



Awareness, Attitude and Compliance of Physical Activity among Diabetic Patients in Hyderabad City

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Abstract: One of the most widespread diseases that is not communicable is Diabetes mellitus, and it is the chief cause of fatality in the majority of developing nations. Those individuals suffering from diabetes are strongly recommended to opt for regular physical activity because not only blood glucose and insulin sensitivity can be effectively controlled by it, prevention, as well as cardiovascular benefits and diminution of morbidity and complications have positive outcome. Current cross-sectional study observed the demographic, societal and health-associated issues correlated with taking part in physical activity among individuals suffering from diabetes mellitus of Hyderabad city Pakistan. Our study included 78 patients of diabetes mellitus. The numbers of inactive subjects found, were a little more than half and were significantly older as compared to active respondents. All the variables such as age, marital status, qualification and compliance for diabetes were considerably related with intensity of physical activity and exercise. Bad health condition, less motivation and knowledge about the significance of bodily activity were the frequent obstacles to involvement in exercise and physical activity. Therefore, measures should be done to inform diabetic patients about the advantages of bodily activity and exercise as their routine activity.

Keywords: Diabetes mellitus, Physical activity, Awareness, Hyderabad.

1. INTRODUCTION

Ailments like diabetes mellitus, CVS diseases, stroke, cancer and asthma are non-communicable illnesses and currently the major basis of deaths worldwide, contributing sixty percent of all casualties (WHO, 2008). Diabetes mellitus is believed as one of the focal threats to human healthiness in present era as compared to its previous significance to world health (Zimmet, *et al.*, 2001). 189 million people were diabetic in 2003 and forecast an increase to about 324 million in ten years, as predicted by International Diabetes Federation (IDF, 2005). Likewise in 2006, World Health Organization (WHO) stated that during next decade, there will be nearly one hundred and seventy percent rise in diabetic patients in developing world, whereas the boost in developed nations will be approximately forty two percent. Moreover, the IDF and WHO (2006a) testified in a combined statement of IDF Africa and WHO-AFRO that the anticipated preponderance of the enhancement in proportion of persons with diabetes mellitus will be largely between age range of 44-64 years, especially in developing nations. This is of real significance, as masses will be involved in the highest prolific era of their existence (Kabanda, *et al.*, 2011). To lessen the influence of diabetes internationally, the (Diabetes Action Now) program was introduced by WHO and IDF in 2006. The program emphasizes on poor and average income population, specifically in nations which are progressing towards development, and its rationale is to motivate and assist the implementation of efficient procedures for

the observation, avoidance and management of diabetes mellitus. Additionally, the fundamental objective of the program was to attain an ample raise in the knowledge about the illness and its consequences worldwide (WHO, 2006a). Meaningful information can therefore create changes in awareness and perceptiveness and bring about a change in behavior or ways of living. Physical activity has an important role not only in preventive measures but also in managing diabetes. (Kriska *et al.* 2003). Exercise and activity potentially provides several benefits for the diabetic person that includes, restitution to control blood glucose level, development of insulin response thus requires less medicine, decrease in body mass index, reduces anxiety and improves cardiovascular issues. Likewise, routine physical activity is invariably suggested for diabetic individuals because of its favorable effects on the consequences of diabetes related with metabolic risk factors. (Nakawatase *et al.* 2007). All types of bodily activities, including sedentary activities, recreational or even professional sports can be performed by diabetic persons without risks and in managing blood glucose level (American Diabetes Association, 2003). Several diabetic patients do not carry out regular exercise and physical activity as a measure of their disease management even though they know its benefits (Chau & Edelman, 2001). The fact that exercise and physical activity is more important and suggested more to diabetics than to non-diabetics, they are least expected to do exercises than non-diabetic persons (Nakawatase *et al.*, 2007). People suffering from long lasting illness

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often escape exercise for apprehension of precipitating their illness by over exhaustion, however they benefits more from routine workout plan (Kolt *et al.*, 2003). Thus it is essential to establish the intensity of involvement in workout plan among diabetics and to identify the relationship with demographic, societal and health-linked issues, regarding benefits of doing physical activity by diabetics. Thus, the objective of present research is to find out the degree of involvement in physical activity and the issues related with it, in diabetic patients belonging to Hyderabad City Pakistan.

2.

METHODS

The Diabetic clinics and general physicians of Hyderabad city Pakistan were contacted and selected as the research locale because it entertains the majority of individuals suffering from diabetes belonging to Hyderabad city. After taking consent a total of 78 subjects who were selected randomly for research purpose. Questionnaires (three) were given to these diabetic patients The first questionnaire consists of demographic details for example sex, age, height, weight, qualification and marital status. The type of diabetes mellitus was also recorded. Medical history was checked too to confirm the authenticity of the analysis. Questionnaires were administered to evaluate the respondents' awareness concerning their health condition. Another questionnaire calculated subject's self-reliance about diabetes to identify how certain they are in combating with disease in their routine daily activities. In earlier studies the scale has been utilized having an internal reliability of 0.9. Level of Physical activity was evaluated by using International Physical Activity Questionnaire (IPAQ) which included 16 queries regarding respondent's occupation, conveyance spare time activities. Finally subjects were inquired whether they have any hindrance to carry out physical activity.

Data analysis

For demographic details and health associated issues, descriptive statistics were calculated for Body Mass Index (BMI), apparent health condition, self-reliance regarding diabetes mellitus and levels of bodily activity. Cross-tabulations were utilized to find out the correlation among social, demographic, health-associated issues and categories of physical activity i.e. low (0–599 MET minutes/week), moderate (600 – 2999 MET-minutes/week) and high (over 3000 MET-minutes/week) (Craig *et al.*, 2003). To establish association and significance, Chi-square and Independent samples t-test was applied and significance value at 0.05 was considered as an independent variable.

3.

RESULTS

Out of 78 subjects the mean age of sedentary subjects was 53.4 years and that of active subjects was 45.6 years. Respondent's answers of the questionnaire were added and the overall value was estimated.

3 categories of physical activity (low, moderate and high) were also calculated as MET-minutes / week for every subject The IPAQ measures various levels of physical activity related job, conveyance and domestic and leisure time activities. As shown in (**Table 1**) the minimum mean MET minutes/week was 223.37 during leisure-time, 575.38 during domestic activities, 602.12 during conveyance related activities and highest was 685.78 during job related activities. Physical activities were further divided into active (subjects who scored > 600 MET-minutes/week) and sedentary (subjects who scored less than 599 MET minutes/weeks) (Craig *et al.*, 2003). Greater than half (53.3 %,) were categorized as inactive or sedentary. Subjects categorized as inactive (53.4years) ($p<0.05$) were significantly older than those classified as active (45.6years). The relationship among social, demographic, health-linked issues and physical activity involvement are presented in (**Table 2**). Subjects who were married (52.1%) were active physically in contrast to unmarried participants (23.4%) and separated (7.5%) and widowed (17%)

Table-1 Levels of physical activity in different categories (n=78)

PA categories	n	%	Mean MET-minutes/week
Work related			685.78
Low	61	78.8	
Moderate	6	7.7	
High	11	13.5	
Transport-related			602.12
Low	54	68.6	
Moderate	19	24.3	
High	5	7.1	
Domestic and yard			575.38
Low	63	80.8	
Moderate	5	7.1	
High	10	12.1	
Leisure-time			223.37
Low	69	88.6	
Moderate	7	8.9	
High	2	2.5	

Significant ($p< 0.05$)

Participants with tertiary level of education (4.3%) were less active than secondary school education (45.7%). Self-reliance concerning the disease was considerably linked with intensity of physical activity. Those having good self-reliance (87.2%) were classified as active Relating to diabetes. The bulk of respondents (79.5%) specify that they face barriers while participating in physical activities. These Subjects were more likely to be categorized as inactive ($p<0.05$). Poor health (30.9%), lack of motivation (29%) and lack of knowledge of the significance of physical activity (24.4%) were the 3 main probable obstacles to physical activity, shown in (**Fig.1**).

4.

DISCUSSION

A number of studies mentioned that physical activity should be highlighted as the keystone in the treatment of diabetes, nevertheless, (Stys and Kulkarni,

2007; Colberg, 2008). The observations of the present research also accentuate this concept as greater than 1/3rd of the adults participants with diabetes mellitus were found inactive or sedentary.

Table-2 Factors associated with participation in physical activity (n=156)

Variable	Sedentary (n=62)		Active (n=94)	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	30	48.4	43	45.7
Female	32	51.6	51	54.3
Marital Status*				
Single	5	8.1	22	23.4
Married	42	67.7	49	52.1
Separated	1	1.6	7	7.5
Widowed	14	22.6	16	7.0
Education Levels*				
Never went to school	16	25.8	6	6.4
Primary school	23	37.1	41	43.6
Secondary school (1-6)	9	14.5	43	45.7
Tertiary education	14	22.6	4	4.3
BMI				
Underweight	5	8.1	4	4.3
Normal weight	28	45.2	34	36.2
Overweight	16	25.8	37	39.4
Obese	13	20.9	19	20.1
Perceived health status				
Poor	25	40.3	22	23.4
Fair	19	30.7	30	31.9
Good	15	24.2	35	37.2
Very good	3	4.8	7	7.5
Self-efficacy for diabetes*				
Poor self-efficacy	18	29.0	12	12.8
Good self-efficacy	44	71.0	82	87.2

Significant (p< 0.05)

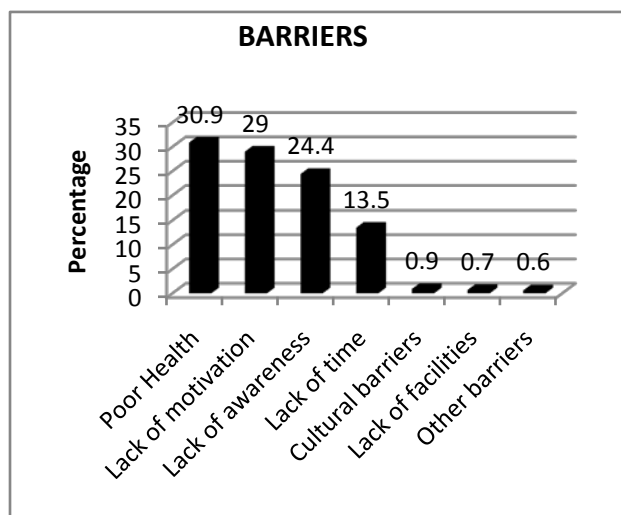


Fig.1 Barriers to Participation in Physical Activity

This is identical to many studies done mostly in developed nations, in which the frequency of being sedentary ranged from 37% to 44% (Deshpante, *et al.*, 2005), (Morrato *et al.*, 2007). Kolt and Snyder-Mackler (2003) suggested that individuals with diabetes mellitus in particular and other chronic diseases often dodge physical activity because of apprehension that their condition might become worse. The current study however, noted that majority of the participants had fair self-efficacy for disease and consequently are quite certain in dealing with the different aspects of their everyday life relating to diabetes.

The theory of self-efficacy suggests that patients' self-reliance in their aptitude to accept healthy living routine persuades which behaviors they will employ. (Sarkar, *et al.*, 2006). So it is obvious that a fair self-reliance is not adequate if not looked at with other interrelated aspects for instance, likely hindrance that an adult may confront with involvement in physical activity participation.

In our research the majority of subjects showed less physical activity during leisure-time, whereas regarding transportation moderate intensity of physical activity was observed. The WHO (2006b) stated that in developed countries, public walk less for transportation than under developed and developing nations which headed more attention towards improving walking and similar activities. A significant number of people of Hyderabad, as in several other Asian populace, cope with scores of challenges due to poverty such as hard to bear the expenditure of public conveyance particularly for diabetics who may every now and then have to stroll lengthy distances, this could be helpful in increasing amount of physical activity among them, not because of deliberate attempt, due to financial condition less option. Conversely, leisure-time activity can be taken as lavishness affordable only for rich persons. This concept demonstrates the necessity and significance of awareness and precise assistance of diabetics on the different types and amount of physical activity which could be incorporated in their routine lives.

The aspects which were significantly related with physical activity involvement were age marital status, qualification and self-reliance concerning diabetes). Subjects who were physically inactive were significantly older than those of physically active in our research. This may be due to the fact that physical activity considerably reduces with increasing age among masses. It is examined that inactivity is more common among older diabetic patients, frequently connected to be deficient in self-reliance,, impaired health condition and tiredness (Thomas, *et al.*, 2005).

5. CONCLUSION

The conclusion of our study is that subjects who have hurdles in participation in physical activity were at more risk of being inactive, emphasizing that an individual's supposed hurdles to exercise and activity is major influence of how active a person may become. Motivational Lack and ill health are commonest obstacles to involvement in physical activity among adult diabetics. This observation underlines the serious requisite for constant backing and support for the incorporation of physical activity among adults. In addition, education of diabetic adults can play important role in endorsing bodily activity and providing diabetics with ability and information for enhanced self-care and management.

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