



REVIEW

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# Physical activity patterns among South-Asian adults: a systematic review

Chathuranga D Ranasinghe<sup>1\*</sup>, Priyanga Ranasinghe<sup>2</sup>, Ranil Jayawardena<sup>3</sup> and Anoop Misra<sup>4</sup>

## Abstract

Physical activity (PA) has many beneficial physical and mental health effects. Physical inactivity is considered the fourth leading risk factor for global mortality. At present there are no systematic reviews on PA patterns among South Asian adults residing in the region. The present study aims to systematically evaluate studies on PA patterns in South Asian countries. A five-staged comprehensive search of the literature was conducted in Medline, Web of Science and SciVerse Scopus using keywords 'Exercise', 'Walking', 'Physical activity', 'Inactivity', 'Physical Activity Questionnaire', 'International Physical Activity Questionnaire', 'IPAQ', 'Global Physical Activity Questionnaire' and 'GPAQ', combined with individual country names. The search was restricted to English language articles conducted in humans and published before 31st December 2012. To obtain additional data a manual search of the reference lists of articles was performed. Data were also retrieved from the search of relevant web sites and online resources. The total number of hits obtained from the initial search was 1,771. The total number of research articles included in the present review is eleven (India-8, Sri Lanka-2, Pakistan-1). In addition, eleven country reports (Nepal-3, Bangladesh-2, India-2, Sri Lanka-2, Bhutan-1, Maldives-1) of World Health Organization STEPS survey from the South-Asian countries were retrieved online. In the research articles the overall prevalence of inactivity was as follows; India (18.5%-88.4%), Pakistan (60.1%) and Sri Lanka (11.0%-31.8%). STEPS survey reports were available from all countries except Pakistan. Overall in majority of STEPS surveys females were more inactive compared to males. Furthermore, leisure related inactivity was >75% in studies reporting inactivity in this domain and people were more active in transport domain when compared with the other domains. In conclusion, our results show that there is a wide variation in the prevalence of physical inactivity among South-Asian adults within and between countries. Furthermore, physical inactivity in South Asian adults was associated with several socio-demographic characteristics. Majority of South Asian adults were inactive during their leisure time. These Factors need to be considered when planning future interventions and research aimed at improving PA in the region.

**Keywords:** Physical activity, Inactivity, South Asia, Adults

## Introduction

South Asia, commonly known as the Indian sub-continent, is home to almost one-fifth of the world's population and is comprised of many diverse ethnic, linguistic and religious groups [1]. Altogether there are 7 countries in the region namely; Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Although there are significant cultural differences between regional countries, South Asians are an inherently high-risk group for developing abdominal adiposity, diabetes, cardiovascular diseases [2].

Studies in the United Kingdom have shown that the risk of diabetes is 3 to 5 times higher for immigrants from Bangladesh, India and Pakistan compared with the native white Caucasian population, with an associated increased risk of complications, morbidity and mortality [3]. South Asia has the highest number of patients with diabetes and the prevalence of diabetes among adults is over 10% in many parts of the region [4]. This increased metabolic risk among South Asians appears to be multi-factorial, where unhealthy dietary habits and physical inactivity are coupled with genetic predisposition [5]. Physical inactivity increases the risk of developing abdominal adiposity, diabetes and cardiovascular disease [6]. Furthermore, physical inactivity is considered the fourth leading risk factor for global

\* Correspondence: chath\_r@yahoo.com.au

<sup>1</sup>Allied Health Sciences Unit, Faculty of Medicine, University of Colombo, Colombo, Sri Lanka

Full list of author information is available at the end of the article