



## Physical activity among adults in southern Sri Lanka

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### Abstract

Regular physical activity and exercise can enhance physical and psychological health. We investigated the prevalence of physical activity, association between Body Mass Index (BMI) and physical activity, and possible factors that prevent adults in southern Sri Lanka from being physically active. A representative, community sample of 2044 adults (age 18- 85 years) from the Southern Province was surveyed using an interviewer administered questionnaire. A total of 1129 (55.2%) females and 915 (44.8%) males participated in the study. Twenty one percent of the participants were underweight, 18% were overweight and 4% were obese. About 63% of the subjects reported that they had engaged in some form of rigorous physical activity, intentionally or unintentionally, at least 3 days in the week preceding the survey. Females were more likely than males to be engaged in physical activity (69.5% versus 59.5%,  $p < .01$ ). Almost half of the participants indicated no interest in being physically active on a regular basis. Fifty eight percent of the participants indicated limited time as a barrier to engaging in regular physical activity, and 6.7% indicated lack of a suitable place to exercise as another barrier. No relationship was found between BMI and physical activity. A considerable portion of adults in southern Sri Lanka reports a sedentary life style. Lack of motivation to be engaged in regular physical activity, expressed by a significant proportion of the study participants, may be due to limited knowledge of the health benefits of physical activity, and to a perceived lack of facilities and time for such activities. To be physically active, adults do not require substantial resources: they should be educated about simple physical activities such as walking, and about the health benefits that can accrue.

**Keywords:** physical activity, BMI, Sri Lanka

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### Introduction

Human behavior is directly related to human health. Behaviors that enhance health and quality of life have gained much attention from educators, physicians and other health professionals in the recent past as the promotion of a healthy lifestyle appears to be a cost effective and reliable strategy to improve the quality of life of the humans. Healthy life style behaviors are also linked to economic and social development (Edberg, 2007).

Physical activity is defined as bodily movement produced by skeletal muscles that require energy expenditure (Caspersen, Powel, & Christenson, 1985). Physical inactivity (lack of physical activity or sedentary life style) is an independent risk factor for a number of chronic diseases, and overall, is estimated to cause 1.9 million deaths and 19 million DALY (Disability Adjusted Life Years) globally (World Health Organization [WHO], 2002). Recent literature suggests that about 75% of breast cancers, 49% of

cardiovascular and heart diseases, 35% of diabetes and 22% of colorectal cancers can be prevented by regular physical activity (Kruk, 2007; WHO, 2004). Increased physical activity also prevents the weight gain associated with aging (Kruk, 2007). The World Health Organization (WHO) recommends at least 30 minutes of moderate physical activity every day as a key to a healthy life.

Physical inactivity is common in most countries, both developed and developing. It has been estimated that 60% of world's population fail to complete the recommended amount of physical activity required to induce health benefits (WHO, 2004). In many countries, departure from a traditional agricultural lifestyle due to industrialization has resulted in a sedentary life style in a significant proportion of individuals. As a result, diseases such as diabetes mellitus, heart disease and some cancers have been increasing during the past few decades in these countries.

These global trends are also observed in Sri Lanka. In the absence of direct information on physical activity in Sri Lankan population, levels of non communicable diseases in the country are sometimes use as approximate indicators of the level of physical activity. Non communicable diseases are now the most common causes of hospital morbidity in Sri Lanka, and their occurrence is believed to be on the rise (Ministry of Health, 2006) According the World Health Survey conducted by the WHO in 2003, about 35% of adults in the age group 30-39 years are physically inactive in Sri Lanka (WHO, 2004). Given that a little research has been conducted regarding this important health problem in Sri Lanka, there is a need for epidemiological data to better assess the magnitude of the problem. Such data are valuable for formulating public policies for health promotion and disease prevention. In this study, we investigated the prevalence of physical activity, association between Body Mass Index (BMI) and physical activity and possible factors that prevent physical activity among adults in southern Sri Lanka.

## Methods

A cross sectional community survey was conducted using an anonymous, interviewer administered questionnaire. Cluster sampling technique was use to select sample subjects. Twelve graduates were recruited and trained as research assistants to collect data. Physical activity was assessed using a question "During the last 7 days how many days have you been engaged in any physical activity, for at least 20 minutes that made you sweat and breathe hard such as running, jogging, cycling, exercising, past walking, playing sports, gardening, washing cloths or any similar activity? Those who had been engaged in some form of rigorous physical activity, intentionally or unintentionally, at least 3 days in the week preceding the survey were classified as physically active. BMI was calculated using the formula;  $BMI = \text{Weight (in kilograms)} / \text{Height}^2 \text{ (in meters)}$ . No personal identifiers were collected. Ethical approval for the survey was obtained from the Ethics Review

Committee, Faculty of Medicine, Galle, and from the Institutional Review Board of Duke University Medical Center, Durham, North Carolina, USA

## Results

Data from a total of 2044 participants, aged between 18-85 years, were analyzed. There were 1129 females (55.2% of the total). The majority (48.2%) of the participants was either unemployed (including students in colleges and other educational institutions) or non-skilled laborers; 27.3% were skilled laborers; 7.1% were businessmen; 12.4% were employed in the government or semi-government sector and 5% were pensioners. Of the total, 20.8% were underweight (BMI < 18.5); 17.8% were overweight (BMI between 25-30), and 4.1% were obese (BMI > 30). No relationship was found between BMI and physical activity. Females were more likely than males to be engaged in physical activity (69.5% versus 59.5%  $p < 0.01$ ). Table 1 shows the prevalence of physical activity by gender and age.

Among males, the prevalence of being sedentary increases with increasing age. Among females, there is no significant difference of the prevalence of sedentary behavior among young and middle aged women, but a significant difference is observed between old (aged above 55 years) and other age categories ( $p < .05$ ).

Slightly higher percentage of females (52.3%) compared to males (47.7%) felt that physical activity is an important factor for improving health. Among males, 49.7% of the participants and among females 50.3% of the participants reported no interest in being physically active on a regular basis. The majority (58.2%) indicated limited time as a barrier to engaging in some form of physical activity on a regular basis, and 6.7% indicated lack of suitable place to exercise as a barrier to do regular physical activities.

## Discussion and Conclusions

Physical inactivity (sedentary life style) is a threat to health both in terms of physical and psychological well-being.

Table 1. Physical activity by gender and age group

	Male			Female		
	18-30	31-55	56-85	18-30	31-55	56-85
Number	292	407	181	382	531	183
Active	69.2%	60.0%	43.1%	71.5%	75.0%	49.7%
Sedentary	30.8%	40.0%	56.9%	28.5%	25.0%	50.3%

In the developed world, investigations have been carried out to examine factors predicting physical activity, and strategies such as health education have been developed, providing recommendations for a physically active life style and implementing an increasing number of exercise facilities in the workplace (Bengoechea, Spence & McGannon, 2005; Dishman, 1982; Kaplan, 2008; WHO, 2006). However, in the developing world such developments are somewhat limited, and Sri Lanka is no exception.

The proportion of physically active adults in this study population was only about 63%, and this highlights the need for public health interventions promoting physical activity among adults in Sri Lanka. The elderly may be at a higher risk than others as indicated by the study results. Given that aging is becoming a major public health issue in the country, health authorities need to pay a greater attention to this modifiable health risk behavior in old adults. Perceived barriers, such as time and facilities need to do exercise need to be discussed in future research, but making the general public aware of and encouraging simple, cost-effective methods of physical activity such as walking may be a good starting point.

## References

- Bengoechea E. G., Spence J., McGannon K. R., (2005). Gender difference in perceived environmental correlates of physical activity. *International Journal of Behavioral Nutrition and Physical Activity*, 2: 2-12.
- Casperson, C.J., Powell, K.E., and Christenson, G.M. (1985). Physical activity, exercise and physical fitness. Definitions and distinctions for health related research. *Public Health Reports*, 100:126-31.
- Dishman, R.K. (1982). Compliance/adherence in health-related exercise, *Health Psychology*, 1:237-67.
- Edberg, M. (2007). *Essentials of Health Behavior*, Sudbury, MA: Jones and Bartlett Publishers, pp 3-9.
- Kaplan M.(2008). Demographic and psycho social correlates of physical activity in late life, *American Journal of Preventive Medicine*, 21 (4): 306-12.
- Kruk J. (2007). Physical activity in the prevention of the most frequent chronic diseases: an analysis of the recent evidence. *Asia Pacific Journal of Cancer Prevention*.8(3): 325-38
- Ministry of Health (2006). *Annual Health Bulletin*, Ministry of Health, Colombo: Sri Lanka
- World Health Organization (2002), *World Health Report* , Geneva: WHO.
- World Health Organization (2004). *World Health Survey-2003*, Available at <http://www.who.int/infobase/reportviewer.aspx>. Accessed January, 15, 2009.
- World Health Organization (2006), *World Health Report*, Geneva: WHO.