Karolinska Institutet

Department of Neurobiology, Care Sciences and Society
Division of Physiotherapy

Physical activity and functional performance in Iranian 75-year-olds

A cross-sectional population study compared with a Swedish study

AKADEMISK AVHANDLING
som för avläggande av medicine doktorsexamen vid Karolinska Institutet offentligen försvaras i Hörsal 2 (H2), Zanderska huset, Alfred Nobels Allé 23, Karolinska Institutet, Huddinge

Torsdagen den 13 september, kl 09.00

av
Zahra Mosallanezhad
Reg Physiotherapist, MSc

Huvudhandledare:
Docent Kerstin Frändin
Karolinska Institutet
Institutionen för neurobiologi, vårdvetenskap och samhälle (NVS)
Sektionen för sjukgymnastik

Bihandledare:
Docent Lena Nilsson Wikmar
Karolinska Institutet, NVS
Sektionen för sjukgymnastik

Professor Mahyar Salavati
University of Social Welfare and Rehabilitation Sciences, Tehran

Professor Karin Harms-Ringdahl
Karolinska Institutet, NVS
Sektionen för sjukgymnastik

Fakultetsopponent:
Docent Gun-Britt Jarnlo
Lunds Universitet
Institutionen för hälsa, vård och samhälle
Avd för sjukgymnastik

Betygsnämnd:
Docent Carin Willén
Göteborgs universitet
Sahlgrenska akademin
Inst för neurovetenskap och fysiologi

Docent Åke Rundgren
Göteborgs universitet
Sahlgrenska akademin
Avd för samhällsmedicin och folkhälsa

Professor Marti Parker
Karolinska Institutet
Institutionen för, neurobiologi, vårdvetenskap och samhälle (NVS)
Ageing Research Center

Stockholm 2012

ABSTRACT

Background: Population ageing is highly complex and varies with the context. For instance, people's health can be influenced by behavioral and cultural factors and economic resources. Cross-national comparisons are helpful when exploring these factors.

Aims: To provide a Persian version of the Falls Efficacy Scale, Swedish version (FES)(S)) and explore its validity and reliability in an Iranian population.

To investigate whether Iranian 75-year-olds differ from their Swedish peers with respect to physical activity level, functional performance and certain health-related factors.

To explore if walking for at least 30 min a day is related to health, fitness, physiological capacity and functional performance in older Iranians.

To establish whether health-related behavior (HRB) and independence (I) intermediate the link between the socioeconomic status (SES) and the health status (HS) of older adults in Iran.

Material and methods: A representative sample of 637 Swedish 75-year olds, from the longitudinal Gerontological and Geriatric Population Studies in Gothenburg, and an Iranian sample of 851 75-year-olds, living in Tehran, were included. Physical activity level, health-related factors, and the results of functional tests including walking speed, muscle strength and balance function were evaluated. SPSS and Mplus 5 softwares were used for data analysis.

Results: The Persian FES (S) was shown to be a culturally relevant, valid, and reliable tool for measuring fall-related self-perceived confidence in Iranian older adults. Iranian 75-year-olds had a lower physical activity level, a worse physical function apart from a better grip strength, a worse physical health status but smoked less than their Swedish counterparts. There were no differences between the two cohorts regarding vertigo or falls. The extent of gender differences was about the same in most aspects and to the disadvantage of women. Iranian old people who walked at least 30 minutes daily/almost daily were better in most health-related outcomes, ADL and functional performance than people who walked less. A structural equation model showed that older people with a high SES had a higher level of physical activity and were more independent in ADL than others. SES was a positive predictor of HS, not directly but through the intermediation of HRB and I.

Conclusions: The Persian version of FES(S) was shown to be a valid and reliable tool. 75-year-old Iranians were less physically active than their Swedish peers and their functional performance, apart from grip strength, was worse, while similar gender differences were found, mainly to the advantage of men. Iranians who took a daily walk of at least 30 min a day showed better results in most health-related outcomes, ADL and functional performance than persons who walked less. As physical activity is a strong determinant of functional performance and health, activities like taking a daily walk of at least 30 minutes should be promoted. Gender-specific discrepancies found in relation to physical activity and performance call for longitudinal studies to clarify the causes.

Keywords: Old people, Physical activity, Performance, Function, Health, Cross-cultural, ADL

ISBN 978-91-7457-829-4