

The Role of the Trans-theoretical Model for Change in Enhancing Glucose level Controlling Behaviour for Clients with Diabetes Mellitus

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ABSTRACT

Background: Diabetes mellitus (DM) is a chronic progressive metabolic disorder characterized by hyperglycemia mainly due to absolute (Type 1 DM) or relative (Type 2 DM) deficiency of insulin hormone. Diabetes Mellitus is a complex chronic disease, requiring continuous medical care with multi factorial risk reduction strategies beyond glycemic control.

Objective: The present study aims to determine the role of the Trans-theoretical Model in enhancing glucose level -controlling behavior for clients with DM.

Patients and methods: Simple random sample of 60 diabetic clients who are attending Primary Healthcare Centers at Al-Karkh District of Baghdad were included in the present study. The participants were divided into experimental group (N=30) and control group (N=30), matched for age and gender.

Results: The mean of age of participants was 55.7-year-old, and the majority was males. First degree relatives with Type 2 DM were within positive bio-social aspect. Laboratory screening had a direct impact on the incidence of Type 2 DM. There was highly significant comparative difference between the pretest and posttest I of the experimental group relative to glucose level controlling behavior. Also, there is highly significant comparative difference between the posttest I and posttest II of the experimental group relative to glucose level controlling behavior. In addition, there was highly significant difference between pretest, posttest I and posttest II of the experimental group relative to glucose level controlling behavior.

Conclusion: Trans-theoretical Model for Change is effective in enhancing glucose level controlling behavior for clients with DM.

Keywords: Trans-theoretical Model for Change, Glucose Level, Controlling Behavior, Diabetes Mellitus, University of Baghdad.

INTRODUCTION

People who have diabetes who practice the seven fundamental aspects of self-care are more likely to have positive outcomes. These include having a nutritious diet, being physically active, keeping a close eye on blood sugar levels, taking prescribed medications as directed, having strong problem-solving skills, having healthy coping skills, and engaging in risk-reducing behaviors ⁽¹⁾.

The ailment known as diabetes mellitus is one that can ultimately be fatal. There is a worrying indication and a major threat to global health posed by the rapid rise in the prevalence of diabetes mellitus around the world, which will continue to be the case unless effective interventions are developed through increased community awareness and knowledge of the many facets of DM ⁽²⁾.

It has been observed that each of these seven habits has a favorable correlation with good glucose control, a reduction in complications, and an improvement in quality of life ⁽³⁾.

The research tools consisted of two primary sections: the first portion connected to sociodemographic characteristics, and the second part linked to diabetic foot self-efficacy. Both parts were administered to participants ⁽⁴⁾.

In order to effectively manage diabetes, both the patient and the health care professional need to be motivated. It might be difficult to get patients to adhere to the recommendations for diabetes control. It is possible that the trans-theoretical paradigm will prove useful in the process of successfully managing diabetes. It is possible that health care clinicians who are knowledgeable about the process of behavior change, and stage-specific interventions will be in a better position to assist good and long-lasting changes in behavior ⁽⁵⁾.

METHODOLOGY

Experimental design, using experimental-control groups approach, is carried throughout the present study for the period of November 25th 2021 to November 20th 2023.

Simple random sample of 60 diabetic clients who are attending Primary Healthcare Centers at Al-Karkh District of Baghdad were included in the present study. The participants were divided into experimental group (N=30) and control group (N=30), matched for age and gender.

Ethical approval:

The study was approved by the Ethics Board of University of Baghdad.

Statistical Analysis

The collected data were introduced and statistically analyzed by utilizing the Statistical Package for Social Sciences (SPSS) version 20 for windows.

Qualitative data were defined as numbers and percentages. Quantitative data were tested for normality by Kolmogorov-Smirnov test. Normal distribution of variables was described as mean and standard deviation (SD), and independent sample t-test and ANOVA test

were used for comparison between groups. P value ≤ 0.05 was considered to be statistically significant.

RESULTS

The mean of age of participants was 55.7 year old, and the majority was males. First degree relatives with Type 2 DM were within positive bio-social aspect. Laboratory screening had a direct impact on the incidence of Type 2 DM.

Table 1 shows that there was highly significant comparative difference between the pretest and posttest I of the experimental group relative to glucose level controlling behavior.

Table (1): Comparative difference between Pretest and Posttest I of the Experimental Group.

Group	Size	Mean	Standard Deviation	T-test	Degree of Freedom	Level of Significance
Pretest	30	20.367	3.557	-14.846	29	0.001
Posttest I	30	34.267	2.876			

Table 2 reveals that there was highly significant comparative difference between the posttest I and posttest II of the experimental group relative to glucose level controlling behavior.

Table (2): Comparative Difference between the Posttest I and Posttest II of the Experimental Group.

Group	Size	Mean	Standard Deviation	T-test	Degree of Freedom	Level of Significance
Posttest I	30	34.267	2.876	-4.087	29	0.001
Posttest II	30	33.433	2.861			

Table 3 shows that there was highly significant difference between pretest, posttest I and posttest II of the experimental group relative to glucose level controlling behavior.

Table (3): Comparative difference between Pretest, Posttest I and Posttest II of the Experimental Group.

Groups	Sum of Squares	Degree of Freedom	Mean Square	F-Statistics	Level of Significance
Between Groups	3646.422	2	1823.211	187.893	0.001
Within Groups	844.200	87	9.703		
Total	4490.622	89			

DISCUSSION

Throughout the course of data analysis, the study has revealed that the Trans-theoretical Model for Change is confirmed to be an effective mean in enhancing diabetic clients' glucose level controlling behavior through its implementation on the experimental group. Such enhancement is determined throughout the comparative significant differences between the pretest, posttest I and posttest II episodes of the experimental group by whom the model is executed (**Table 1**).

It has been suggested in the research that the trans-theoretical model could be useful in the process of gaining success in diabetes treatment. Clients with diabetes who are knowledgeable of the behavior change process and treatments that are tailored to various stages may be in a better position to assist positive and long-lasting behavior changes (6).

In the context of a descriptive study that uses the trans-theoretical paradigm to analyze the important elements that promote behavior change in diabetic participants, the study in question. According to the findings, routine diabetes care was a crucial component in behavior modification, which connected indirectly with glucose level managing behavior values through compliance (7).

CONCLUSION

Trans-theoretical model is effective mean in enhancing the glucose level controlling behavior for diabetic clients.

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