The Impact of Mindfulness-Based Stress Reduction in Emotional and Glycemic Regulation of Type-2 Diabetes Mellitus Outpatients

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Outline

• Introduction & aim of the work
• Mindfulness theory
• Materials & methods
• Results
• Discussion
• Conclusions
• Future work
Introduction

• Diabetes is a chronic metabolic multifaceted health problem, which is a common cause of death and disability in whole the world.

• Although medical treatments and patient’s adherence reduce the symptoms, patients quality of life, wellbeing and social communications get influenced by diabetes and its side effects.

• Nowadays, most of people suffer stress mentally rather than physically. though the response of the body is the same to both kinds of stress, mentally exposed one results in the emotional distress and anxiety, which leads to glycemic disregulation.

• Mindfulness-Based Stress Reduction (MBSR) program is a technique, developed by Jon Kabat-Zinn in 1979.
Mindfulness Theory

The concept of “mindfulness theory” provides insight into how thoughts and emotions impact our health, emotional wellbeing and quality of life.

In mindfulness practices the patients are taught various meditation techniques and provides resources for use at home.

- Raisin exercise, body scan
- Mindful breathing, sitting meditation,
- Mindful/ Hatha Yoga, walking meditation,
- Reading books and poems, awareness training
Aim of The Work

The aim of the current study is to determine how the MBSR therapy can actually help Iranian diabetic patients improve their physical and mental conditions.

- Anxiety
- Depression
- Glycemic regulation
- General health satisfaction method
Materials & Methods

**Inclusion Criteria**

- All recruited outpatients from endocrine clinic, suffering from diabetes type-2
- Primary hemoglobin A1c higher than 7

**Exclusion Criteria**

- Suffering other chronic diseases
- Patients with history of admission (e.g. neurologic and psychiatric disorders)
- Drug abusers
- More than two session absences
Materials & Methods

Questionnaires:

• Demographic Information Questionnaire
• General Health Questionnaire-28
• Hamilton Depression Rating Scale
• Hamilton Anxiety Rating Scale

Subscales:

✓ Somatic symptoms (items 1–7)
✓ Anxiety/Insomnia (items 8–14)
✓ Social dysfunction (items 15–21)
✓ Severe depression (items 22–28)
Results

The summary of repeated measured variance analysis to examine the effectiveness of mindfulness based stress reduction program on dependent variables:

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<tr>
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Results

Paired model analysis of Pre-, Post and follow up tests on dependent variables in MBSR intervention groups:

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Results
Summary of repeated measured variance analysis to examine the effectiveness of mindfulness based stress reduction program on dependent variables:
Discussion

The results of a systematic review conducted in 2014 by Gustafson* in his master thesis indicated the relevancy of 21 articles for review. Among these, two randomized clinical trials and one observational study were included. Overall, these studies did not suggest the presence of any benefit related to glycemic control, with the exception of one piece of research conducted by Rosenzweig, et al.** in 2007, which showed a decrease in HbA1c levels.

*L. Gustafson, "Mindfulness Based Stress Reduction as an Adjunct Treatment to Diabetes, School of Physician Assistant Studies. 500. , 2014.
Discussion

Another review performed by Noordali, et al.*, attempted to assess the benefits of mindfulness-based interventions in patients with either Type 1 or Type 2 diabetes. A total of 11 studies (drawn from 15 articles) met the researchers’ inclusion criteria. In this report, four studies found that mindfulness-based stress interventions alleviated patients’ HbA1c levels, though another three surveys (which employed larger sample sizes, maintained higher levels of quality and enjoyed, less risk of bias) found no such change.

Discussion

In the work of van Son, et al.*, results indicated no significant difference between the study groups (139 outpatients with diabetes (type 1 or type 2) and low levels of emotional well-being were randomized to MBCT or a waiting list group) with regard to changes in HbA1c levels. However, the authors suggested one possible explanation for the lack of any decrease HbA1c levels in their study results; they argued that poor glycemic control had not been a part of their inclusion criteria. Thus, the mean level of HbA1c at the baseline was moderately higher than at the target level.

Conclusions

• MBSR is utilized to help diabetic patients to diminish their emotional distress, mood disturbances, anxiety and stress.

• The presented results in the current research shows that MBSR can actually help the patients, who were in the controlled trial, to significantly improve their physical conditions such as glycemic control and Hemoglobin A1c.

• This program can be used to increases the wellbeing and general health of Iranian diabetic patients, who use it in the controlled conditions, and can be complementary to medical management of disease.
Future Work

• Longer-term follow-up periods and larger sample size populations.

• It is essential to the treatment’s assessment to know whether participants continue to assimilate regular mindfulness methods into their lifestyles following the introduction of the study interventions.

• Self-reported pre- and post-intervention questionnaires require additional attention to prevent any bias in the measurements.

• This program can be used to increases the wellbeing and general health of Iranian diabetic patients, who use it in the controlled conditions, and can be complementary to medical management of disease.
Thank you for your attention