



Life style activities and feeling state responses in community sample of diabetic patients in Eastern Providence Saudi Arabia

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Abstract

Background The aim of the present study was to surveyed life style activity levels within diabetic patients attending the King Fahd teaching hospital of the University, Al-Khobar, Saudi Arabia, and studied their feeling towards performing different physical activity.

Methods For this purpose, thirty Diabetic patients were randomly recruited, physically tested and handed a questionnaire to fill in. **Results** The result showed that the levels of physical activity are low and found an excessive use of cars by patients to go to public services and homes of friends and neighbors. Such unhealthy lifestyle habits encouraged patients to follow unhealthy habits such as disordered working patterns and infrequent social activity. While for those who follow healthy lifestyle pattern have better feeling while doing certain activities. For instance, patients who exercise running or jogging activities have better feeling while they run. Moreover, patient who have healthier relaxing lifestyle pattern, have better feeling of what they do while they relax.

Conclusion The use of exercise physiologists or physiotherapists and psychologists, education system is highly needed to explaining about the health benefits of physical activity. Physical activities should be promoted within the real context of the built environment in the eastern province, KSA.

Keywords Diabetes mellitus · Lifestyle · Exercise · Physical activities

Introduction

The beneficial effects of regular different physical activities on diabetes mellitus are well known. The World Health Organization has stated “increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments” [1].

Previous studies reported that walking can improve glycaemic control as indicated by decreased HbA1c in patient with diabetes mellitus [2, 3]. Such improvement in HbA1c is likely to reduce the microvascular changes which is the commonest cause of death in patients with diabetes and its related clinical endpoints such as peripheral and cardiovascular disease

nephropathy, neuropathy and retinopathy [4]. Study showed that a simple increase of 2000 daily steps led to a significant reduction in cardiovascular complications in patient with impaired glucose tolerance [5].

Walking on community streets is inexpensive and convenient for many diabetic patients which can be sustainable. Many people use community streets for leisure time walking [6]. Diabetic patient was more likely to exercise in a community [7] but one should consider enablers for walking and many other environmental barriers such factors as traffic safety and sidewalks in the communities in which they lived. That is why walkability of a community considered better predictor of daily physical activity than community income [8]. Furthermore, diabetic patients are likely to be very sensitive to the environmental barriers in their decision to start physical activity since diabetic patients are more likely to have pain during walking [9] and lower extremity complications [7] due to their age and obesity [10] plus other expected complication [11].

Previous reports demonstrated that diabetic patients who did not adhere to a recommended exercise program had a significant reduction in quality of life [12].

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Diabetic patient reported they had a much easier changes to their dietary habits than exercise habits which seem [13]. Conversely, other evidence found that patients with chronic diseases are able to make significant changes in their life style such as getting regular exercise, stopping smoking and improving a poor diet [14].

Nowadays, there are many technologies to motivate patients to exercise. Smart phones with specific applications provide objective and visual feedback and allow patients to record steps workouts [15].

Identifying prospective positive links between feeling and physical activities and/or health behaviors could have a meaningful impact on diabetes mellitus and its outcomes manifested by improvement in glycemic control and prognosis in this common and disabling disease. We surveyed physical activity levels within diabetic patients attending the King Fahd teaching hospital of the University, Al-Khobar KSA and studied their feeling towards performing different physical activity.

Methodology

The study sample constitutes of thirty patients who usually visited the King Fahd teaching hospital of the University, Al-Khobar, during March–August 2016 Ethical approval was obtained from University ethics and research committee (IRB-2014- 06-202). The Survey was developed in consultation with two experts in the Biomedical and profession, each of whom validated the objectives-based content and questions of the measure.

The choice of patients is based on the following criteria: the exclusion of severely ill, women and children; and the inclusion of Type 1 and 2 (T1& 2DM) male adults, age 18–60 years old who are residents in Eastern province, KSA.

After obtaining informed consent, researchers explained the nature of the survey.

Data was collected through a structured interview survey, adopted and modified to include the nature of the area at Eastern Province KSA [16].

The survey consisted of 30 questions with three Likert-scale responses and some demographic and open-ended questions.

The first part of the questionnaire (9 questions) asked about the frequency of using car to visit their neighborhood. The second part of the questionnaire (12 questions) studied the time spent in doing daily activities. The last part (9 questions) explored the underlying feeling when doing certain lifestyle activity.

Data analysis

Data was analysis by using SPSS. Descriptive analysis was used to present the collected data. ANOVA test was performed

to find the relationship between the lifestyle of patients and their feeling when doing certain activities.

Results

The present study showed that, 93% of the participants frequently use their cars to go to the shopping mall. Around 79% frequently used it to go the health clinic. Around 60% use it frequently to go to the public garden and the homes of neighbors and friends. Around 40% use it frequently to go to the mosque, the children playground and the community center (i.e. Majlees) (Table 1).

The most popular daily activities spent one hour and more by the participants were sleeping (99), work related activities (91) and leisure time (73). For active patients 50% said that they spent 1 h daily doing fitness exercise while 37% said they do not practice it, 84% said they walk less than 1 h, 30% said that they do juggling or running for less than one hour while 63% said they do not practice them and 50% said they do household activities for less than one hour whereas 33% they do not do it. The present study showed that, 50% said they socialize less than 1 h whereas 30% do not do it. 53% said that they care for others for less than one hour while 24% they do not do it. 50% spend more one-hour driving. 84% spent less than one in religious activities (Table 2).

Table 3 showed that, patients who used cars less to go to the school had ordered pattern of work. Patients, who travelled more to the public places for socializing, spent more time in running activity. Patients were asked about their feeling when doing physical activities. Most of them said that they felt good when performing religious activities such as daily prayers, and doing the following activities: walking, work related activities, and sleeping. Around 60% said that they have good feeling when doing the following activities: caring for other, eating and drinking, sitting and relaxing in front of TV or computer. The patients were asked about places that make them feel bad/ good. Two third of patients said that they felt neutral or bad at a street in the city while driving, and in a public place in the city while waiting for someone. More than one third of patients said that they felt neutral or bad at a public place in the neighborhood while walking, a highway while travelling, a local shopping center in the neighborhood, and a restaurant in the city. Around two third of them said they felt good at a shopping mall in the city, the recreational area on the seaside and the work place.

Discussion

The aims of the present study were to study life style activity among diabetic patients attending the King Fahd teaching hospital of the University, Al-Khobar at eastern province

Table 1 On Weekly basis, how often the patient uses their car to go to the following places in his neighborhood

Type of local place	Not Applicable	Infrequent	Frequent
The shopping center	0	6	93
The health clinic	0	20	79
The homes of neighbors and friends	3	34	63
The public garden	10	28	62
The community centers (i.e. Majlees)	18	35	46
The mosque	3	54	43
The Children playground	17	41	42
Children school (if it is in the neighborhood)	21	45	34
The children nursery	25	54	22

KSA and describe their developed feeling towards performing different physical activity.

Our study found that levels of physical activity are low in the present studied sample and showed an excessive use of cars by patients to go to public services and homes of friends and neighbors. All trips to work and entertainment/ recreational facility were not suitable for walking and cycling, and in many areas the conditions for walking and cycling were not satisfactory. Perceived environments are recognized indicators of physical activity in diabetic patients [17]. External barriers included factors which are independent of an individual’s decision-making, such as hot weather and sociocultural can limited the outdoor physical activities [18]. Poor weather at the eastern province reduced activity levels in this studied sample, which should encourage the development of affordable indoor exercise facilities. Traffic safety as well as sidewalks and street amenities, are other factor could affect the engagement in regular physical exercise at the level recommended by diabetes experts for achieving glycemic control [7]. Several other patient related factor including suboptimal medical literacy [19], lack of involvement in the treatment decision-making process [20], and lack of understanding of their disease [21] and contribute for suboptimal recommended physical

activities and their life style. Usually patients with chronic illness have suboptimal adherence to recommended physical activity and medications [22].

Interestingly our result found that patients who follow healthy lifestyle pattern have better feeling while doing certain activities. For instance, patients who exercise running or jogging activities have better feeling while they run. Also, patient who have healthier relaxing lifestyle pattern, have better feeling of what they do while they relax or sit in front of the TV or computer. Moreover, we found that patients who felt good while driving are these who had ordered caring more for others. Patients who felt good while walking are these who had ordered work and walking related pattern. Patients who had ordered walking pattern are these who felt good when waling and running. Patients who felt good while sleeping are these who had ordered religious activities and sitting and relaxing patterns. Patients who felt good while eating are these who had ordered socializing pattern. Patients who felt good about home place are the ones who spent more time in eating and sitting and socializing and had ordered solarizing pattern. Feeling is a component of emotion that is always felt or experienced. It is considered to be a phase of neurobiological activity, contribute its effect to the evolution of action processes, cognition, and

Table 2 How long the patient spent in doing daily activities

Type of daily activity	Not practiced	Less than 1 h	One hour and more
Work related activities	3	6	91
Doing fitness exercises	37	50	13
Driving	7	43	50
Walking	3	84	14
Jogging or running	63	30	7
Sleeping	0	0	99
Household activities (e.g. cooking, cleaning, gardening)	33	50	16
Eating and drinking	0	90	0
Sitting and relaxing in front of TV or computer (leisure time)	0	27	73
Socializing	30	50	19
Religious activities (e.g. praying)	7	83	10
Caring for others	23	53	24

Table 3 The relationship between the lifestyle of patients with their feeling when doing certain lifestyle activity or being in certain places

Social life patterns	Type of feeling while	Mean Square	F	Sig.
Caring for others	Driving	4.055	4.360	.008
Caring for others	Walking	4.053	2.819	.047
Work related		2.935	3.144	.043
Walking		3.270	3.010	.049
Walking activities	Running	2.244	5.257	.002
Jogging or running activities		2.021	5.162	.002
Socializing	Sleeping	3.466	3.228	.039
Religious activities	Eating	2.649	4.472	.012
Socializing		4.179	4.035	.018
Sitting and relaxing	Sitting and relaxing in front of TV or computer	1.718	2.943	.040
Sleeping activities	Socializing	.868	3.271	.038
Socializing activities	Doing religious activities	11.770	7.052	.001
Socializing		6.585	8.479	.000
Household activities		8.344	6.703	.004
Religious activities	Caring or others	3.244	5.190	.012
Jogging or Running activities		2.363	5.880	.002
Sitting and relaxing activities		2.992	2.787	.048

Anova test significance level < 0.05, sample size 30

consciousness, resulting in the behaviors [23]. Diabetic patient needs psychological support from the onset of the disease throughout their life span [24]. Study reported that untreated psychosocial disorders in diabetic patient may lead to more physical symptoms [25]. Scientific evidence, suggests that feeling contributes its effect to the evolution of consciousness and action processes resulting in the patient's behaviors [26]. These beneficial effects of positive feeling may be mediated through health behaviors. Previous evidence found links between the participation in health behaviors and positive psychological state in medical practice. Current approaches to improve health behaviors in chronic illnesses have demonstrated variable effectiveness [27]. Description of psychological intervention could boost the involvement in health behaviors in diabetic patients. There was very encouraged date conducted in patients with cardiovascular diseases found that positive psychological intervention associated with significant improvement in physical activity and health behaviors [28].

With regard to limitations, our study design did not compare the level of Physical activities and feeling with the glycemic control, further studies are needed using a prospective controlled design.

Conclusion

The use of exercise physiologists or physiotherapists and psychologists are highly needed to educate and explaining about the health benefits of physical activity. Local efforts should

consider the cost of exercise and availability of public services within the real context of the built environment in the eastern province, KSA by intelligently recognizing considering the good (e.g. green areas, parks, recreational and sport facilities etc.) and bad features (e.g. obstacles, facilities that encourage unhealthy habits such as takeaways, lack of greens areas etc.) of the environment as well as to find political measures and infrastructural for walkers to improve walking and other physical activities. However, existing problems in the environment that promoted unhealthy lifestyle should be dealt with by the authorities.

Compliance with ethical standards

Conflict of interest The author declared no potential conflicts of interest.

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