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Perceptions related to cardiovascular disease and physical activity behavior in Arab men: A qualitative study

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ABSTRACT

Objectives: To describe the daily physical activity of Arab men living in the United States and to understand how perceptions of cardiovascular disease (CVD) risk influence their inclusion of physical activity into their daily routine.
Methods: A qualitative descriptive method using a semi-structured face-to-face interview with each participant was conducted. Twenty young college males (age 26 ± 4 years) were recruited from Arab American community centers.
Results: The qualitative inductive content analysis revealed three main themes: impact of perceived CVD risk on physical activity behavior and perceived barriers and motivators to be physically active. Arab men primarily perceived gaining weight as the most important CVD risk factor that could promote their physical activity behavior.
Conclusions: These findings demonstrate that unawareness about CVD risk and barriers to regular physical activity must be considered in any intervention to engage Arab men in regular physical activity.

Introduction

Cardiovascular disease (CVD) is associated with higher morbidity and mortality rates among American men than women across most age groups.[1] It is estimated that one in three men are affected by CVD, accounting for 47.4% of all male deaths. Coronary heart disease (CHD) and cerebrovascular disease (stroke), the two most common forms of CVD, account for more than 90% of all CVD deaths in men. Although CVD and some associated risk factors have decreased during past decades among American men,[1] CVD continues to increase among Arab men, making up the primary cause of death, affecting Arab men at a younger age.[2] This has been explained, in part, by lack of education, obesity, unhealthy eating habits, physical inactivity, and low income.[2,3]

CVD and its clinical consequences are mostly preventable. Physical activity is considered an essential mean to CVD prevention.[1] Regular physical activity results in decreased heart rate[4] and lower systolic blood pressure[5] leading to reduced myocardial oxygen demands and ultimately to lowered risk for myocardial ischemia.[6] Regular physical activity is accompanied by an increase in the interior diameter of the coronary artery, formulation of collateral circulation,[7] decrease in platelet adhesiveness, and an enhancement of vascular endothelial function.[8,9] The effects of regular physical activity on CVD risk factors include reduction in blood pressure of individuals with hypertension, increase in high-density lipoprotein cholesterol levels, decrease in cholesterol levels, control of or reduction in body weight, and reduced risk of developing type 2 diabetes mellitus.[10,11] Moreover, regular physical activity has been associated with adoption of other health behaviors such as quitting smoking and consuming a heart-healthy diet.[10,12] Despite these benefits, the majority of Arab men do not meet the levels of physical activity recommended by the American Heart Association and the American College of Sports.[2,3] Both organizations advise 30 minutes per day moderate-intensity activity, 5 or more days per week, or 20 minutes per day vigorous-intensity activity, 3 or more days per week.[13]

Evidence shows that behavioral intervention helps in promoting physical activity behavior and cardiovascular health.[14,15] However,

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Arab men, similar to other population groups, perceived barriers to physical activity behavior which may make an intervention in this population less likely to produce behavior change.[16] Accordingly, designing an effective CVD primary, secondary, and tertiary preventive intervention requires an understanding of these barriers.

In adult populations, researchers have reported a wide range of barriers and motivators to physical activity behavior,[16–18] but little is known about perceived CVD risk as a factor. It has been suggested that perceived risk of a disease is a strong determinant of current individual's health behavioral status.[19,20] Exploring Arab men's perceptions of CVD risk as it relates to physical activity may provide insight into this unexplored area, so that an appropriate intervention to promote physical activity can be implemented. Therefore, the aim of this descriptive qualitative study is to describe the daily physical activity of Arab men living in the United States and to explore how perceptions of CVD risk influence their inclusion of physical activity into their daily routine.

Methods

This study used descriptive methods to examine the experience of regular physical activity as it is described by participants. The goals of the qualitative descriptive study are to fully describe the individual's experience in everyday language and understand the meaning of their experience.[21] From this perspective, reflecting on how individuals' experience of barriers and motivators to regular physical activity, we will try to describe and explain how Arab men's perceptions of CVD risk affect their decision to engage in a regular physical activity.

Sample and setting

A non-probability convenience sampling was used to collect in depth information and to attain the richest data relevant to the research question. A sample of 20 young college Arab men studying in the United States who met selection criteria and agreed to participate were enrolled. Using a sample of young adults may provide a better understanding of perceptions specific to CVD risk. Young adults are particularly recognized to engage more likely in multiple CVD risk behaviors such as smoking, physical inactivity, high fatty food intake, and low fruit and vegetable consumption that continue during advancing age.[22] We sought to draw a sample from a college setting because college years is a high risk time for initiating CVD risk behaviors among young adults.[22] We used a sample of young adults enrolled in colleges in the United States to generate rich information as United States College's commitment to cultural diversity can include young adults from different Middle East countries and Arab culture background. The criteria for entry into this study include 1) undergraduate or postgraduate Arab adult male, ages 18 to 30 years, enrolled in college in a non-health-related major, 2) alert and fully oriented, 3) able to understand English or Arabic, and 4) agreed to give informed consent. Exclusion criteria were: 1) medical history of CVD, 2) cognitive impairment, 3) chronic drug abuse, 4) end-stage renal, liver, or pulmonary disease; 5) undergoing active treatment for cancer, or 6) condition that interfered with engagement in physical activity such as neurological or musculoskeletal disorders.

Data collection

Participants were recruited from Arab American community centers located in the southeastern United States. All participants signed informed consent after complete explanation of study requirements were provided on the basis of a procedure that is officially approved by our local Institutional Review Board. Sociodemographic data (age, marital status, educational level, monthly income, and employment status) and medical records (past medical history and family medical history) were obtained by participant self-report. Body mass index and waist circumference were measured at the same time. Body mass index was derived from body weight in kilogram divided by self-reported height in meter square. Body weight was measured with minimal clothing using calibrated digital scale. Waist circumference was measured in centimeter at the end of exhalation using measuring tape placed at the level of the iliac crest.[23]

Table 1
Interview guide

1. Tell me about what cardiovascular health means to you?
2. What role does physical inactivity play in cardiovascular disease?
3. Tell me about what role does physical activity play in preventing cardiovascular disease?
4. How does your risk of developing cardiovascular disease affect your daily physical activity level?
5. Talk to me about what do you do each day to be physically active?
6. Tell me about what factors make you physically active or interfere to be physically active?

A long semi-structured face-to-face interview with each participant was conducted by the principal investigator. Interviews with open-ended questions were performed using an interview guide (Table 1). The interview guide was developed from issues arising from relevant literature. Each interview lasted 30 to 45 minutes and all of them were audio-taped. All interviews were conducted in Arabic, in the participant's home or another place preferred by the participant. All interviews were conducted, transcribed, and translated into English by the principal investigator.

Data analysis

All transcribed contents of the interviews were condensed into a single text and transferred to the Qualitative Data Analysis (QDA) computer program.[24] The interviews were analyzed by principal investigator using the qualitative inductive content analysis method.[25] The analysis process was started with reading and re-reading entire transcribed interviews to extract meaning units representing participants' perceptions about CVD risk and decision-making for including physical activity into their daily routine. Each meaning unit was then coded by a keyword or phrase that captured one key thought within the meaning unit. Codes were collected on to a coding sheet and compared to determine how different codes were related. The related codes were then grouped into a meaningful category that was reflective of more than one key thought. All categories were revised and organized into higher order themes. Three co-authors revised the analytic steps and discussed the emerging themes with principal investigator until an agreement was achieved. The final list of categories and themes after qualitative inductive content analysis is presented in table 2.

Results

Characteristics of respondents

The sociodemographic and clinical characteristics of the respondents are listed in Table 3. The average age of participants was 26 ± 4 years (range 34 – 20 years). Half of the participants had at least a bachelor degree and a majority was married. Mean monthly income was below $2500. One fifth of participants had a history of musculoskeletal injuries, one tenth had hyperlipidemia, and a majority had family histories of hypertension or diabetes mellitus. Less than