with an increased risk of developing cardiovascular disease. In general, CV risk factors include demographic characteristics, family history of CVD, smoking, physical inactivity, abnormal lipids and lipoproteins, obesity, hypertension and diabetes (Kramer et al., 2008).

1.5.3. CVD knowledge

Knowledge describes a familiarity, awareness or understanding of facts, information, or skills, which is acquired through experience or education, by perceiving or theoretically acquired by a person (Cavell, 2002). In the context of the study the term CVD knowledge refers to the information that an individual has about CVD, and the possible risk factors contributing to the development of CVD. CV risk factor knowledge are very important for making decisions about health (Bergman et al., 2011).

2. Research design and method

2.1. Design and context

The study followed a descriptive, correlational, quantitative design. Correlational statistical analyses were used to identify relationships between the CV risk factors and CVD knowledge in a group of African men in the North-West Province, South Africa.

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