

## Association between Type II Diabetic Patient's Compliance with Self-Care, Self-Efficacy and Blood Glucose Control in Port-Said City

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### Abstract:

**Background:** Diabetes raises the risk of complications such as blindness, kidney problems, and nerve impairment, amputation of finger or lower limbs and cardiovascular sickness. Compliance is frequently utilized and is the managed measurements of the recommended dosages over a period of time. Also, Self-adequacy is imperative in advancing self-care practices for diabetic patients. Exhaustive diabetic instruction can help with surveying a patients' information, level of learning, and recognize obstructions to social insurance get to. It additionally offers understanding to the illness procedure and psychosocial needs of the patient. **Aim:** The present study was carried to investigate the association between type II Diabetic patient's compliance of self-care, self-efficacy and blood glucose control in Port-Said City. **Subject and Methods:** A cross sectional descriptive research design was carried out on convenience sampling of 142 diabetic patients from the governmental hospitals and Health Care centers in port - Said city were included in this study during six months from the starting of data collection using three tools as follows; patient's socio-demographic characteristics, compliance questionnaire, self-efficacy for type II diabetic patients scale, and blood glucose control sheet. **Results:** there are a statistically significant association between diabetic patient's total self-efficacy, compliance with their total self-efficacy ( $P=0.00$ ) whereas no statistically significant association were found between diabetic patient's total blood glucose control with their total self-efficacy. **Conclusion & recommendations:** The present study concluded that the implementation of an educational program for diabetic patient's type II on their self-care, self-efficacy and its application benefits showed a remarkable increase and improvement of the glycemic control level. Also, increase diabetic patient's awareness of self-management and blood glucose monitoring. In addition to, patient education reduce incidence rate of diabetes complications especially in high-risk patients.

**Key Words:** Association, Type II diabetes, Compliance, self-efficacy, blood glucose control

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### I. Introduction

Diabetes mellitus is an endless metabolic confusion in which a man has high blood glucose, either the body does not deliver enough insulin or the cells don't react to the insulin that is created. Insulin, or, in other words delivered by  $\beta$ -cells of the pancreas, encourages glucose take-up from the circulation system into the body cells (i.e., muscles) for the most part for vitality (Al-Ibrahim, 2012).

Concurring to the World Wellbeing Organization ventures that around the world more than 180 million individuals suffering from diabetes, and gauges this number will twofold after twelve years but the reason isn't well caught on. Length of home within the U.S., be that as it may, was found to contribute to the high predominance of TII among migrants was common. As the populace of CIs with T2DM proceed to rise, it is critical that wellbeing care suppliers caring for this populace create ideal methodologies to direct T2DM self-management (Zeng et al, 2014).

Final 20 a long time. On the off chance that this current circumstance proceeds, diabetic ' populace reached 350 million in 2030. It implies 7 million individuals includes yearly. Up to presently, diverse wild components have been observed in self-caring of this illness for overseeing and anticipating from its early and late side impacts. This inquire about is conducted to consider the part of self-efficacy as a determinant operator in self-caring of diabetic people ( Mohebi et al, 2013).

Inevitably, diabetes raises the hazard of health- problems counting visual impairment, urinary system harm, nerve harm, removal of lower appendages and cardiovascular malady. In spite of the fact that diabetes does not cured, infection overseen by non-pharmacological and pharmacological methodologies.

Enhancements in glycemic control are vital components postponing the onset and movement of diabetes-related problems and difficulties (Minet, 2010).

Components of compliance are to be specific, acknowledgment of pharmaceutical endorsed, following to it and proceeding with it. In this way compliance may be an energetic health-enhancing behavior includes arrangement keeping, getting and taking medicines, continuing with wellbeing supplier, compliance with treatment at the person level makes strides the quality of life by anticipating complications and subsequently untimely passing. Prompt family anticipates the negative mental affect related passing or living with a family part enduring from a constant weakening infection such as a stroke. It too moderates family assets that would have been utilized to get wellbeing, compliance with sedate treatment may be taken a toll sparing degree since it diminishes the frequency of complications and the require for extra solutions (Awad et al, 2015)

Compliance may be a term that's frequently utilized synonymously with adherence and is more often than not measured as the managed measurements as a extent of the endorsed measurements over a period of time. Whereas it contrasts somewhat from adherence in that it does not require the patient's assent to the proposals, the phrasing utilized within the show report is reliable with the cited reference (García-Pérez et al, 2013).

In spite of the ubiquity of self-efficacy hypothesis and its control, a few creators contended with it so self-efficacy is typically operationalized certainty that patient can do the target behavior by himself. Self-efficacy evaluations are a reflection instead of determinant inspiration to implement health-related practices ((Bandura, 2006; Williams & Rhodes, 2014).

Additionally, Self-efficacy is imperative in advancing self-care behaviors for diabetic patients. Exhaustive diabetic instruction can help in evaluating a patients' information, level of learning, and recognize boundaries to healthcare get to. It moreover gives knowledge into the disease handle and psychosocial needs of the persistent. In expansion, a diabetic teacher can assist or direct the persistent in setting sensible and achievable brief and long-term objectives which permit the quiet and their bolster framework to ended up more effectively included in the decision-making handle. (Rasheed, 2013).

The majority of patients with type 2 diabetes fail to control glycemia with diet and exercise and require pharmacotherapy in general, initially mono-therapy with oral hypoglycemic agents (OHA); however, owing to the progressive nature of the disease, most of patients ultimately require combination oral medicine and ultimately injectable treatments as mono-therapy or part of poly-therapy. Glycemic control in type 2 diabetes is crucial needed for preventing long-term micro- and macro-vascular damages and complications (García-Pérez et al, 2013).

Determined from **Albert Bandura's (1977)** portrayal of the human cognitive self-regulation framework, self-efficacy convictions is the foremost central inescapable impact on individuals selections and decision, their objectives, the action apply to a specific task, the persevere of favor within the confront of disappointment and trouble, the amount of push they encounter and the degree to which they are helpless for suffering. A central thought postured of social cognitive hypothesis victory encounters raise self-efficacy then rehashed disappointments inferior self-efficacy. Besides, upgraded self-efficacy, auxiliary rehashed victories frequently generalize to unused circumstances (Iroegbu, 2015).

Hence, joining and incorporating rigorous lifestyle interventions leads to favorable positive changes in biochemical parameters including FPG, %HbA1c, and lipid profile, this in turn helps in prevention of diabetes complications incidence (Al-Ibrahim, 2012)

### **The significance of the study:**

In spite of the fact that all restorative administrations are unreservedly accessible to Egyptian by the government, a persistent with sort 2 Diabetes remains a genuine clinical and open wellbeing issue. Whereas the infection is progressively getting to be recognized in Port said city. In this way, the significance of glycemic control is regularly didn't accomplish. Different variables related with glycemic control as lack of data accessible to patients approximately the significance of compliance to glycemic control and self-care behaviors, cardiac administration, take after up arrangements remains an obstacle to self-efficacy and compliance for diabetes patients

**Aim:** to investigate type II Diabetic patient's compliance with self-care, self-efficacy, and blood glucose control in Port-Said City through:

-Assess type II Diabetic patient's self-efficacy level

Assess type II Diabetic patient's compliance level of self-care

-Find out the association between type II Diabetic patient's compliance with self-care, self-efficacy, and their blood glucose control

Research Questions:

-Are there an association between type II Diabetic patient's compliance with self-care and their blood glucose control?

-Are there an association between cardiac type II Diabetic patient's self-efficacy and their blood glucose control?

## II. Conceptual Framework

Self-efficacy refers to a person's self-beliefs about ability to perform specific tasks. It is a reliable predictor of both motivation, and task performance that impacts personal purpose setting. Agreeing with Bandura's report of the human cognitive self-regulation system, self-efficacy beliefs are the most central and pervasive influence on the choices people made, their objectives, the amount of effort they utilize to a particular task, duration they continue on a task, the amount of stress they experience, and the degree of depression (Iroegbu, 2015).

Cited In (HAMI, 2012)

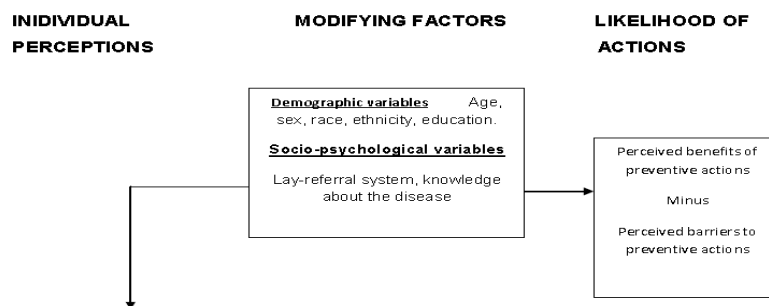


Figure 1.1: Conceptual framework of the Health Belief Model (HBM)

Source: Glanz, Rimer and Lewis 2002:52

Cited In (HAMI, 2012)

## III. Methods

A cross-sectional descriptive research design was used to conduct this study, convenience sampling of 142 type II Diabetic patients selected from outpatient Diabetic clinics in ( Portsaid general hospital, Port-Fouad ) and Health center Diabetic clinics (Kuwait, Omar Ben ElKhatab, Othman Ben Afan ) at Port – Said city were included in this study with the following criteria:

Both sex patients in the age group above 40 years.

Type II Diabetic patient's for more than 5 years

Patients agree to participate in this study

Exclusion criteria:

Patients with short or long-term complications of Diabetes Mellitus

Patients with a foot ulcer, cellulitis, neuropathy, stroke, Paralysis

### Tool of data collection:

Three tools were used for conducted this study. It was adapted from (Mashburn, 2012 & Gesare, 2010) after modified them to simple Arabic language for the diabetic patients to suit their level of understanding. Data were collected through using four tools which as follows:

The tool I: Patient compliance of care sheet.

### Part I: Patient's socio-demographic characteristics

It includes patient's socio-demographic characteristics, as age, level of education, occupation, duration of diabetes, residence, income, past medical history and any disease resulting from diabetes as stroke, hypertension, renal disease, etc...., family history.

### Part II :

It includes 7 items based on **Teleb & El-Shazly, 2003** to assess patients complains about their dietary, prescribed therapeutic regimen, exercise regimen, blood pressure monitoring, eye examination, smoking cessation and laboratory tests for glycemic status.

**Tool II: The Self Efficacy Scale.**

It adopted by Mashburn, 2012 contains 8 items on a 10 point Likert scale regarding participant's perceived self-confidence based on ability to manage type 2 diabetes by diet and exercise self-care. Specific items asked if the participant was confident they could follow their diet when sharing meals with people who did not have diabetes, exercise 15 to 30 minutes 4 times weekly, and if they knew what to do with hypo and hyperglycemia. The score for each item was the number circled. If two consecutive numbers were circled, the lower number (less self-efficacy) was coded. If the numbers were not consecutive, the item was not scored. The total score was the mean of the six items. If more than two items were missing, the scale was not scored. Higher numbers indicated higher self-efficacy.

**Tool III: Glycemic Control Measurement sheet.**

It used 5 questions adapted from (Gesare, 2010) after simple modifications to be suitable for patient's understanding regarding the time of glucose test, types of test and its valued.

Methods of data collection:

This study was covered in four phases:-

1- validity of tool:- 5 experts reviewed the content validity of the tool from podiatrists medicine and medical-surgical nursing professor in the field after translation of the tool from English to the Arabic language.

2- Reliability:

Was carried out through using Cronbach alpha test = 0.092

3- Ethical considerations:

Approval was taken from hospital & health center directors before starting the research and data were collected after explaining the aim of the study to all patients who participated in the study.

4- Pilot study: - it was carried out on 10% of sample then necessary modification was done they excluded from the sample of research work.

5- Fieldwork : data were collected from outpatient Diabetic clinics in ( Port said general hospital , Port-Fouad ) and Health center Diabetic clinics ( Kuwait , Omar Ben ElKhatib , Othman Ben Afan ) at Port – Said city at six months from October 2017 until March 2017 for three days weekly mainly Sunday , Tuesday and Thursday in the morning , each week according to time available to the researchers and schedule clinic days . Each patient takes time approximately between 20-30 minutes to fill a questionnaire.

**Statistical analysis:**

Statistical analysis had done by SPSS 19 computer software statistical package. Data was described by summary tables, Chi-2 was used to test the association between two qualitative variables and Monte Carlo for Chi-square test, Chi-square test was used to compare between two or more proportion. Statistical significance was considered at P-value <0.05

**IV. Results**

Table (1): shows that there are (7.94± 7.69) mean of the sample have a duration of disease in the age group between 21- 60, more than half (65.5%) worked, (48.6%) had an Elementary or preparatory level of education. While (61.3%) of them were married and (50.7%) live With their sons, finally, (58.5%) of them stated that nurses are responsible for their care.

Table (2): revealed that (47.9%) perform the analysis of blood sugar once per month while (66.2 %) of them make check and follow-up appointment for diabetes when the sensation of change or pain

Table (3): revealed that there are (59.2%) of diabetic patients had a highly efficacy regarding their feeling of what the others can depend on me while (85.2%, 81%, 81%) of them had aloe resilience regarding care of them self and can use available resources responsibly and do not anger of Allah, can change their plans and objectives to suit the future life respectively.

Table (4): Shows that (60.6 %) of diabetic patient's compliance with their medications, (50.0%) of the compliance with their foot care while (82.4%) of the noncompliance with exercises, and (69.0%) of the noncompliance with nutrition

Table (5): Shows that (33.1 %) of diabetic patients had a highly self-efficacy in go to physician when needed, (56.3%) of them had a moderate self-efficacy in eating food prescribed for their diseases either outside the house or inside the house while (56.3%) of them had a low self-efficacy towards practice exercise 15-20 minutes 4-5 times per week

Table (6): discloses a statistically significant association between diabetic patient's total self-efficacy, and compliance with their total self-care (P=0.000) whereas no statistically significant association were found concerning diabetic patient's total blood glucose control with their total self- efficacy.

**Table (1): Socio-demographic characteristics of diabetic patients**

Items	Frequency	Percentage
<b>Age:</b>		
Mean ± Std. Deviation	52.13± 14.29	
Minimum – maximum	21- 60	
<b>Duration of cardiac disease:</b>		
Mean ± Std. Deviation	7.94± 7.69	
Minimum – maximum	5 -20	
<b>Working:</b>		
Working	93	65.5
Not working	49	34.5
<b>Education:</b>		
Secondary education or inclusive	44	31.0
Elementary or preparatory	69	48.6
illiteracy	22	15.5
university	7	4.9
<b>Stay with:</b>		
Wife	73	51.4
Sons	72	50.7
Relative	12	8.5
Elderly home	17	12.0
<b>Marital status:</b>		
Single	20	14.1
Married	87	61.3
Divorced	5	3.5
Widow	30	21.1
<b>Responsible person of follow up:</b>		
nurse	83	58.5
doctors	59	41.5
<b>Total</b>	<b>142</b>	<b>100.0</b>

**Table (2): distribution of diabetic cardiac patient's follow-up appointment**

Items	Frequency	Percentage
<b>Analysis of sugar per month</b>		
once	68	47.9
twice	23	16.2
three	25	17.6
more than three	26	18.3
<b>Follow up for diabetes and cardiac disease</b>		
once per week	22	15.5
once per month	26	18.3
when sensation of change or pain	94	66.2
<b>Total</b>	<b>142</b>	<b>100.0</b>

**Table (3): Distribution of diabetic patient's levels for their self efficacy**

Items	High self-efficacy		Low self-efficacy	
	No	%	No	%
1. I care of myself	21	14.8	121	85.2
2. I call help when I feel that I need to care of myself	33	23.2	109	76.8
3. I feel that the others can depend on me	84	59.2	58	40.8
4. I can help others when they need	39	27.5	103	72.5
5. My behavior is respected by others	73	51.4	69	48.6
6. I can use available resources responsibly and do not anger Allah	27	19.0	115	81.0
7. I think my behavior and morals excite my family	37	26.1	105	73.9
8. I came to all parties that I have been invited to it	79	55.6	63	44.4
9. I always put a plan for my future	81	57.0	61	43.0
10. I look after in the future plan of my abilities and disease	76	53.5	66	46.5
11. In my decisions, I consider the anticipated risks	76	53.5	66	46.5
12. I made my decisions without pressure from others	80	56.3	62	43.7
13. I ask for help if I need it to achieve my goals	56	39.4	86	60.6
14. If I cannot achieve my goal, I look for another goal to achieve	40	28.2	102	71.8
15. I can change my plans and objectives to suit my future life	27	19.0	115	81.0
16. I use all successful methods with others to achieve my goals	35	24.6	107	75.4
17. I'm proud of my country's heritage	49	34.5	93	65.5
18. I have skills and intelligence	64	45.1	78	54.9
19. I seek advice from others in achieving my goals	57	40.1	85	59.9
20. Learn how to take care of my observation for others to take care of themselves	41	28.9	101	71.1
21. I can teach and take care of myself by teaching others and caring for me	61	43.0	81	57.0
22. My intelligence and my skills the focus of attention from others, such as my family and friends	52	36.6	90	63.4
Total	25	100.0	117	100.0

**Table (4): Distribution of diabetic patient's compliance with their nutrition,exercises,medications, blood glucose test and foot care**

Items	Non compliance		Compliance	
	No	%	No	%
Nutrition	98	69.0	44	31.0
Exercise	117	82.4	25	17.6
Medications	56	39.4	86	60.6
Blood glucose test	76	53.5	66	46.5
Foot care	71	50.0	71	50.0
Total	79	100.0	63	100.0

**Table (5): Distribution of diabetic patient's levels for their self-efficacy**

Items	Low S.Efficacy		Moderate S.Efficacy		High S.Efficacy	
	No	%	No	%	No	%
Do you take 3-5 meals a day	54	38.0	71	50.0	17	12.0
Eat your food prescribed for you either outside the house or inside the house	38	26.8	80	56.3	24	16.9
eat appropriate food	30	21.1	75	52.8	37	26.1
practice exercise 15-20 minutes 4-5 times per week	80	56.3	47	33.1	15	10.6
take all precautions during exercise to prevent hypoglycemia	65	45.8	54	38.0	23	16.2
go to physician when needed	27	19.0	68	47.9	47	33.1
I can to control diabetes to life normal	38	26.8	73	51.4	31	21.8

**Table (6): Association of diabetic patient's total self-efficacy , compliance and blood glucose control with their total self-reliance**

Items	Total self-efficacy				X <sup>2</sup>	p-value
	High		Low			
	No	%	No	%		
<b>Total self-efficacy</b>						
Low	13	52.0	9	7.7	31.01	.000
Moderate	10	40.0	95	81.2		
High	2	8.0	13	11.1		
<b>Total self-compliance</b>						
Incompliant	14	56.0	65	55.6	McNemar	.000
Compliant	11	44.0	52	44.4		
<b>Fasting blood glucose:</b>						
Controlled	8	32.0	13	11.1	7.13	.008
Uncontrolled	17	68.0	104	88.9		
<b>Random blood glucose:</b>						
Controlled	7	28.0	7	6.0	11.23	.001
Uncontrolled	18	72.0	110	94.0		
<b>Total</b>	25	100.0	117	100.0		

### V. Discussion

Diabetes has gotten to be a curiously region of think about within the therapeutic field over the long time. The intrigued is primarily ascribed to the expanding number of individuals' permanent suffering from complications and problem. Topics of management of patients with diabetes have too occupied a middle organize particularly among professional of nursing. Therefore, Self-care may be a multi-dimensional concept and has distinctive definitions By Orem's (1995) contends self-care may be an individual act of required care to keep up possess self-health , ailment and avoidance of disease-related complications ( Ibrahim,2011).

With respect to socio-demographic characteristics, the display consider uncovered that there's (7.94± 7.69 ) cruel of the test have a length of cardiac malady within the age bunch between 21- 60, more than half of them worked, close half of them had the Basic or preliminary level of instruction. Whereas more than half of them were hitched and half of them live with their children, at long last, more than half of them expressed that medical attendants are mindful for their care.

With respect to blood glucose control, the current ponder uncovered that underneath than half of the diabetic cardiac understanding perform the investigation of blood sugar once per month whereas more than half of them make check and follow-up arrangement for diabetes and cardiac illness when the sensation of alter or torment. These finding bolstered with Al-Ibrahim, 2012 who specified that in Kuwait diabetes requires a comprehensive approach counting proceeding therapeutic care, understanding instruction arranged to anticipate short-term and long-term complications. In expansion to, an individual with hyper or hypo glycemic would have blood glucose levels as near to a Non-diabetic individual. Be that as it may, this may not continuously be the case of individuals with diabetes.

Concerning diabetic patients self-efficacy, the display think about uncovered that more than half of diabetic patients had a tall adequacy with respect to their feeling of what the others can depend on me whereas the foremost of them had aloe strength with respect to care of them self and can utilize available resources capably and don't outrage of Allah, can change their plans and targets to suit end of the life separately. This finding handle with Garcí'a-Pe´rez et al, 2013 who specified that numerous potential factors for non-adherence to medicine. The reasons for pharmaceutical adherence are multifactorial and troublesome to distinguish; they incorporate age, recognition, and length of illness, poly-therapy, mental factors, security, tolerability, and fetched. A few of these variables cannot be modified, in spite of the fact that others are agreeable to alteration.

As respect patients compliance , the current consider uncovered that more than half of diabetic cardiac patients compliance with their drugs, half of the compliance with their foot care whereas most of the non-compliance with works out, and half of them noncompliance with nourishment, these discoveries go within the same line with Gunggu et al , 2016 who expressed that the indicators of Malaysian diabetic patients are conviction in treatment viability, family back, and self-efficacy, wellbeing care staff should persuade patients with T2DM of the adequacy of the treatment. They too ought to enable the patients to enhance their self-efficacy and enroll the bolster from their family to guarantee that patients might maintain their self-management endeavors. In any case, Mashburn, 2012 suggested that self-monitoring of blood glucose (SMBG) is frequently prescribed four times day by day; some time recently suppers and at sleep time. This type of monitoring has

replaced urine testing for glucose. Diabetes management is incomplete and less than ideal without attention to each of these facets of self-care. While, Awad et al, 2015 reported that compliance was not significantly related to the age, this may be due his sample included only elderly age patient.

Concerning self-viability, the current think about uncovered that more than one quarter of diabetic patients had a profoundly self-efficacy in go to doctor when required, more than half of them had a direct self-adequacy in Eat nourishment endorsed for their illnesses either exterior the house or interior the house whereas more than half of them had a moo self-adequacy towards hone work out 15-20 minutes 4-5 times per week in expansion to, there's a measurably critical affiliation were found between diabetic patient's add up to self-efficacy, compliance with their total self-reliance whereas there's no measurably critical affiliation were found between diabetic patient's add up to blood glucose control with their total self-reliance. These discoveries go within the same way with Svartholm and Nylander, 2010 who specified that the customary follow-ups and measuring of HbA1c ought to be done each 3-6 month. Too, it is additionally critical to form beyond any doubt the persistent knows how the hardware work. Urine or blood tests can be used for self-monitoring of glucose levels.

In Pakistan, Zuberi et al, 2011 specified that grown-up patients with Sort 2 Diabetes who have sadness were more likely to have destitute glycemic control and lower compliance to self-care exercises, and they might require specific consideration amid follow-up visits. Whereas In Malaysia, 80% of the patients had not taken after slim down suggestions, 54% were physically inert and as it were 4% tried their blood glucose routinely. Also, patients appeared superior adherence to affront treatment compared to verbal hypoglycemic operators. Be that as it may, the adherence level was still at fair 46%. In this manner, this consider bolsters the idea that destitute glycaemia control in sort 2 diabetes patients in Malaysia is due to destitute adherence to self-care exercises (Saidi, 2015). In Philippine, Patients have extraordinary mindfulness in count calories administration and direct mindfulness in work out and medicate administration. In terms of compliance, patients are compliant to a few degree as it were, whereas medicate administration has the most noteworthy level of compliance, taken after by work out and count calories. There's a moo relationship between the level of mindfulness and compliance in diabetes administration ( $r = .32$   $p = 0.15$ ), showing that the direct level of mindfulness of patients to DM administration isn't related to their compliance. (Urgel et al, 2014).

Be that as it may, Flat, 2015 and Al Sayah et al, 2013 detailed that wellbeing education by implication influences self-management hones through social back which is an critical help to self-management. A lower level of wellbeing proficiency is related with the failure to keep in mind informational with respect to pharmaceutical and destitute glycemic control. Be that as it may, the creators found a need of coinciding between healthcare experts and patients approximately the importance of inveterate heart disappointment.

On the other hand, individuals with moo self-efficacy may accept that things are harder than they truly are, a conviction that cultivates push, discouragement and a contract vision of how best to illuminate a issue. As a result of these impacts, self-efficacy convictions are solid determinants and indicators of the level of achievement that person at long last accomplish. For these reasons, Bandura (1997) had made solid claim that convictions of individual viability constitute the variables of human organization whereas, self-efficacy in common alludes to one's certainty in executing courses of activity in overseeing a wide cluster of circumstances. Work self-efficacy evaluates workers' certainty in overseeing work put encounters. The hypothetical supporting is that people with higher work self-efficacy are more likely to see forward to and to be fruitful in work put execution (Iroegbu, 2015).

On the other hand, individuals with moo self-efficacy may accept that things are harder than they truly are, a conviction that cultivates stretch, discouragement and a contract vision of how best to illuminate an issue. As a result of these impacts, self-efficacy convictions are solid determinants and indicators of the level of achievement that person at long last accomplish. For these reasons, Bandura (1997) had made a solid claim that convictions of individual efficacy constitute the variables of the human organization whereas self-efficacy, in common, alludes to one's certainty in executing courses of activity in overseeing a wide cluster of circumstances. Work self-efficacy surveys workers' certainty in overseeing work environment encounters. The hypothetical supporting is that people with higher work self-efficacy are more likely to see forward to and to be effective in working environment execution (Iroegbu, 2015).

Nevertheless, it was understood that, apart from adhering to the self-care regimen, patients with type 2 diabetes need to be able to detect and manage problems, understand the dynamic relationship between their lifestyle and the progression of the disease and handle complex situations that may occur in relation to the illness (Saidi, 2015)

At last, Cameron, 2016 required on that there's a self-evident got to raise mindfulness of the crevices that exist in terms of such approaches as well as the holes in information and understanding of people with diabetes and those caring for and supporting them. In more particular terms, it is basic to create and assess individual approaches to patients in connection to their self-monitoring and related self-management within the



setting of their claim lives, which includes the appraisal of engagement and understanding around self-monitoring.

## VI. Conclusion

The present study concluded that the implementation of an educational program for diabetic patient's type II on their self-care, self-efficacy and its application benefits showed a remarkable increase and improvement of the glycemic control level.

## VII. Recommendations

From the foregoing discussion, we can suggest some recommendations for Diabetic patients, podiatrists, hospital directors, and further research studies as follows:

- Increase diabetic patient's awareness of self-management and blood glucose monitoring. Patient education reduce incidence rate of diabetes complications especially in high-risk patients.
- Offer standard guidelines in both labeled wall chart and online access to be easily reachable for diabetic patients.
- Encourage Podiatrist nurses and medicine doctors to cooperate together in assess and detect early signs and symptoms of diabetic hazards
- Give diabetic patients instructions of how to self-caring and follow –up regarding blood glucose control
- Hospital and health centers administrators to support the outpatient's clinics with facilities and equipment's required to internal medicine for prevention of diabetic hazards.
- Continuous educational program for health care providers should by introduce to demonstrate blood glucose test and how to use its equipment.
- Every diabetic patient should be directed to have-regular follow-up appointment
- Urgent need for further research and more studies that evaluate the impact of conducting educational programs included the aggravated factors of short and long term diabetes complications

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