

## An Assessment on the Participation of Diabetic Person on Regular Physical Activity with reference to University of Gondar Hospital

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**Abstract:** Back ground; Regular physical activity participation is consider a crucial component of disease management for individuals with diabetes but the volume of evidences indicating most people with diabetes do not engage in physical activity. In a regular and sustained manner, to address this it is important to develop the participation to establish as fundamental to good health for individuals with diabetes and can affect progression and outcome of diabetes. Objective; addressed under this study was focused on an assessing the participation of diabetic patient on regular physical activity with reference to university of Gondar hospital, the study was aimed at pointing out the participation diabetic patient with in a regular physical activity. In university of Gondar hospital diabetic care persons identify the participation and major problem of diabetic patient on engagement in regular physical activity were theoretical bases basis which guided the overall study. Methods; for the collection of the required data, primary data (i.e. structured questionnaires and structured interview) were used. The respondents have been all the attended purposively and the total number of respondents were 133 this indicate that all diabetic patient available at that follow up day. **Result:** the gathered data were analyzed using simple table, frequency & percentage with regard to participation on regular physical activity. The results obtained from the respondents revealed that majority of diabetic patient are not participate in regular physical activity. Conclusion; As the factor influencing the participation are compared the most influential factor affecting engagement of diabetic patient on regular physical activity was the decision and giving knowledge about pre diabetes care provided by university of Gondar hospital workers.

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**Key words:** *diabetes, physical activity, exercise.*

### Introduction

Back ground of the study

Ancient physicians including those from China in 2600 BC and Hippocrates around 400 BC—believed in the value of physical activity for health. By the 20<sup>th</sup> Century, despite this knowledge, a large proportion of the world's population remains physically inactive. To quantify the effect of physical inactivity on the world's major non communicable diseases, we estimated how much of these diseases could be averted in the population if inactive people were to become active, as well as how much gain in life expectancy could occur at the Population level (Horton, 2012).

Despite the volume of evidences indicating the benefit of regular physical activity for persons with diabetic are less likely to engage in physical activity. Physical activity can play a key role in the lives & community of people with diabetes. For decades exercise has been considered cornerstone of diabetes management along with diet and medication. However high quality evidence on the importance of participation on regular physical activity in diabetes

was lacking until recent years (David, 2004).

Participating in Physical activity is considered a crucial component of disease management for individuals with diabetes and it is associated with extensive health and mental health benefits. Although the benefits of exercise are well established most people with diabetes do not engage in physical activity in a regular and sustained manner. To address this it is important to develop interventions that are easily and broadly accessible and that address specific barriers that prevent individuals with diabetes from participating in physical activity. (L. Mori, 2011).

Diabetes is becoming a pandemic disease resulting in an increased need for physical activity. Despite the great advancements that have been made in the treatment of diabetes in recent years, diabetes is one of the major causes of morbidity and mortality. DM is a life-long challenge that requires regular physical activity for better glycemic control. Glucose control is almost entirely in the hands of the patient who lives with this condition. The patient's motivation to eat, take medication, test glucose levels and maintain a healthy body weights all plays a

significant role in the management of DM with related to participation on regular physical activity (Endalew *et al.*, 2012).

The situation in the developing world particularly in Africa is even worse caused by late diagnosis and poor access to diabetic care. In managing diabetic mellitus (DM) participate in proper physical activity is an essential cornerstone in achieving successful health outcomes (Endalew *et al.*, 2012).

We have recognized that the need to assess the participation of diabetic person on regular physical activity in Gondar university hospital. This very strong matter arouses curiosity and concern on us in line with the responsibility that have to perform a research.

#### Statement of the problem

Being active on a regular physical activity is a good plan for almost everyone, but it's especially good if you're living with diabetes. Make being active a regular part of your diabetes management. As part of an overall diabetes management plan, regular physical activity can manage your diabetes and improve general health status.

Physical activity is important to your health and blood sugar control. In this study, we discover that even a small increase in physical activity may help to make a big difference in your diabetes care. Many patients with diabetes is not understand that adding or increasing physical activity is beneficial to avoid progression of the disease and its complication. The participation of physical activity to provide possible suggestions to improve the participation diabetic person in regular physical activity.

The researcher intended to study about the following points.

1) What are the factors that affect diabetic person in participation on physical activity?

2) What is the solution to increase participation of patients toward physical activity?

#### General objective

The general objective of this study is to assess the participation of diabetic patient toward physical activity in Gondar university hospital.

#### Specific objective

To meet the above general objective of the study the following specific objectives would be attained:

- To identify the major problems of diabetic person affect to participate in physical activity.
- To find the way to improve diabetic person participation on regular physical activity.
- To provide the possible solution of the problem on forward the possible recommendation.
- To indicate the level of participation in physical activity.

#### Research questions

1. What is the participation level of diabetic patient toward physical activity in Gondar university hospital?

2. What are the major problems of diabetic person affect to participate in physical activity?

3. What are the possible ways to improve diabetic person participation on regular physical activity?

#### Significance of study

The major significance and contribution of this research are stated as follows:

- To reduce the problem of non-participant patient with diabetes in physical activity.
- To give some additional information for health team of Gondar university hospital.
- To make available an exercise expert for diabetic patient in Gondar university hospital.

#### Delimitation of the study.

The study focus on assessing the participation of diabetic patient on regular physical activity was geographically delimited on Amhara regional state, Gondar city specifically in Gondar university hospital, even if the concept of diabetes and exercise is very complex, The conceptual scope of study has focused on assessing the participation and most influential factor affecting the participation. There are number of diabetic patients in the hospital but the researchers were able to assess only the patients who come in a week twice that is Tuesday and Friday afternoon. Because trying to study all the currently follow up diabetic patient is requires huge amount of budget and long duration of time.

#### Research methodology

##### Research design

In the overall research process the researchers have employed a descriptive type of research method. Descriptive research method is concerned on studying specific predictions, with narration of facts and characteristics concerning individual, group or situation, as a result it is one of the most favorable types of research method. As a result, assessing the participation of diabetic person on regular physical activity in university of Gondar hospital can be addressed very well. The reason behind selecting this research design is because it takes into account all the steps concerning a phenomenon to be studied. The study results are based on the participation on regular physical activity received from respondents.

##### Description of the study area

The area of the study was conducted at Gondar university hospital, around college of medical & health science campus of Gondar University, 2 km of northwest direction from Gondar University Teowdrose campus.

##### Population of the study

As per Gondar university hospital data 200

participants are available providing the first week of the month follow up day among these patients the researcher was conducted only the attended patients in that follow up day (133) that is Tuesday and Friday afternoon.

#### Sample and sampling procedures

The target population of this research was the attended patients in that follow up day. In order to obtained the desired result purposive sampling method has been applied.

#### Data collection instruments

##### Questionnaires

The questionnaires were composed of both open-ended and closed-ended questions. It was design to collect necessary information from the respondents. This was prepared and distributed for the 133 diabetic patients. The questionnaire was administered in face to face situation to reduce bias. The questionnaires is contain the Amharic version because of some participant in the study can't read & write in English on English version, so to get sufficient information we used only the Amharic version.

##### Interview

The interview was conducted with the different diabetic patients. In the interview process diabetic patients were asked to share their opinions regarding the participation on regular physical activity and the clear instruction provided by university of Gondar hospital workers and to forward their suggestion or recommendations for the participation on regular physical activity in future.

#### Data collection procedure

After getting the permission to collect data from university of Gondar hospital the researchers had collected the questionnaire in two procedures. First by personally asking patients of diabetes to fill out the questionnaires with their willingness, Secondly even if the questionnaire contains only the Amharic version some diabetic patients can't read the questionnaires and the researcher helped fill the questionnaires and collect immediately after fill out. In addition to questionnaire researcher conducted interview to satisfy our research problem answer. We takes information that support study by asking participants different questions.

#### Methods of data analysis

After the data collected through questionnaires and interview the data are organized based on their nature, closed ended questions are organized and analyzed in to table which involves percentage and numbers followed by suggestions. The data collected through open ended questions and interview are analyzed instatement form.

#### Data analysis and interpretation

Data analysis is "the process of bringing order, structure and meaning to the mass of collected data"

(de Vos, 2002:339, as cited in Christine Mbungwana). This chapter discusses the results of the data analysis within the diabetic patients of university of Gondar hospital. The findings are from the analysis of questionnaires are presented in tables, frequencies and percentages in accordance with the objectives to be achieved. These findings were obtained from primary sources.

#### 4.1 General back ground of diabetic patients response to questionnaire

No.	Item	Patient frequency	Percentage	
1	sex	Male	71	53.3
		Female	62	46.6
		<b>Total</b>	<b>133</b>	<b>100%</b>
2	Age	Below 15	5	3.8
		16-25	35	26.3
		26-35	43	32.3
		Above 36	50	37.5
		<b>Total</b>	<b>133</b>	<b>100%</b>
3	Residence	Urban	72	54.1
		Rural	61	45.8
		<b>Total</b>	<b>133</b>	<b>100%</b>

From the above table one can understand that 71(53.3%) of diabetes patient were male and 62(46.6%) of the patient were female and the next table shown 5(3.8%)of patient were below 15 are 35(26.3%) of diabetes patient were 16-25,43(32.3%) of patient were 26-35 and the remaining age group were above 36, these patient frequency is shown that the more they old, the more they become having diabetes, 50(37.5%), the last table also shown 72(54.1%) of patient are residence from urban and 61(49%) of patient were residence from rural area, these shows more people is residence from urban area they have easily faced to DM due to different reason like not participating in regular physical activity.

#### 1.1. Discrimination of diabetic patients response to questionnaire

Table 2 show that the participation of diabetic patient on regular physical activity

Item	Response	Patient response	
		No.	%
1. Do you participate in regular physical activity?	Yes	57	42.8
	No	76	57.1
	<b>Total</b>	<b>133</b>	<b>100%</b>

In reference with the table 2 item No 1, (42.8%) of diabetic patients replied that participate in regular physical activity and 76, (57.1%) of the patients responded that they are not participate in regular physical activity (physically inactive). From these respondents point of view most diabetic patient are physically inactive or not participate in physical activity.

Table 3 shows the reason why diabetic patients are not participate in regular physical activity

Item	Response	Patient respondents	
		No.	%
2. What is the reason to physically inactive or not participate in physical activity?	Unwillingness	9	12
	Lack of facilities	15	20
	Lack of time	19	25
	Lack of motivation	16	21
	Other related disease	17	22.3
	<b>Total</b>	<b>76</b>	<b>100%</b>

From the above analysis table 3 (item 2) shows 9 (12%) respondents responded that they are unwillingness to participate, 15 (20%) were indicate lack of interest, 19 (25%) respondents replied there is no enough facilities and equipment also 16 (21%) patients said lack of time for participation, the remaining 17 (22.3%), were other related disease.

As it can be seen the respondent's response researcher conclude that appropriate facilities and equipment are not enough to participate in regular physical activity and also there is a lot of type of other related disease other than diabetes.

Table 4; indicate that diabetic patient participates in what type of physical activity.

Item	Response	Patient respondents	
		No.	%
3. In what type of exercise do you participate?	Ball game	18	31.5
	Fitness exercise	12	21
	Running	10	17.5
	Resistance exercise	9	16
	Others	8	14
	<b>Total</b>	<b>57</b>	<b>100%</b>

From the above table 4 (item3) 18 (31.5%) of respondents are participate in ball game, 12 (21%) are participate in fitness exercise, 10 (17.5%) respondents are participate in running events like walking, jogging etc. and the other 9 (16%) patients are participate in

resistance exercise the rest of 8 (14%) are participate in other type not listed above.

From the above respondents we conclude that participants can easily participate in available places like ball game, running and fitness exercise or aerobic and anaerobic have more participants, the planned regular physical activity participation contains variety of exercise.

Table 5, shows that the duration of diabetic patient participation toward physical activity.

Item	Response	Patient respondents	
		No.	%
2. What is the duration of time engaging in exercise?	30'-40'	24	42.1
	41'-50'	16	28
	51'-1hour	10	17.5
	Above 1hour	7	12.2
	<b>Total</b>	<b>57</b>	<b>100%</b>

By considering the above table 5(item 4), 24 (42.1%) are participate for 30-40 minutes, 16 (28%) respondents participate 41-50 minutes, and 10 (17.5%) are engaged for 51minutes-1hour the rest 7 (12.2%) are participate in physical activity.

Most of target respondents replied that they usually participate 30'-40'.

Table 6 knowledge of diabetic's patient toward physical activity

Item	Response	Patient response	
		No.	%
5. Do you have enough knowledge about the exercise you are doing?	Yes	59	44.3
	No	74	55.6
	<b>Total</b>	<b>133</b>	<b>100%</b>

As indicated above table 6 (item5), 59 (44.3%) have knowledge and the rest 74 (55.6%) were responded as have not enough knowledge.

We can say that based on the above table 8 a lot of diabetic patient have no enough knowledge about physical activity. Some are easily participate in physical activity without having proper knowledge.

Table 7 response of diabetic person for exercise expert

Item	Response	Patient respondent	
		No.	%
6. is there any exercise expert to give guidance	Yes	40	30
	No	93	70
	<b>Total</b>	<b>133</b>	<b>100%</b>

Interference with the above data in table 7 (item6) can conclude that there is 40 (30%) of respondents have exercise expert to give a guidance and the rest respondent 93 (70%) have no exercise expert to give appropriate guidance. Based on the above analysis More than half patients have no an exercise expert to give appropriate guidance toward regular physical activity.

Table 8 show about University of Gondar Hospital clear instruction about exercise for diabetic patients

Item	Response	Patient respondent	
		No.	%
7. Does UOG Hospital workers give instruction about exercise?	Yes	70	52.6
	No	63	47.3
	<b>Total</b>	<b>133</b>	<b>100%</b>

Interference with in table 8 (item7) 70 (52.6%) replayed that the hospital workers gives some exercise instruction, 63 (47.3%) of the respondents not give clear instruction.

From this the result implies that university of Gondar hospital diabetic care health team were give some instruction because there is small difference between the two respondents and the problem is not give clear instruction and follow up because they have no enough knowledge about physical activity.

Analyzing open ended questionnaire

14. According to the information taken from respondents response there were many challenges that faced the participation on regular physical activity.

- Absence of motivation.
- Lack of time especially rural residence area because they perform different agricultural activity.
- Aging (become old).
- Increase occurrence of hypoglycemia(lower blood glucose).
- Other related disease.

15. Respondents suggestion for diabetic patient participation on regular physical activity is given as follow.

- Diabetic patients must participate in regular physical activity.
- Increase awareness of diabetic patient toward physical activity.
- Encourage by fulfilling proper equipment and exercise expert.

Basic research interview of diabetic patients' response.

### 1. Do you participate in regular physical activity?

For the above question most of diabetic patient responded that they are not actively participate even if there residence is urban only some are participate by walking with in short distance, some rural area residence says that they don't participate in regular physical activity, simply focus in their daily task of agricultural activity.

### 2. Do you have any plan to improving the participation on regular physical activity?

By considering the above question most of diabetic patient said yes but there plan and technique faced lack of action, some are says that UOG hospital workers try to plan to participate in simple exercise like walking and some rural area residence said that we helped by some teachers that teach in that area by plan to improve the participation toward physical activity.

### 3. What are the main factors that affect the participation on regular physical activity?

- Lack of enough equipment and facilities.
- Lack of knowledge about how to plan and participate in physical activity.
- Diabetes (DM) and its related disease.
- Lack of action in a planned physical activity.
- Aging or become older and lack of energy to engage in exercise.
- Injury during participation.
- Feet and other internal problem.

Generally they prefer physical activity than medication or cooperate position for amazing change in general health.

Summary

The study presents the main point of explains the summary of the finding. The main purpose of the study was to assessing the participation of diabetic person on regular physical activity. It mainly focuses on the assessment on physical activity participation with in persons who have diabetes. The descriptive method was employed to analysis the data. Researchers used purposively total of 133 attended patients as a sample size. In order to collect adequate and reliable data the questionnaire and observation were used to this study. The collected data were interpreted with quantitative method of data analysis.

✓ Majority of the respondents agreed that regular physical activity have greater contribution but they are not participating in regular physical activity.

✓ The respondent also decided that university of Gondar hospital health team try to give instruction

about exercise but an exercise expert is needed because we have no enough knowledge.

✓ The respondents also decided that in order to prevent other related disease, improve their life style and health status concerned body must be motivates and facilitates equipment and area.

✓ Finally most of the respondents confirmed that there are different challenges that faced to participate in regular physical activity.

### Conclusions

The main concern of this study was to assess the participation of diabetic person on regular physical activity. Based on the major finding the study was drawn the following conclusion.

✓ There is no qualified exercise expert to guide the person who has diabetes regularly.

✓ A lot of participants have no enough knowledge about the exercise they are doing or plan to participate.

✓ A lot of diabetic person are not participate in regular physical activity to improve health status.

✓ The participation in regular physical activity faced challenges and the concerned body must be eradicate/protect the challenge as much as possible.

✓ Age 26 and above were easily faced DM.

✓ Most diabetic patient are residence from urban area.

✓ Appropriate facilities and equipment are not available for the participation of diabetic person.

✓ Major diabetic patient is not participate in a planned regular physical activity.

✓ UOG hospital workers in diabetic case is not give clear instruction about participation on regular physical activity.

### Recommendations

Based on the conclusion were drawn from the study result, the researcher addressed the following measures are recommended in response to the participation of diabetic person on regular physical activity.

➤ University of Gondar hospital should give very closer attention in the participation of diabetic person on regular physical activity.

➤ Most DM patients have pleasure to participate in regular physical activity; a special focus on the challenges should be given by university of Gondar hospital in developing strategies to improve their participation toward physical activity and decrease the challenge that faced the participation on regular physical activity.

➤ University of Gondar hospital should develop a strong system to know the participation level and

disease management of diabetic person on regular physical activity.

➤ Urban residence diabetic patient must participate in physical activity because they some are spent their time without any work unlike to rural.

➤ This is declaration for all diabetic patients “regular physical activity is a corner stone for diabetic management so a person with diabetes must participate in regular physical activity.

➤ Both diabetic patient and university of Gondar hospital workers in diabetic case must update the knowledge about physical activity.

➤ UOG hospital workers in diabetic case must give clear recommendation without fear and follow up the participation toward regular physical activity.

➤ As the research findings show most of the diabetic patients are not participate in regular physical activity; for these reason a lot of research should be conducted to understand physical activity participation of diabetic person.

➤ Government health organization should give special attention in crucial component of DM management that is participating in physical activity.

Finally even though there may be different other suggestion recommended by individual, but these are our recommendations to university of Gondar hospital diabetic care as well as to those who were concerned bodies.

### Bibliography

- American Diabetes Association, (2003). physical activity/exercise & diabetes mellitus, diabetic care, vol26, pp(73-77).
- Boule et al 2001. Principles of Exercise and Its Role in the *Caspersen C. (1985) Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research.*
- Chu J. Hamilton “Clinical management of the physically active patient with type 1 diabetes Phys Sports med.
- Deanna L, (2011). From: <http://spectrum.diabetesjournal.org>.
- DeWalt T “Goal (2009) setting in diabetes self-management”: taking the baby steps to success Patient Educ Couns.
- Donahue. K (2006) identifying supports and barriers to physical activity in patients at risk for diabetes.
- Hakan Demirci (1996)“Physical Activity and Health” the report second edition.
- Morrato. E (2007) Physical Activity in U.S Adults with Diabetes and At Risk for Developing Diabetes.
- Rabasa L (2001) “guide line for insulin reduction

for exercise of different intensities and duration in type 1 diabetes.

- Richard H, (2003). exercise and diabetes. third edition.
- Shaw J. (2010) Global estimates of the prevalence of diabetes.
- Stahl T (2001) important of social environment

for physically active life style: international study.

- Surgeon G, (1996). Physical Activity and Health. second edition.
- Thomas N (2004 ) barriers to physical activity in patients with diabetes.

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