Aging and Health Research 1 (2021) 100016

Contents lists available at ScienceDirect

Aging and Health Research

journal homepage: www.elsevier.com/locate/ahr

Sinhalese Version of the Global Physical Activity Questionnaire for Community-Dwelling Older Adults: Reliability and Validity

Bimba Wickramarachchi[a,b], Sidiah Siop[a], Bilesha Perera[c,*]

[a] Department of Nursing, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak, Malaysia
[b] Department of Nursing, Faculty of Allied Health Sciences, University of Ruhuna, Galle, Sri Lanka
[c] Department of Community Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka

ARTICLE INFO

Keywords:
Older people
Physical activity questionnaire
Reliability and validity
Sri Lanka

ABSTRACT

Background: A reliable and valid measurement of physical activity (PA) is vital for PA surveillance activities in community settings and for evaluating PA intervention programs targeted at older adults. This study assessed the reliability and validity of a Sinhalese version of the Global Physical Activity Questionnaire-version 2 (GPAQv2) adapted for community-dwelling older adults (aged 60+) in Sri Lanka.

Methods: Cross-cultural adaptation and an assessment of content validity of the GPAQv2 were done. Indirect criterion validity (n = 210) and test-retest reliability (n = 40) of the tool were assessed. Content validity index, Spearman rank correlation coefficients and intra-class correlation coefficient (ICC) were calculated, and Bland–Altman plots were drawn.

Results: The content validity index of the questionnaire was 0.82, an acceptable value. The 360^0 turn test (r = –0.258, p= 0.03), and timed up-and-go test (r = –0.197, p= 0.02) were negatively correlated, whereas total balance (r= 0.241, P= 0.00), single leg stance (r= 0.206, p= 0.01), and instrumental activities of daily living score (IADL) (r= 0.244, p= 0.00) were positively correlated with the GPAQv2 scores of PA, confirming the indirect criterion validity of the Sinhalese version of the GPAQv2. The tool demonstrated favorable test-retest reliability (ICC = 0.713). The mean difference between the test and retest total PA scores was –302.6 MET/week, a slight overestimation of PA in the retest.

Conclusions: The Sinhalese version of the GPAQv2 demonstrates acceptable reliability and validity. It is suitable for use in PA measures among community-dwelling older adults in Sri Lanka.

1. Introduction

Sri Lanka has one of the fastest aging populations in Asia [1]. The proportion of older adults (aged 60+) in the country was 11.7% in 2013, and the figure is expected to increase to 21.1% by 2030 [2]. Aging of its population is not in parallel with the economic growth of the country and these trends have already made devastating consequences on health and economic well-being of older adults in the country. Chronic ill-health conditions are steadily increasing among Sri Lankan older adults as has been seen in many other countries [1–4]. Being an agricultural country for many centuries, the older adult population currently living in Sri Lanka is largely a physically active cohort. Nevertheless, recent demographic and epidemiological transitions that have led to urbanization and westernization of the Sri Lankan society have resulted people in the country being less active and vulnerable to developing chronic ill-health conditions [1, 4, 5, 7].

The classification of individuals by activity level is the main objective of measuring physical activity (PA) across populations, and it enables the study of trends and associations with other types of behavior or health outcomes [6]. Data on the PA statuses of older adults in Sri Lanka and personal, socio-cultural, economic, and structural determinants of such statuses are grossly inadequate. One of the major challenges in measuring PA in older adults in Sri Lanka is the unavailability of reliable and valid measuring tools. The International Physical Activity Questionnaire (IPAQ), which was developed to assess PA among adults (15–69 years), has been frequently used by health professionals in many countries, including Sri Lanka, to measure PA in older adults [5, 8–10]. However, the IPAQ has its own limitations in collecting a broad spectrum of PA data in populations originating from different cultural

* Corresponding author.
E-mail addresses: biwickramarachchi@ahs.ruh.ac.lk (B. Wickramarachchi), jsidiah@unimas.my (S. Siop), pperera@indiana.edu (B. Perera).

https://doi.org/10.1016/j.ahr.2021.100016
Received 18 December 2020; Received in revised form 17 May 2021; Accepted 21 May 2021
Available online 25 May 2021