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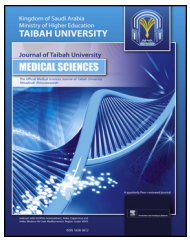

Original Article

The prevalence of physical activity and its socioeconomic correlates in Kingdom of Saudi Arabia: A cross-sectional population-based national survey

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الملخص

أهداف البحث: تهدف الدراسة إلى تحديد مستوى النشاط البدني بين فئات المجتمع السعودي، وتقييم ارتباطه الإجتماعي والديموغرافي.

طرق البحث: تم الحصول على البيانات من خلال إجراء دراسة مقطعية مجتمعية لمسح وطني على ٤٧٥٨ مشاركا بالمملكة العربية السعودية. اختيرت العينة بطريقة العينة العشوائية العنقودية الطبقية متعددة المراحل. وتم قياس مستوى النشاط البدني باستخدام النسخة الثانية من استبانة النشاط البدني العالمية وتم استخدام تحليل الانحدار اللوجستي لمعرفة المحددات وضبط العوامل المختلفة.

النتائج: بشكل عام، وجد أن نسبة الخمول وصلت ٦٦.٦٪ (مدى الثقة ٦٥.٣٪ - ٦٨٪) إجمالا، ونسبة ٦٠.١٪ بين الذكور (مدى الثقة ٥٨.١٪ - ٦٢.١٪)، ونسبة ٧٢.٩٪ بين الإناث (مدى الثقة ٧١.١٪ - ٧٤.٧٪). وقد سجلت المناطق الشمالية والوسطى بالمملكة أعلى نسبة من الخمول في العمل والترفيه والنقل. وكان هناك علاقة إحصائية مهمة لعوامل الجنس والمنطقة الجغرافية وحالة العمل.

الاستنتاجات: هناك نسبة عالية من الخمول في مناطق وفئات المجتمع المختلفة بالمملكة العربية السعودية. ونحن بحاجة ماسة لبرامج اجتماعية لتحفيز النشاط البدني الترفيهي.

الكلمات المفتاحية: الكبار; المسح الوطني; النشاط البدني; انتشار; المملكة العربية السعودية

Abstract

Objectives: To determine the levels of physical activity in the Saudi population and to assess its socio-demographic correlates.

Methods: The data were part of a cross-sectional representative national survey of 4758 participants conducted in Kingdom of Saudi Arabia. A multistage stratified cluster random sampling design was used. Physical activity was assessed using the Global Physical Activity Questionnaire (GPAQ) version 2.0. Logistic regression analyses were used to identify the determinants and were adjusted in relation to various factors.

Results: Overall, physical inactivity was found to be 66.6% (95% C.I.: 65.3%–68%), 60.1% (95% C.I.: 58.1%–62.1%) for males and 72.9% (95% C.I.: 71.1%–74.7%) for females. Leisure time physical inactivity was found to be 87.9%, 85.6% for males and 90.2% for females. The northern and central regions reported the highest prevalence of no physical activity at work, leisure and transportation. Gender, geographical location and employment status exhibited a statistically significant correlation.

Conclusions: There is a high level of physical inactivity in various regions and population groups in the Kingdom of Saudi Arabia. Population interventions are greatly needed, especially those focusing on physical activity in their leisure time.

Keywords: Adults; National survey; Physical inactivity; Prevalence; Saudi Arabia

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Introduction

Physical inactivity is a global health challenge. "Physical inactivity has been identified as the fourth leading risk factor for global mortality (6% of deaths globally)".[1] The health benefits of physical activity have been demonstrated frequently in the literature. Physical activity has been shown to be associated with a lower risk of cardiovascular disease,[2] type 2 diabetes mellitus,[3] stroke, obesity, depression,[4] dementia,[5] and benign prostatic hyperplasia.[6] Leisure and non-leisure physical activity has been associated with a reduction in mortality.[7] Changes in physical activity are associated with changes in mortality,[8] weight, waist circumference, diastolic BP and, serum lipids.[9,10] Physical activity reduces the risk of colon,[11] endometrial cancer[12] and breast cancer.[13] Evidence suggests that physical activity has positive health effects on patients with osteoporosis, osteoarthritis, breast cancer,[14] diabetes,[15] and inflammatory bowel disease,[16] as well as on mental and psychological health by reducing depression, anxiety and stress.[17] Physical activity is positively associated with health related quality of life.[18] Recognizing the effect of physical inactivity on population health, the World Health Assembly in 2004 recommended "that Member States develop national physical activity action plans and policies to increase physical activity levels in their populations".[1] Many countries have developed national plans and guidelines for increasing their populations' levels of physical activity.[19,20]

The prevalence of physical activity varies widely by country, the highest being reported in Sweden and Denmark, and the lowest in Brazil, Thailand and Kingdom of Saudi Arabia.[21] The prevalence of physical activity in the countries of the Gulf Cooperation Council was reported to range from 39.0% to 42.1% for men and 26.3%−28.4% for women.[22]

A high rate of physical inactivity was reported in Kingdom of Saudi Arabia. A national population based cross-sectional study conducted from 1995 to 2000 reported an overall 96.1% prevalence of physical inactivity among Saudis aged 30−70 years. Other studies conducted in Riyadh, which included younger age groups, reported the prevalence of physical activity ranging from 19 to 25.1%[23,24] (i.e., physical inactivity levels ranging from 81% to 74.9%). Still, detailed studies about physical activity are scarce in Kingdom of Saudi Arabia. Public health intervention programs require baseline data about the prevalence and socio-demographic distribution of the targeted phenomena.

For comparison purposes, standardized instruments were used in physical activity studies around the world. The Global Physical Activity Questionnaire (GPAQ)[25] is a widely used international standardized instrument. To the best of our knowledge, there has been no population-based national study in Kingdom of Saudi Arabia that used an internationally standardized instrument and examined the various domains of physical activity. The aim of this study is to determine the physical activity levels in the Saudi population aged 15 years and older using the GPAQ and assess its association with socio-demographic factors.

Materials and Methods

Study population

The data is part of a cross-sectional nationally representative household survey of 4758 participants conducted in 2005 in Kingdom of Saudi Arabia. The survey utilized the methodology of the STEP wise approach to Surveillance (STEPS) promoted by the World Health Organization (WHO).[26] The detailed methodology of the Saudi STEPS survey was reported elsewhere.[27] Briefly, the study used a multistage stratified cluster random sampling design to obtain a representative sample of Saudi Arabian households. Stratification was based on the number of regional health authorities in the country (five major regions), age (five 10-year span age groups) and gender. Each region was assigned a sample proportionate in size to its population. A simple random sampling was used to select households from primary healthcare center coverage area (PHCC). Within the identified households, one individual was selected using Kish method. Only subjects between 15 and 64 years were included in the study. Selected participants were interviewed using the questionnaire and then given an appointment at a local PHCC for physical and biochemical measurements.

The protocol and the instrument of the study were approved by the Center of Biomedical Ethics at King Faisal Specialist Hospital.

Measures

Physical activity

The GPAQ version 2.0 instrument was used to measure physical activity in three domains: work, transportation and leisure, respectively. The original English version of the GPAQ was translated into Arabic, back translated and pilot-tested before its use in the main survey. Fifteen cores of the GPAQ were distributed as follows: 6 questions that assess work-related physical activity, 3 questions that assess transportation-related physical activity, and 6 questions that assess leisure time physical activity (LTPA). Participants were asked about the number of days in a typical week as well as the number of minutes/hours in a typical day that were spent in physical activity. Following the GPAQ analysis guide, the level of physical activity was classified as follows: high if a person reported vigorous-intensity activity on at least 3 days, with a minimum of 1500 MET-minutes/week or 7 or more days of any combination of walking or moderate- or vigorous-intensity activities, with a minimum of 3000 MET-minutes per week; moderate if a person reported 3 or more days of vigorous-intensity activity of at least 20 min per day or 5 or more days of moderate-intensity activity of at least 30 min per day or 5 or more days of any combination of walking, moderate- or vigorous-intensity activities achieving