

# Knowledge, Attitude and Practice (Kap) Regarding Physical Exercise Among Adult Diabetic Patients In The Case of Wolaita Sodo University Teaching Referral Hospital

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## **Abstract**

*Physical activity is an important factor in reducing morbidity from DM and maintaining quality of life. Regular physical activity may help to increase the glucose uptake and improve insulin sensitivity in muscle, thus leading to good glycemic control. To assess Knowledge, Attitude and Practice (KAP) regarding Physical Exercise among adult Diabetic patients at Wolaita Sodo University Teaching Referral Hospital. A facility based cross-sectional study design was used and data was collected from 201 adult diabetic patients by using structured questionnaire for patient interview to collect information on socio-demographic, socio-economic and the patient's knowledge ,practice and attitude towards physical exercise. Among 201 patients participated in the study, 118(58.7%) were males and majority of the respondents found within age range of 45-54, 78(38.8%) followed by 55-64, 51(27%). Majority, 142 (70.6%) of diabetic patients had a body mass index of above a normal value indicating that they had obesity. Furthermore, 166 (82.6%) of the respondents had positive attitude towards importance of physical exercise for their health but only 18.4% were practicing regular physical exercise for which absence of clear instruction or education given, 21(24.5%) followed by being busy by other tasks accounting 16(22%) were found to be common barriers affecting physical exercise. This study found that level of practicing regular physical exercise among adult diabetic patients at Wolaita Sodo University teaching referral hospital was found to be insufficient and majority of the diabetic patients were obese .Hence there should be regular follow up of patients' body mass index and regular exercise education should be given during their each hospital visit.*

## INTRODUCTION

### BACKGROUND INFORMATION

Diabetes is a group of metabolic diseases characterized by hyperglycaemia resulting from defects in insulin secretion, insulin action, or both. The two broad categories of DM are designated as type 1 and type 2. Type 2 DM which accounts for 90 –95% of all diabetes cases, is a heterogeneous group of disorders characterized by variable degrees of insulin resistance, impaired insulin secretion, and increased glucose production. Risk factors for developing type 2 diabetes are associated with obesity, older age, family history of diabetes, and history of gestational diabetes, impaired glucose metabolism, physical inactivity, and race/ethnicity(1).

Type 2 diabetes is frequently not diagnosed until complications appear. It can affect many parts of the body and is associated with serious complications including macro vascular events in the heart and blood vessels as well as micro vascular complications including retinopathy, nephropathy, and neuropathy, which can finally lead to blindness, kidney failure, foot ulcers, gangrene, erectile dysfunction and complications of pregnancy (2).

Appropriate management targeting weight reduction, glycemic control, hypertension, and lipid management is important for reducing morbidity and mortality, and improving long-term quality of life for patients diagnosed with type 2 diabetes mellitus (T2DM). Particularly, in patients with type 2 diabetes, diet and physical activity are essential first line therapies, and many clinical practice guidelines now recommend initiating metformin at diagnosis (3).

Physical activity is an important factor in reducing morbidity from DM and maintaining quality of life. Regular physical activity may help to increase the glucose uptake and improve insulin sensitivity in muscle, thus leading to good glycemic control. Furthermore, vigorous and moderate physical activity such as brisk walking reduces the risk of developing type 2 DM. Prospective studies with adequate follow-up, showed a strong association between exercise and reduced rates of death from any cause, particularly diabetes (4, 5).

Regular physical activity may help in management of diabetes mellitus, but not all patients are able to sustain consistent exercise. The reasons for a decrease in the physical activity among DM patients is due

to a feeling of difficulty to exercise, tiredness and spending most of their time watching television. Besides, lack of time, inadequate facilities such as recreation centers and safe places to perform exercise could also influence physical activity among DM patients (6).

Regular exercise has been shown to improve blood glucose control, reduce cardiovascular risk, contribute to weight loss, and improve well being. Furthermore, regular exercise may prevent Type 2 Diabetes Mellitus (T2DM) in high-risk individuals. Moderate-intensity to vigorous-intensity exercises of  $\geq 150$  min per week has been proven to confer significant benefits in the prevention of T2DM onset (A risk reduction of 46 % in the Data Qing Study in mainland China, and by 58 % in the Diabetes Prevention Program in the United States.) (7, 8).

### **The objectives of the study**

- Ø To assess Knowledge, Attitude and Practice (KAP) regarding Physical Exercise among adult Diabetic patients in the case of Wolaita Soddo University Teaching Referral Hospital, Southern Ethiopia
- Ø To investigate the proportion of diabetic patients practicing physical exercise

- Ø To describe common types of physical exercises practiced by adult diabetic patients

### **SIGNIFICANCE OF THE STUDY**

Based on the Third National Health and Morbidity Survey in 2006, the prevalence of physical inactivity among Malaysians adults was 43.7%. Women, the elderly, urban dwellers, housewives and unemployed persons were associated with inactivity (13). Recent follow-up studies suggest that this risk reduction can be sustained over a prolonged period. Structured exercise interventions of at least 8 weeks' duration have been shown to lower glucose level by an average of 0.66% in people with T2DM. Progressive resistance exercise improves insulin sensitivity in older men with T2DM to the same or even greater extent as aerobic exercise (15).

A great deal of evidence has been accumulated supporting the hypothesis that physical activity, among other therapies, may be useful in preventing or delaying the onset of type 2 diabetes.

Regular physical activity has consistently been shown to be effective in reducing levels of triglyceride-rich VLDL. However, effects of regular physical activity on levels of LDL cholesterol have not been

consistently documented. There are now three published trials documenting that with lifestyle modification (weight loss, regular moderate physical activity), diabetes can be delayed or prevented.(16)

Therefore, the findings of this study:-

- ✓ Can be used as an input for policy makers to up to date treatment guidelines and to provide trainings for healthcare professionals
- ✓ Will help to know the prevalence, factors affecting knowledge, attitude and practice of physical exercise by diabetic patients.
- ✓ Will help the hospitals by pointing out areas need to be focused in their health care plans
- ✓ Can be used as an input in movement to organize and diabetic patients

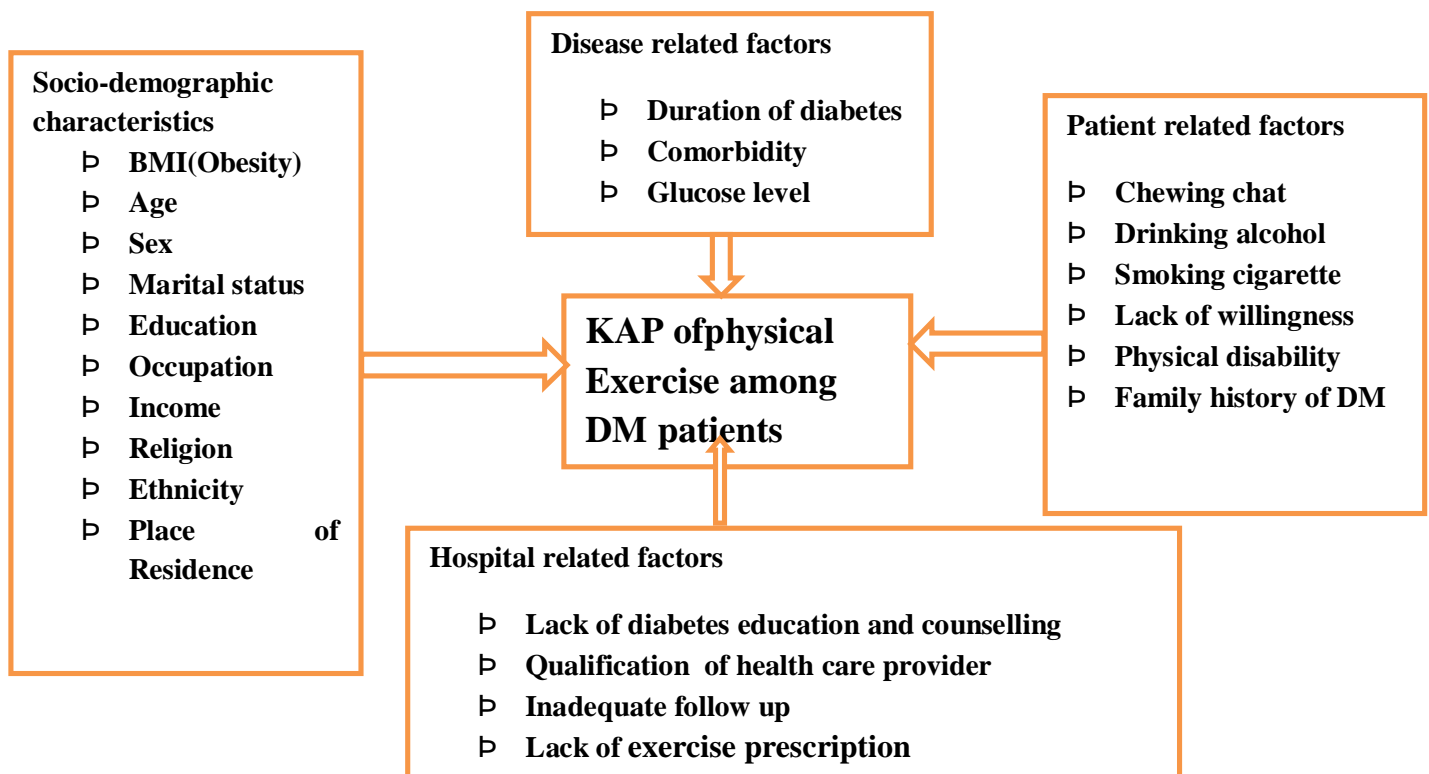
follow up care service in the hospital.

- ✓ Will serve as base line for further studies or serve as secondary data for other studies as there is lack of studies on this topic in the country in general and in Wolaita Zone in particular.

#### DELIMITATION OF THE STUDY

In order to reduce biases and to increase clarity of the data collected , this study will not include patients not willing to take part in the study, critically ill patients, patients with documented psychiatric problems , those age under 18 years (paediatric patients) and finally pregnant mothers with diabetes.

### 1.3. Organization of the study



## METHODS AND MATERIALS

The purpose of this study was to assess Knowledge, Attitude and Practice (KAP) regarding Physical Exercise among adult Diabetic patients at Wolaita Soddo University Teaching Referral Hospital. A facility based cross-sectional study design was used and data was collected from 201 adult diabetic patients by using structured questionnaire for patient interview to collect information on socio-demographic, socio-

economic and the patient's knowledge ,practice and attitude towards physical exercise.

Completeness of the data was checked every day and cleaned and analysed. Descriptive analysis was computed as frequency, mean and standard deviation (SD) for continuous variables and for categorical data. The outputs of different study findings was presented using tables, graphs, & figures accordingly.

## RESULTS

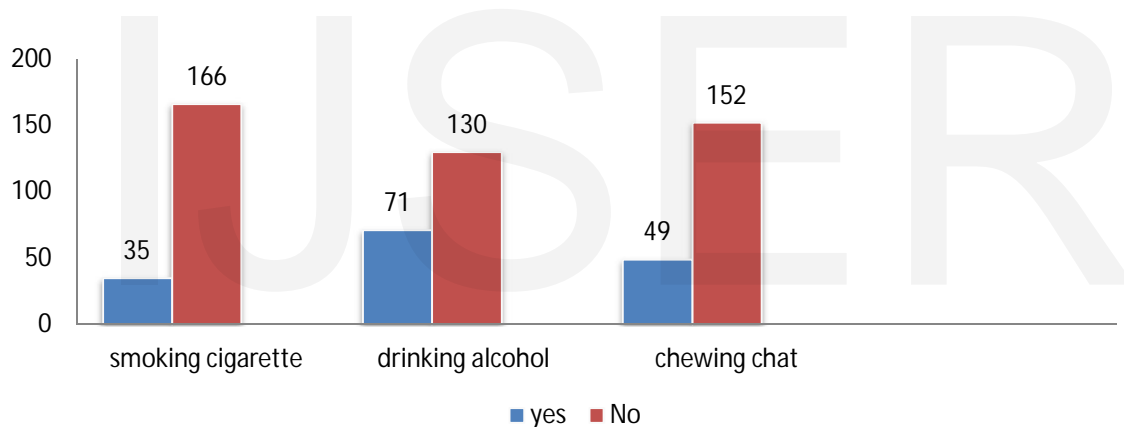
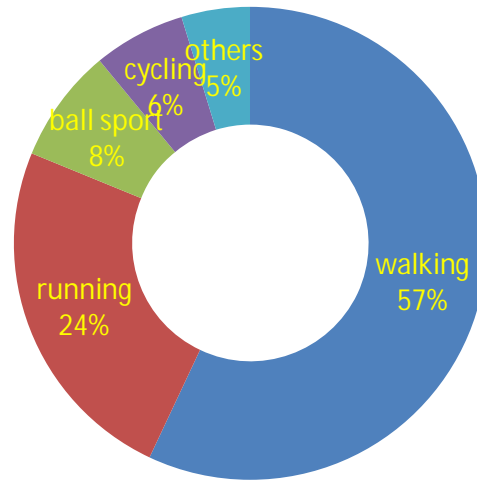


Figure 1: prevalence of substance abuse among study participants, N=201

Regarding practice of regular physical exercise, the study found that only 37(18.4%) of the respondents reported as they were practising physical exercise regularly but out of total respondents, 73(36.3%) reported that they never engaged

in physical exercise. The most common reasons for not doing regular physical exercise were absence of clear instruction or education given, 21(24.5%), absence of materials 16(22%) and being busy by other tasks accounting 17.8%.



**Figure 2:** Common Types of physical exercises practiced among study participants, N=128.

Among those patients doing physical exercise, the most common types used were walking up hills, 73(57%) and running, 31(24%)[**Figure 3**]. Regarding the knowledge of patients on physical exercise, almost half of them 63(49%) and 42(32.8%) reported as they were doing it for weight reduction and to improve their overall health respectively.

Furthermore, majority 166 (82.6%) of the respondents had positive attitude towards importance of physical exercise for their health. But 47% of them reported that only those with DM can benefit from doing physical exercise and 35 % perceived that all people can benefit from doing physical exercise.

**Table 2: Information on knowledge and attitude regarding Physical exercise**

Physical activity	Frequency	Percentage
Doing regular physical exercise		
Yes	37	18.4
Yes but not regularly	91	45.3
No	73	36.3
Perceived Reasons for not doing physical exercise (N=73)		
I have no clear instruction	21	24.5
Doctor told me not to do	5	6.8
No material	13	17.8
I have no time	16	22
I dislike it	8	11
No specific reason	10	13.7
Knowledge on reason of doing physical exercise (N=128)		
To spend time	9	7
For recreation purpose	14	11
To reduce weight	63	49.2
To improve my overall health	42	32.8
Who do you think can benefit from doing physical exercise?		
Only those with DM	95	47
All people	70	35
I don't know it	36	18
Do you think that physical exercise is good for your health?		
Agree	166	82.6
Disagree	24	12
Neutral	11	5.4
Importance of PE for diabetic and obese persons (N=201)		
A. Improves blood glucose	33	14.4
B. Reduces body weight	94	46.7
C. Maintains blood pressure	16	8.0
D. Reduces stress	11	5.5
E. Improves glucose and wt	47	23.4

## CONCLUSION

This study found that level of practicing regular physical exercise among adult diabetic patients at Wolaita Soddo University teaching referral hospital was found to be insufficient. Lack of exercise education and being busy by other tasks were found to be the most common barriers

for low prevalence of physical exercise. Furthermore, this study found that majority of diabetic patients were obese and hence there should be regular follow up of patients' body mass index and regular exercise education should be given during their hospital visit.

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