



A Population based Global physical activity surveillance for prevention of Non Communicable Disease: Across sectional study in Urban slum of Hyderabad.

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Abstract

Introduction: Physical activity, means anything that moves your body and burns calories. This includes things like walking, climbing stairs and stretching. Research has linked being inactive and sitting too much with higher risk of heart disease, type 2 diabetes, colon and lung cancers, and early death. Noncommunicable diseases (NCDs), such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are the leading cause of mortality in the world. This invisible epidemic is an under-appreciated cause of poverty and hinders the economic development of many countries

Objectives:

1. To undertake physical activity surveillance in the urban slum.
2. To collect information on physical activity participation in three domains as well as sedentary behaviour. The domains are: • Activity at work • Travel to and from places • Recreational activities
3. To create awareness regarding the ill effects of physical inactiveness in the study population.

Methodology

Study design and setting:The cross-sectional study is conducted in urban slum of Sheikpet, Hyderabad. Sheikpet is the largest slum of Hyderabad. The health need of the people residing here is catered by The Urban health training centre of a tertiary care hospital as well as government Primary Health Centre.

Subjects: The study was carried out amongst the urban slum dwellers, over forty years of age. All genders above 40 years, who volunteer to participate, are included.

Sample size estimation:

As no previous data were available, assuming the prevalence of Physical inactivity among forty plus age group, to be 50 %(for maximum sample size at 6% precision)at the 5% significance, the sample size was estimated to be 267.However the number of study subject may exceed, keeping in view of the total population of the area..

Results

The study was conducted at urban slum of Hyderabad. Adults above forty years of age were included in the study. WHO, Global physical activity surveillance questionnaire was used to collect data on Physical activity and time spent on travel, leisure and recreational activity. The study was approved by institutional ethics committee.273 participated in the study.104 were females and 169 were males.83% of females and 71% of males were involved in vigorous activity in a week.68%female and 77%male did moderate intensity activity in a week. About 55% of study population did vigorous activity in a week. 98% of study population were not involved for more than 75 minutes in a week. A large portion of the general population already has a chronic non communicable disease.

Key words: Global physical activity surveillance,GPAQ,NCD Surveillance.

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I. Introduction

“Health is wealth” and Health is better than wealth” are well-known and often repeated sayings. These underline a vital fact of life. An unhealthy life style is one of the primary concerns of the modern society and policy makers as it is associated with numerous health problems the benefits of physical activity are vast.

Physical activity has been associated with a lowered risk of cardiovascular disease and also an increased life expectancy so its importance is obvious. Regular physical activity is essential to both the mental and physical health aspects. Positive exercise habits formed in childhood tend to carry over into adulthood, thus helping reduce death and illness in the future. There are many other positive benefits that come through the form of exercise. Just as well, there are negative effects that can result from Physical inactivity.

Physical inactivity is a major independent modifiable risk factor for noncommunicable diseases (NCDs) such as cardiovascular disease, ischemic stroke, type 2 diabetes, colon cancer, and breast cancer. It is also associated with other important health outcomes including mental health, injuries, falls, and obesity¹. Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure.

Noncommunicable diseases (NCDs), such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are the leading cause of mortality in the world. This invisible epidemic is an under-appreciated cause of poverty and hinders the economic development of many countries.² NCDs – primarily heart and lung diseases, cancers and diabetes – are the world's largest killers, with an estimated 38 million deaths annually. Of these deaths, 16 million are premature (under 70 years of age). If we reduce the global impact of risk factors, we can go a long way to reducing the number of deaths worldwide³.

Prevention of NCDs is a growing issue: the burden of NCDs falls mainly on developing countries, where 82% of premature deaths from these diseases occur. Tackling the risk factors will therefore not only save Lives; it will also provide a huge boost for the economic development of countries.

Strong evidence exists for the benefits of physical activity for older people in enhancing physical fitness (including strength and aerobic endurance), quality of life and wellbeing, cognitive function, and physical function.² Convincing evidence suggests that regular physical activity decreases cardiovascular disease (CVD) risk^{3,4} and numerous studies have shown an inverse relationship between exercise and heart disease mortality⁵.

Aims and Objectives:

1. To undertake physical activity surveillance in the urban slum of Sheikpet, Hyderabad.
2. To collect information on physical activity participation in three domains as well as sedentary behaviour. The domains are: • Activity at work • Travel to and from places • Recreational activities
3. To create awareness regarding the ill effects of physical inactiveness in the study population.

II. Methodology

Study design and setting:

The cross-sectional study was conducted in urban slum of Sheikpet, Hyderabad. Sheikpet is the largest slum of Hyderabad. The health need of the people residing here is catered by the Urban Health Training Centre of Apollo Medical College as well as government Primary Health Centre.

Subjects:

The study was carried out amongst the urban slum dwellers, over forty years of age. All genders above 40 years, who volunteer to participate, are included.

Study period:

The study was conducted in the month of May - August 2018. Data was collected through questionnaire in the months of May, June and July.

Inclusion criteria:

Residents of the slum, above 40 years of age, who voluntarily respond to the Global Physical Activity Questionnaire (GPAQ).

Sample size estimation:

As no previous data were available, assuming the prevalence of Physical inactivity among forty plus age group, to be 50 % (for maximum sample size at 6% precision) at the 5% significance, the sample size was estimated to be 267. However the number of study subject may exceed, keeping in view of the total population of the area.

Ethical consideration:

Informed consent was taken before administering the questionnaire. Complete confidentiality was assured and the study has no risk involved to participants.

Data collection:

The Global Physical Activity Questionnaire was developed by WHO for physical activity surveillance in countries. Show cards also shown for each of the activity types covered by the GPAQ: vigorous and moderate activity at work, transport activity, vigorous and moderate activity during leisure time, as well as sitting.

Data analysis:

The data collected was analyzed using Microsoft excel software in department of Community Medicine. The Data was Coded and summarized

GPAQ collects information on three domains. These domains are: • Activity at work • Travel to and from places • Recreational activities. For analysis purposes these domains can be further broken down into six different "sub-domains". These "sub-domains" are:

- Vigorous work (codes P1-P3)
- Moderate work (codes P4-P6)
- Travel (codes P7-P9)
- Vigorous recreation (codes P10-P12)
- Moderate recreation (codes P13-P15)
- Sitting (code P16)

Composition of total physical activity Description: Percentage of total physical activity on average per day that comes from each of the 3 types of

Activity: work-, transport-, or recreation-related. Instrument questions • P1-P6a&b: activity at work • P7-P9&b: travel to and from places • P10-P15a&b: recreational activities

A participant needs only to give a valid response to a minimum of one domain, leaving the remaining domains blank, to be included in the analyses.

For the calculation of a categorical indicator, the total time spent in physical activity during a typical week and the intensity of the physical activity is taken into account.

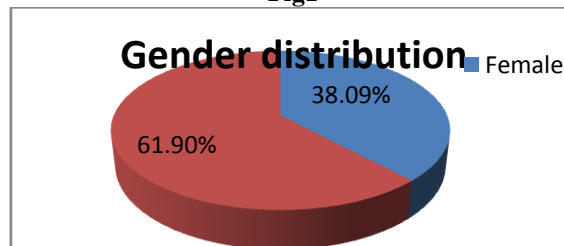
III. Observations and Results

The study was conducted in urban slum of Sheikpet, in Hyderabad. 273 (104 female and 169 male) People participated voluntarily. The data is summarized as below.

Table-1: Gender distribution

Gender	Frequency	
	N	%
Female	104	38.09%
Male	169	61.90%
Total	273	100%

Fig1

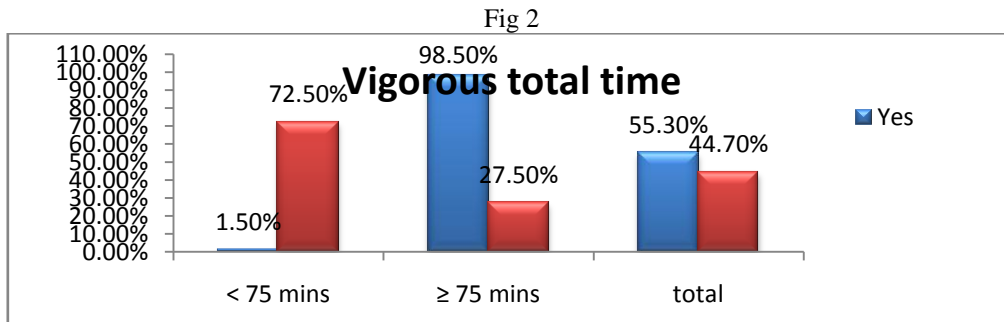


The study was conducted in urban slum of Sheikpet, in Hyderabad.

'Moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.

Table-2: Distribution of Vigorous activity total time

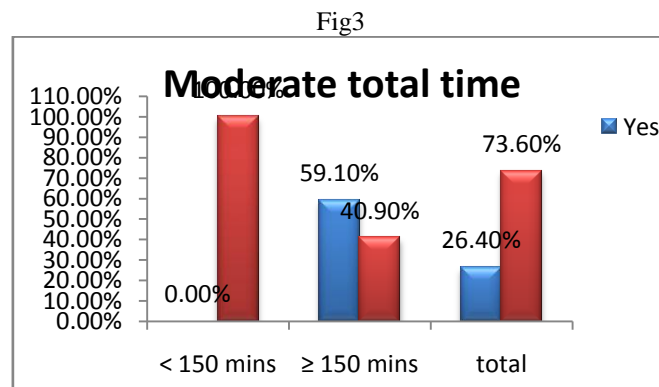
Vigorous activity	Total time		
	< 75 mins	≥ 75 mins	total
Yes	1.50%	98.50%	55.30%
No	72.50%	27.50%	44.70%



About 55% of study population did vigorous activity and 98% of study population, were not indulged for more than 75 minutes in a week in the same.

Table-3: Distribution of Moderate total time

Vigorous activity	Total time		
	< 150 mins	≥ 150 mins	total
Yes	0.00%	59.10%	26.40%
No	100.00%	40.90%	73.60%



About 59% of subjects did moderate activity for more than 75 minutes in a week and 41% had cumulative time of moderate activity in a week.

IV. Discussion

All Non communicable disease (NCD) risk factors are markedly high among the urban slum adults⁶. Almost three quarters of all NCD deaths (28 million) and the majority of premature deaths (82%), occurred in low and middle-income countries (LMICs).older adults were less likely to meet some healthy lifestyle guidelines such as performing 150 minutes of physical activity per week, spending less than 4 hours per day sitting, or sleeping on average between 7 and 9 hours per day⁷.Conclusion.

In our study conducted in urban slum of Hyderabad, majority of people were not involved in physical activity for more than 150 minutes per week. Robust data exists on built influences of physical activity, there are still significant barriers in the knowledge exchange (or translation) mechanisms that can help guide policy-makers and other practitioners to design appropriate interventions.

Environmental and policy changes that improve access to places where people can be physically active, modify the built environment to better support physical activity behaviours (including physically active transport), and that, in general, make it easier for people to be physically active can be effective. Information and communication technologies, including wearable activity monitors, telephone and Smartphone programs and applications, computer-tailored print interventions, and the Internet, can be used to enable self-monitoring, deliver messages, and provide support, all of which are helpful in promoting regular physical activity.

V. Conclusion

In our study conducted in urban slum of Hyderabad, majority of people were not involved in physical activity for more than 150 minutes per week. Robust data exists on built influences of physical activity; there are still significant barriers in the knowledge exchange (or translation) mechanisms that can help guide policy-makers and other practitioners to design appropriate interventions. Efforts to promote physical activity can be effective. Strong evidence demonstrates that individual-level interventions can increase the volume of physical activity performed by adults, especially when the interventions are based on behavioural change theories and techniques.

Individuals can reduce the risk of developing a new chronic condition, reduce the risk of progression of the condition they already have, and improve their quality of life and physical function by incorporating more Physical activity. For individuals who perform no or little moderate-to-vigorous physical activity, replacing sedentary behaviour with light-intensity physical activity reduces the risk of all-cause mortality, cardiovascular disease incidence and mortality, and the incidence of type 2 diabetes. Heart disease, stroke, hypertension, type 2 diabetes, dementia, depression, postpartum depression, excessive weight gain, falls with injuries among the elderly, and breast, colon, endometrial, esophageal, kidney, stomach, and lung cancer are all less common among individuals who are physically active. The public health impact of insufficient physical activity and the potential gains from even small population-wide increases are substantial. Throughout a week, including activity for work, during transport and leisure time, adults should do at least

- 150 minutes of moderate-intensity physical activity OR
- 75 minutes of vigorous-intensity physical activity.

Vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.

Reference

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