



ORIGINAL RESEARCH PAPER

Psychology

STUDY TO EVALUATE THE SIGNIFICANCE AND IMPACT OF COUNSELING ON DIABETES MANAGEMENT IN PATIENTS OF DIABETES WITH DEPRESSION

KEY WORDS:

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ABSTRACT

Background: Depression with Diabetes Mellitus are very commonly encountered clinical conditions. Managing diabetes alongside depression poses unique challenges, as the interplay between physical and mental health significantly impacts on overall well-being. This study aims to evaluate the significance and impact of counseling as part of diabetes management for the individual dealing with both the conditions. **Method:** The test was conducted on the 50 diabetic patients diagnosed with depression. Patient Health questionnaire (PHQ-9) was given to the patients to record their scores. The sample was divided into controlled and experimental group where the experimental group were given four counseling sessions followed with diabetes education. No education and counseling given to the controlled group. Analyzing pre and post- test, **Results** obtained through t-test, demonstrate a statistically significant improvement ($p < 0.05$) in both mental health indicators and glycemic control. The integrated intervention not only led to the reduction in depression symptoms but also showed positive effects on the treatment adherence and overall quality of life. This suggests a promising avenue for comprehensive care, emphasizing the interconnected nature of mental and physical health in the management of diabetes with comorbid depression.

INTRODUCTION:

Depression and diabetes mellitus are two commonly encountered clinical conditions in primary care¹. People with Type 2 diabetes are commonly diagnosed and largely managed in the primary care setting, with fewer of them being referred for specialist care². Co-morbid depression worsens glycemic control, and is associated with more severe and rapid development of complications, but is often undiagnosed and untreated^{3,4,5,6}. Depression is commonly identified in association with several chronic medical illnesses, and is most strongly associated with diabetes mellitus⁷. The association between depression and diabetes is bi- directional meaning that diabetes may lead to the development of depression or vice versa^{8,9}. Diabetes had shown one of the most psychologically and behaviorally demanding medical illnesses¹⁰. Feelings of vulnerability are also known to increase with longer diabetes duration and the appearance of complications^{11,12}. There is an increased risk of depressed people developing diabetes^{13,14,15,16}, with most but not all of the risk being attributed to lifestyle factors¹³. Depressed patients are more likely leads to a sedentary lifestyle^{17,18}, have a poor diet¹⁸ and also smoke^{17,18}, all of which are known risk factors for the development of type 2 diabetes. People with comorbid diabetes with depression also have significantly worse quality of life compare to the people with depression alone or diabetes or non-depressive, non-diabetic individuals^{19,20,21}.

In addition, people with diabetes and co-morbid depression reports significant greater numbers of sick days, have longer of hospital stays and more frequent hospital admissions compared to people with diabetes alone. Although more researches are needed to understand the link between depression and diabetes

- The rigors of managing diabetes can be stressful and lead to symptoms of depression.
- Diabetes can cause complications and health problems that may worsen symptoms of depression.
- Depression can lead to poor lifestyle decisions i.e. unhealthy eating, less or no exercise, smoking or consumption of alcohol and obesity, these are the risk factors of diabetes.
- Depression can affect your ability to perform tasks, communicate and think. This can interfere in your ability to successfully managing your diabetes.

Good metabolic control is essential for maintaining and preventing long term complications such as nephropathy, retinopathy neuropathy and cardiovascular diseases and hypertension etc. Glycosylated hemoglobin HbA1c is the primary target of glycemic control. Hb1Ac below 6.5% is recommended, for diabetic patients are important to maintain in 7.0%.

Depression is not just low mood but a serious illness. People with depression find hard to do normal activities and function from day to day. Depression has serious impact on physical and mental health.

OBJECTIVES:

1. To evaluate the effectiveness of counseling interventions in reducing depression levels among diabetes patients.
2. To investigate the impact of counseling on glycemic control measures, including changes in HbA1c levels.
3. To evaluate the impact on patients of diabetes with depression after receiving counseling and integrated diabetes care.

MATERIAL AND METHODOLOGIES:

This is a pre-post experimental study conducted on the out-patient of Vishudh Diabetic Clinic in Lucknow, Uttar Pradesh. This study was carried on 50 participants in October 2022 to the Mid of November 2022. Fifty patients were randomly selected for the experiment with the inclusion criteria that the patients must have Type II Diabetes Mellitus, diagnosed with at least 2 years, with the age limit of 40 to 60 years, and can be of either gender, the patient must also be diagnosed with moderate or severe depression, and the patient must be willing to give the consent for the study. A structured interview questionnaire was designed to collect the social demographic information such as age, gender, marital status, level of education, occupation, history of consumption of any drug, smoking, or intake of alcohol. Information was also obtained on the duration of diabetes, current pharmacological medications, and the treatment of depression. The participants were also asked to report all the medications that they use on daily basis. Self- administered paper and pencil test were available that can be completed in few minutes. A brief description was given to the patients about the tests. Patient health questionnaire (PHQ-9) that

comprises of 9 questions, with values ranging from 0-3 that correlate with the patient's response to each statement. If there is at least 4 ticks in the shaded section (including Question 1 and 2) consider a depressive disorder. The scores are added to define the severity. Description given to the patients so that we get to know how much the patient is aware of their problems, their quality of life they are leading with these two illnesses.

All the 50 participants filled the questionnaire i.e Patient health questionnaire (PHQ-9). Then these 50 participants were divided into two groups randomly. 25 participants were in controlled group and 25 were in counseling (experimental) group. Those in experimental group the interference mode of group counseling were established through expert consultation, 4 sessions of counseling were given to the experimental group (5 days of interval), and diabetes education sessions that covered all the aspects of diabetes including the definition, manifestation, investigation, complications, treatment, and life style modification regarding diet, smoking, exercise, follow-up, foot care, and stress management was also provided to the patients simultaneously. After all, 4 sessions the same test was conducted to both the groups to see the impact of counseling and diabetes education on the patients' attitude, quality of life and awareness for the illnesses and the treatment of experimental group as compared to the controlled group.

RESULTS AND OBSERVATIONS:

Table 1: Distribution of subjects in both the groups (controlled and experimental group) according to their socio demographical details.

Socio demographic data	Control group		Experimental group		x2	P-value
	n	%	n	%		
Age					0.146	0.99
40<=4	9 (36)		10 (40)			
45<=50	8 (32)		8 (32)			
50<=55	6 (24)		5 (20)			
55<=60	2 (8)		2 (8)			
Gender	15 (60)		13 (52)		0.325	0.57
Male	10 (40)		12 (48)			
Female						
Marital					0.587	0.90
Single	4 (16)		3 (12)			
Married	17 (68)		19 (76)			
Divorce	2 (8)		2 (8)			
Widow	2 (8)		1 (4)			
Education					0.533	0.91
Illiterate	2 (8)		3 (12)			
Primary	2 (8)		3 (12)			
Secondary	5 (20)		5 (20)			
Bachelor	16 (64)		14 (56)			
Occupation					0.355	0.55
Employed	24 (98)		23 (92)			
Unemployed	1 (2)		2 (8)			

Table 2: Comparison between the control group and experimental group regarding their smoking history, disease duration and treatment.

Variables	Control group		Experimental group		X2	P-Value
	n	%	n	%		
Smoking	15		12		0.807	0.67
Non Smoker	8		11			
Negative smoker	2		2			
Duration of illness					0.872	0.65
3-5	13		15			
5-10	10		7			
> 10	2		3			

Table 3: Counseling and intervention Impact on Hb1Ac of the patients.

Tests	Mean	SD	SED	df	p-value	t-value
Pre-test	8.53	0.910	0.252	48	0.067	1.87
Post-test	9.004	0.87				

Table 3.1 Pre and Post-test of Controlled Group patients

Tests	Mean	SD	SED	df	p-value	t-value
Pre-test	8.971	1.390	0.352	47	0.0018	3.30
Post-test	7.808	1.057				

Table 3.2: Pre and Post -test of Experimental Group Patients

Table 4: Counseling and intervention Impact on depression

Tests	Mean	SD	SED	df	p	t-value
Pre-test	19.52	3.64	0.978	48	0.35	0.94
Post -test	18.60	3.27				

Table 4.1: Pre and Post -test of Controlled Group Patients

Tests	Mean	SD	SED	df	p	t-value
Pre-test	18.68	3.12	0.84	48	0.0001	6.61
Post-test	13.16	2.78				

Table 4.2: Pre and Post- test on Experimental Group Patients

DISCUSSION:

There is statistically significance difference between pre and post test scores of the Patient Health Questionnaire-9 (PHQ-9) and in Glycated Hemoglobin (HbA1c) in experimental group. Whereas, In Controlled group there is no significant difference in pre and post-test. The analysis of pre and post test scores using t-test revealed a statistically significant difference (p<0.05) in the PHQ-9 and HbA1c test scores. In table 3.1 p-value is 0.067 which shows that there is no significant difference in the scores of pre-test and post-test of controlled group and on the other hand in table 3.2 the p-value is 0.0018 which shows the significant difference in pre-test scores and port -test score where the subjects are provided with 4 sessions of counseling and diabetes education .This indicates a noteworthy changes levels of depression symptoms from the baseline assessment to the follow-up evaluation, after providing four counseling sessions suggesting the effectiveness of the intervention or treatments in improving mental health outcomes as compared to the patients who were not given any treatment or any counseling sessions. On the other hand, the statistical analysis, utilizing t-test demonstrated a significance difference (p<0.05) in HbA1C levels between the pre-test and post-test assessment. This finding underscores a notable improvement in glycemic control following the intervention and treatment, emphasizing its efficacy in positively influencing long-term blood glucose management.

CONCLUSION:

1. The significance of counseling and diabetes management:

A diagnosis of diabetes is a life- changing event, and a diagnosis of diabetes with depression is more threatening and even more difficult to manage. It is a time when families can often struggle to adapt to the “new type of normal” they must face. Psychological counseling during this time can be great benefit to all those involved. In past decades clinicians have increasingly recognized the importance of psychological support for people with diabetes and their families, and many have recommended integrating psychological counseling into routine diabetes and mental care. It is therefore important to consider whether psychological interventions in diabetes with depression are effective in improving clinical outcomes. Diabetic educator must educate how to manage their diabetes. In fact, the diabetic educator works collaboratively with their patients to develop the best treatment plan, educate on nutrition and medication as well as promote positive lifestyle choices. They

work with patients and their families to teach diabetes self-management and help patients gain control of the disease on the other hand the diabetic patient with depression has a feeling of worthlessness, hopelessness, suicidal tendency, the feeling that they are good for nothing, or maybe they feel like they are burden on others, or they might never lead to the normal life in such cases the counselor help the patients to set the goals of their life, facilitate the patients and help them to understand the motive of their life. Counseling helps the patients to acknowledge and share the emotional challenges raised by diabetes. They can create space in which the patients are able to discuss how they feel about themselves and their diabetes. It is widely acknowledged that a person's emotions, beliefs, and self-esteem have an impact upon the ways that he/she thinks and behaves. Therefore, Counseling and diabetes management play a significant role in the overall well-being of patients with diabetes and depression. Here are some key points to consider regarding their significance and impact

a. Emotional Support:

Counseling provides a safe space for patients to express their emotions, fears, and concerns related to both diabetes and depression. It helps them develop coping strategies, manage stress, and improve their emotional well-being. This emotional support is crucial as depression can worsen diabetes management and vice versa.

b. Improved Diabetes Management:

Counseling can help patients understand the link between diabetes and depression, and how one condition can affect the other. By addressing the emotional aspects of diabetes, counseling can motivate patients to adhere to their diabetes management plan, including medication, diet, exercise, and regular monitoring. This can lead to better blood sugar control and overall health outcomes.

c. Enhanced Mental Health:

Diabetes management alone may not be sufficient to address the mental health challenges faced by patients with diabetes and depression. Counseling can provide effective strategies to manage depressive symptoms, such as cognitive-behavioral therapy (CBT) techniques, stress reduction techniques, and problem-solving skills. By improving mental health, counseling can contribute to a better quality of life for these patients.

d. Reduced Healthcare Costs:

Effective counseling and diabetes management can potentially reduce healthcare costs associated with diabetes and depression. By improving self-care behaviors and adherence to treatment plans, patients may experience fewer diabetes-related complications, hospitalizations, and emergency room visits. This can lead to cost savings for both patients and healthcare systems.

e. Holistic Approach:

Counseling and diabetes management together provide a holistic approach to patient care. By addressing both physical and mental health aspects, healthcare professionals can better understand the unique challenges faced by patients with diabetes and depression. This integrated approach can lead to more personalized and effective treatment plans. In conclusion, counseling and diabetes management have significant significance and impact on patients with diabetes and depression. They provide emotional support, improve diabetes management, enhance mental health, reduce healthcare costs, and promote a holistic approach to patient care. It is important for healthcare providers to recognize the importance of addressing both conditions simultaneously to improve patient outcomes.

The counselor can employ motivational interviewing as a technique for identifying and setting realistic goals,

maximizing the patient's experience of success as each goal is accomplished. Individual are supported and encourage to anticipate potential problems and to identify potential stressors. We know that change can create stress, so anticipating change and discussing potential areas of difficulty and their solutions can reduce the impact of a stressful event. Counseling also offers the opportunity to share techniques in stress reduction such as progressive relaxation and positive visualization. By using some of the methods of cognitive behavioral therapy (CBT) counselors facilitate, examine and modify negative thoughts and beliefs, thus improving self-esteem. At the same time, other psychosocial issues outside diabetes which may affect a person ability to cope may be identified and managed. Results indicate that the cognitive behavior therapy (CBT) is effective in the treatment of depression in diabetic patients, both in reducing depressive symptoms and HbA1c.

Other than this, other group therapy is also very helpful in engaging the patients and helps them to know how other person with the same issues facing it and managing them to make their life smoothen. All the people in the group share their experience and motivate the other to do the same. In this therapy a rapport and understanding between the patients are very important so that they can easily open up with their experiences.

2. Impact of Counseling and Diabetes Management

The Impact of counseling and diabetes management on diabetic patients with depression can be multifaceted.

Positive effects may include:

a. Improved Mental Health:

Counseling can address the psychological aspects of depression, providing coping strategies and emotional support, leading to reduce symptoms and improved overall mental well-being.

b. Enhanced Treatment

Adherence: Integrated counseling with diabetes management may contribute to better adherence to treatment plan, including medication adherence and lifestyle modifications, as patients gain a deeper understanding of the interconnectedness between mental and physical health.

c. Glycemic Control:

Effective diabetes management, coupled with counseling, might contribute to better glycemic control. Addressing mental health can positively impact lifestyle choices, stress management, and self-care behaviors, all of which are crucial for diabetes control.

d. Quality of life improvement:

The combined approach can contribute to an improved quality of life by addressing not only the physical aspects of diabetes but also the emotional and social aspects related to loving with a chronic condition and managing depression.

e. Prevention of complications:

By managing both diabetes and depression, the integrated approach may potentially lower risk of complications associated with poorly controlled diabetes, as improved mental health may positively influence overall health outcomes.

LIMITATIONS:

1. Generalizability:

Findings may be specific to the studied population, limiting the generalizability of the results to diverse demographics or varying healthcare settings.

2. Sample size:

The study's sample size could impact the robustness of the results. Small sample sizes may limit the ability to detect

nuanced effects or make broad conclusion.

3. Selection Bias:

potential biases in participant selection may influence results.

4. Self-Reported Data:

Reliance on self-reported data, especially for psychological states and lifestyle behaviors, introduce the possibility of recall bias or social desirability bias.

5. Intervention Specifics:

Variability in counseling methods or diabetes management strategies could affect the study's outcome. Lack of standardization may make it challenging to attribute improvements to specific components of the interventions.

6. Measuring Tools:

The reliability and validity of measurement tools, especially for mental health and diabetes management, might influence the accuracy of the collected data.

7. Ethical considerations:

Ethical constraints, such as participants discomfort during counseling sessions or potential unintended psychological distress, should be acknowledged,

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