PUBLIC HEALTH 129 (2015) 436–443

Available online at www.sciencedirect.com

Public Health

journal homepage: www.elsevier.com/puhe

Original Research

Are religiosity and prayer use related with multiple behavioural risk factors for chronic diseases in European adults aged 50+ years?

M. Linardakis [a,*], A. Papadaki [b], E. Smpokos [a], K. Sarri [a], M. Vozikaki [a], A. Philalithis [a]

[a] Department of Social Medicine, Faculty of Medicine, University of Crete, Greece
[b] Centre for Exercise, Nutrition & Health Sciences, School for Policy Studies, University of Bristol, United Kingdom

ARTICLE INFO

Article history:
Received 14 July 2014
Received in revised form
10 November 2014
Accepted 1 February 2015
Available online 11 March 2015

Keywords:
Multiple behavioural risk factors
Chronic disease
Religiosity
Prayer use
The SHARE study

ABSTRACT

Objectives: Behavioural risk factors for chronic diseases involve factors relating to lifestyle habits. This study examined the relationship of religious and spiritual beliefs with the adoption and presence of multiple behavioural risk factors (MBRFs) in European adults.
Study design: Cross-sectional study.
Methods: Data were used from 16,557 individuals, aged 50+ years, participating in the Survey of Health, Ageing and Retirement in Europe (2004/05). MBRFs clustering was defined by high body weight, smoking, physical inactivity and risky alcohol consumption, and regression estimations with religiosity and prayer use were assessed based on sampling weights.
Results: In total, 79.4% of participants had received religious education, 33.4% had used prayer '≥1 time/day' and 53.3% had clustering of 2+ MBRFs. Lower prevalence of smoking was found in males (20.6% vs. 29.4%, $P < 0.05$), as well as in females (13.1% vs. 22.6%, $P < 0.05$), who prayed '≥1 time/day', compared to those who never prayed. Categorical regression analysis revealed that the presence of MBRFs was associated negatively with religious education (standardized beta = −0.048, $P < 0.001$) and positively with low frequency of prayer use (standardized beta = 0.056, $P < 0.001$).
Conclusions: Having received religious education and prayer use were related to the presence of fewer MBRFs in European adults aged 50+ years. These lifestyle factors should be assessed as potential determinants of MBRFs adoption when examining chronic disease development in multicultural populations.

* *Corresponding author*. Department of Social Medicine, Faculty of Medicine, University of Crete, PO Box 2208, Heraklion 71003, Crete, Greece.
E-mail addresses: linman@med.uoc.gr (M. Linardakis), angeliki.papadaki@bristol.ac.uk (A. Papadaki), msbokos@edu.med.uoc.gr (E. Smpokos), katsarri@med.uoc.gr (K. Sarri), vozikaki_m@yahoo.gr (M. Vozikaki), tassos@med.uoc.gr (A. Philalithis).
URL: http://nutrition.med.uoc.gr
http://dx.doi.org/10.1016/j.puhe.2015.02.006

Introduction

An individual's unhealthy lifestyle refers to the adoption of clusters or groups of unhealthy behaviors.[1] These unhealthy behaviour clusters are usually called behavioural or multiple behavioural risk factors (MBRFs) and in most research studies comprise of risky lifestyle habits related to health, such as high body weight, smoking, physical inactivity and risky alcohol consumption.[2–5] MBRFs have been shown to be associated with non-communicable diseases (NCDs), such as diabetes mellitus, cardiovascular diseases, rheumatoid arthritis or some types of cancer.[6,7] At the end of 2000's, 63% of all deaths were attributed to NCDs, rendering them the leading cause of morbidity and mortality worldwide.[7]

The role of religiosity and/or spirituality in unhealthy lifestyle behaviours has been extensively studied as a component of physical health.[8–19] Despite the often subjective definition of these factors, religiosity/spirituality have been suggested to have a 'sacred core', including feelings, thoughts, experiences and behaviours.[14] Religiosity has been linked to overall better physical and mental health and longevity in a variety of different studies (randomized controlled clinical trials, cross-sectional studies, perspective/longitudinal, clinical, community etc).[10,14,15] Although the explanatory mechanisms of this relationship are many and complex, these have mainly been attributed to the positive influence religiosity has on physical health via psychological, social and behavioural pathways.[10,14,15,20] Religiosity can also favourably affect mental health through lower stress, general well-being, less anxiety, less depression and more positive emotions, since it allegedly facilitates coping with negative events, and is associated with greater social capital, marital stability and social support.[14,15] In addition, religiosity might promote healthier behaviours, such as less cigarette smoking, more physical activity and exercise, low or no consumption of alcohol and higher nutritional quality.[14,15] Other potential pathways determining the positive influence of religiosity on physical/mental health and longevity involve genetic and developmental factors.[15]

The above findings show that religious/spiritual beliefs are associated with health status, indicating a potentially beneficial lifestyle related to customs, tradition and culture.[9,21–24] This lifestyle mainly includes religious salience, prayer use, reading religion books or watching/listening to TV/radio programmes and/or participation and attendance in religious activities, services or fasting rituals and has been shown to contribute to the prevention and treatment of NCDs.[8,9,16–19] This can be attributed to the concomitant abstinence from risky behaviours (i.e. smoking, alcohol consumption etc.), or to the adoption of dietary rules that can reduce body fat mass, blood cholesterol levels or other cardiovascular factors and outcomes.[13,20,21,25–27] For example, a hidden, beneficial for health characteristic of many religions is fasting, related to the non-consumption of specific foods or alcohol during prespecified time periods.[22,26,27] Fasting is common among Muslims and Greek Orthodox Christians, with both religions encompassing rules of self-restraint and discipline.[27] Cretan/Greek adults who periodically fast have been found to have lower daily energy intake by 10% and to have lower body weight, whereas they also smoke less and have lower alcohol intake during all fasting periods, lasting about 180 days per year in total.[25]

Nevertheless, large-scale studies examining the relationship of religious and spiritual beliefs with the adoption and presence of MBRFs for chronic diseases in European adults are lacking. Thus, the aim of the present study was to assess the presence of MBRFs, religiosity and prayer use in a representative sample of adults aged 50+ years from ten European countries, and to assess their potential dependent relationship.

Methods

Cross-sectional data were collected from 16,557 individuals aged 50+ years, during 2004/05 of the SHARE survey (Survey of Health, Ageing and Retirement in Europe, http://www.share-project.org) in ten eligible European countries (Austria, Belgium, Denmark, Germany, Greece, Italy, Netherlands, Spain, Sweden and Switzerland). The survey is organized and coordinated by Mannheim Research Institute for the Economics of Ageing (Germany).[28]

The studied population was selected in each country according to the complex multistage stratification design in order to be representative of the European population aged 50+ years. It was consisted of households with at least one individual aged 50+ years. Household weighted country-average response rates ranged from 38% (Switzerland) to 63% (Denmark), whereas individual response rates were higher and ranged from 70% (Sweden) to 93% (Greece). Comparable differences in response rates have been reported in similar surveys.[28] Participants were excluded if they were institutionalized (nursing homes, etc), or away from their houses during the period of the survey. The sample of 16,557 individuals corresponds to a target estimated population of more than 56 millions. A detailed description of the survey methodology (including sampling procedures, recruitment rates, ethical issues etc.) has been reported elsewhere.[4,5,28]

Data were collected using a main instrument questionnaire administered via computer-aided personal interviews (CAPI), consisting of 21 modules (e.g. demographic characteristics, social activities, behavioural risks) and example show cards were utilized to help participants understand the questions.[28] This procedure enhanced the validity of the questionnaire.[29] Missing data represented only 5% of the CAPI.

Participants also self-completed a supplementary, drop-off questionnaire (paper and pencil).[28] This included sensitive questions, such as social and psychological well-being or religiosity affiliation. Response rate for this questionnaire was ≈81% and ranged from 70% (Sweden) to 93% (Greece).

From the CAPI instrument, MBRFs were defined as health-related risky behaviours, namely high body weight, smoking habits, physical inactivity and risky alcohol consumption.[2,4,5] High body weight was determined based on self-reported body weight (kg) and height (m). Body mass index (BMI) was calculated as weight (kg)/height (m^2) and participants were considered to have high body weight if they were overweight/obese (BMI $\geq$ 25.0 kg/m^2).[30] Smoking habits were assessed from self-reported use of cigarettes, cigars or pipes during the year preceding the survey. Physical inactivity was defined as