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Original article

The health of Saudi older adults; results from the Saudi National Survey for Elderly Health (SNSEH) 2006–2015☆

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ABSTRACT

Objectives: To Describe the Saudi older adult (SOA) characteristics and Introduce the Saudi National Survey for Elderly Health (SNSEH).
Methods: The SNSEH, a population-based nationally-representative survey, was used. Subjects were included in 2006–2007, using random-cluster sampling utilizing probability proportional to size approach, and followed-up to determine their vital status until June 2015. In the analyses, survey weights were incorporated. Parametric, non-parametric and logistic regression were used. Cox-proportional hazard regression was used to determine gender effects on mortality.
Results: We included 2,946 SOA. The mean age was 70.1(SD = 0.3). Around, 70% were illiterate. Almost 50% had monthly income of 2500 (2007-Saudi-Riyals). The most reported diseases were hypertension, diabetes and joints pain. The most reported medications were over the counter, antidiabetics and antihypertensive. The nine-years age-adjusted death hazard was 42% higher in SOA males.
Conclusion: This is an introductory paper for a series of papers that describe SOA health. These efforts will help in guiding the development of a national healthcare model for SOA, evidence-based health policies and public intervention programs that address SOA health-related issues.

1. Introduction

The unprecedented improvement in human longevity is one of the most remarkable events of the 20th century. Therefore, population aging, with all of its consequences, is evident in most parts of the world, including countries in the Eastern Mediterranean Region (World Health Organization, 2002). For instance, the United Nations and World Health Organization (WHO) estimate the global population of those over the age of 60 will be 1.2 billion by 2025 and will reach 2 billion by 2050 which represents 22% of the population (World Helath Organization, 2002; Bloom et al., 2010). Of this group, 80% will be based in developing countries where 4% are expected to be above 80 years old (World Health Organization, 2002; Bloom et al., 2010).

Saudi Arabia demographic trends are changing. The kingdom follows the global increase in aging population. This is mainly due to an increase in life expectancy, high birth rates in the last four decades, and a recent decline in the fertility rate. The life expectancy has improved from 64.4 years in the 1980s to 74.3 years in the 2000s (World Bank, 2014). Between 1980 and 2000, Saudi experienced a population expansion due to a high birth rate, national development and improvement in maternal and child health (World Bank, 2014). As a result, elderly population of those aged 60 and above is projected to increase from 3% in 2010 to 9.5% and 18.4% in 2035 and 2050, respectively (United Nations, 2012).

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☆ The results of this work can be used to guide evidence-based practices that deliver services and interventions that respond to the needs and preferences of older adults. This project is aimed at empowering and enhancing the health and quality of life of older adults in Saudi Arabia.

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With meager resources including qualified human capital and a poor aging understanding, Saudi Arabia faces many challenges in caring for Saudi Older Adults (SOA). Furthermore, population aging in developing countries is accelerating in a fast rhythm in contrary to industrialized countries where it is a gradual process following steady socioeconomic growth over several decades and generations. Such a fact is associated with dramatic changes in family structure and roles, as well as in labor patterns and migration. Therefore, it is expected that most civil society institutions will be overwhelmed by the social, economic, and health needs of this ever-increasing population segment. Consequently, policy makers have to put in more effort to achieve the worldwide aim of successful aging (World Health Organization, 2002).

From a health perspective, the geriatric population has specific characteristics, unique health issues, and social conditions that affect them directly. The impact of these conditions can be different than on other age groups since their responses and abilities to cope with illness or alteration in the environment are limited. These changes can dramatically impact their quality of life. Furthermore, with advancing age, chronic disease rate and Multiple Chronic Conditions escalate sharply and have huge burdens on the individuals, health systems, and society (Anderson, 2010; Yach et al., 2004). Moreover, as a vulnerable group, they have to deal with the worst outcomes and health complications (Yach et al., 2004; Brown et al., 2004; Raphael et al., 2003; Roglic et al., 2005).

In Saudi Arabia, one of the main challenges in advancing the elderly health is the huge gap in the scientific literature about their characteristics, health status, and needs. This information is central in developing evidence-based national health policies and public intervention programs. Consequently, such a gap has created the need for a national health survey that explores the aforementioned needs in Saudi elderly which led to the development of the Saudi National Survey for Elderly Health (SNSEH). Therefore, this study has two main objectives: first, to introduce the methodological design used in the SNSEH. Second, to describe the characteristics of the Saudi geriatric population using the SNSEH. The results of this study serve as a seed for geriatric research. Following papers will focus on addressing the gap as the SNSEH is currently the main national representative source regarding this population in Saudi Arabia.

2. Methodology

2.1. The survey

The SNSEH is a nationwide, representative, population-based survey of SOA 60 years of age or older. This dataset is the most recent, and the largest source of health-associated information related to the aging population in Saudi Arabia. The survey was conducted in order to guide a national healthcare model development for older adults. In addition, it was done to enlighten decision makers in the process of developing evidence-based health policies and public intervention programs taking into consideration the Saudi community customs and culture.

In order to meet the aforementioned aims, the survey focused on: (1) describing the health status and the most common health problems; (2) evaluating healthcare services available and provided; and (3) measuring health services utilization among SOA. The survey was conducted from June 2006 to June 2007, and the data became available in 2010. However, this data has received very limited analysis.

2.2. Study sample and weight calculations

At the time of the study, the total Saudi elderly population was estimated to be 859,421 which was 5.2% of the total Saudi citizen population. The study population was sampled based on two inclusion criteria: (1) age 60 or older; and (2) Saudi citizen. The sample size was calculated for a complex survey for point estimate using chronic conditions proportion or disability among the elderly of 10%, 95% significance level, a degree of precision of 0.02, a Design Effect of 2.5, and a response rate assumption of 80%; the final sample size was 2704 persons (Almanaa et al., 2010). Considering the interclass correlation equals 0.05, the cluster size was computed to be 31 elderly. Using systematic random sampling and applying Probability Proportional to Size (PPS) sampling, 88 clusters were selected. The list of the whole population provided by the Central Department of Statistics and Information at the Ministry of Economics and Planning accompanied with the catchment area of primary health care centers (PHCCs) were used to create the cluster frame. Lastly, for subjects' selection, a cluster map was used to select a random street and random household that satisfied the inclusion criteria for the interviews. The selected subjects were contacted for two household visits in order to conduct personal interviews and perform physical examinations and investigations. Proxies were mainly used when physical or intellectual impairments prevented the subject from directly answering the interviewer. Nevertheless, proxies were not used if the questionnaire assists the mental or physical patient status such as depression scale and cognitive abilities.

The utilization of the PPS sampling approach eliminates the need to adjust for the complex design sampling (the base weight) in weight calculation. However, non-response, over sampling, and post-sampling stratification according to the census data were incorporated in calculating a standardized survey weight.

2.3. Variables and measures collected in the SNSEH

During the household visits, surveyors recorded information on individual's socio-demographic status, physical health perceptions, illnesses, heath conditions and their effects on functioning, smoking history, nutrition, Activities of Daily Living (ADL), cognitive and mental screening questions, a geriatric depression scale, sleep apnea scale, alternative medicines consumption, caregiver strains, utilization of preventive services and periodic health evaluations, health services utilizations, and general physical clinical examinations. Additionally, investigations such as fasting blood sample, X-rays, and electrocardiography (ECGs) were performed at the PHCCs unless the subject was not able to visit the PHCC; in this case only the blood sample was collected.

Data were collected using a structured interview technique and validated questionnaire items. Structured data forms were also used for obtaining the clinical history, physical examination, and clinical investigation information. During the questionnaire development, the research team considered previous validated surveys pertaining to older adults such as the Survey of Health, Aging and Retirement in Europe (SHARE), the Questionnaire on Health and Long Term Care for the Elderly and the Questionnaire of Community Care for Elderly People in the Eastern Mediterranean Countries.

The questionnaire underwent several steps of modification based on expert review, researchers and field supervisors' suggestions, with feedback incorporation from a pilot study. Trained research teams carried out the interviews and data collection and each team included a primary health care doctor. In each region, the deputy director of the regional health affairs supervised the research team with direct support from the investigators.

2.4. Ethical issues

The included subjects were provided an informed consent. Personal data were collected such as, national identification number,

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