

The Effectiveness of IMB-Model Based Diabetes Self-Management Education with Type 2 Diabetes Patients In Jordan: Clinical Trial Protocol

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Introduction

According to the World Health Organization in 2014, 9% of adults over 18 years old are diagnosed with diabetes and more than 1.5 million deaths occur directly by diabetes in low and middle income countries. Diabetes is predicted to be the 7th leading cause of death by 2030. Ajlouni et al (2008) estimated that approximately one million people in Jordan have been diagnosed with type 2 diabetes; a figure that is increasing. More than half a million of Jordanians have an uncontrolled level of Glycosylated Haemoglobin (HbA1c >7.5%) due to factors such as sedentary lifestyle and poor medication management.

Uncontrolled glucose level in patients with T2DM is one of the leading causes of microvascular and macro vascular complications. To prevent long-term complications, increased efforts and attention need to be directed towards improving glycaemic levels and improving metabolic outcomes through appropriate glycaemic management.

Intensive diabetes management by anti-hyperglycaemic medications alone may improve metabolic outcomes, although lead to side effects for patients such as hypoglycaemia and weight gain. Patients with diabetes are strongly recommend to engage in self-control over their glucose levels and this may be best achieved through educating patients in self-management of diabetes.

Literature Review

Systematic reviews and meta-analysis of randomized controlled trials conducted between 2001 and 2015 stated and recommended the following:

Didactic interventions focused on providing diabetes knowledge showed improvement in metabolic outcomes although benefits last less than six months and are not sustained in the long term. Educational programs should target psychological factors such as patient's confidence, in order to enhance their abilities to change and achieve better outcomes.

Few studies constructed their educational interventions on theoretical models and it is not *which* behavioural theories are the most effective due to limited theory-based interventions. Qualitative systematic review stated that behavioural changes strategies were more effective than didactic programs.

A review of lifestyle change strategies among patients with type 2 diabetes (T2DM) highlighted the importance of integrating behavioural change strategies within educational programs, and the noticeable absence of individualised educational delivery that may result in optimal effectiveness.

Educational programs should be based on behavioural change theories as well as tailored to cultural and socioeconomic factors, religious aspects and literacy level. Finally, barriers in diabetes self-care behaviours were found to be consistent with Information-Motivation-Behavioural skills (IMB) Model of behavioural change.

Purpose

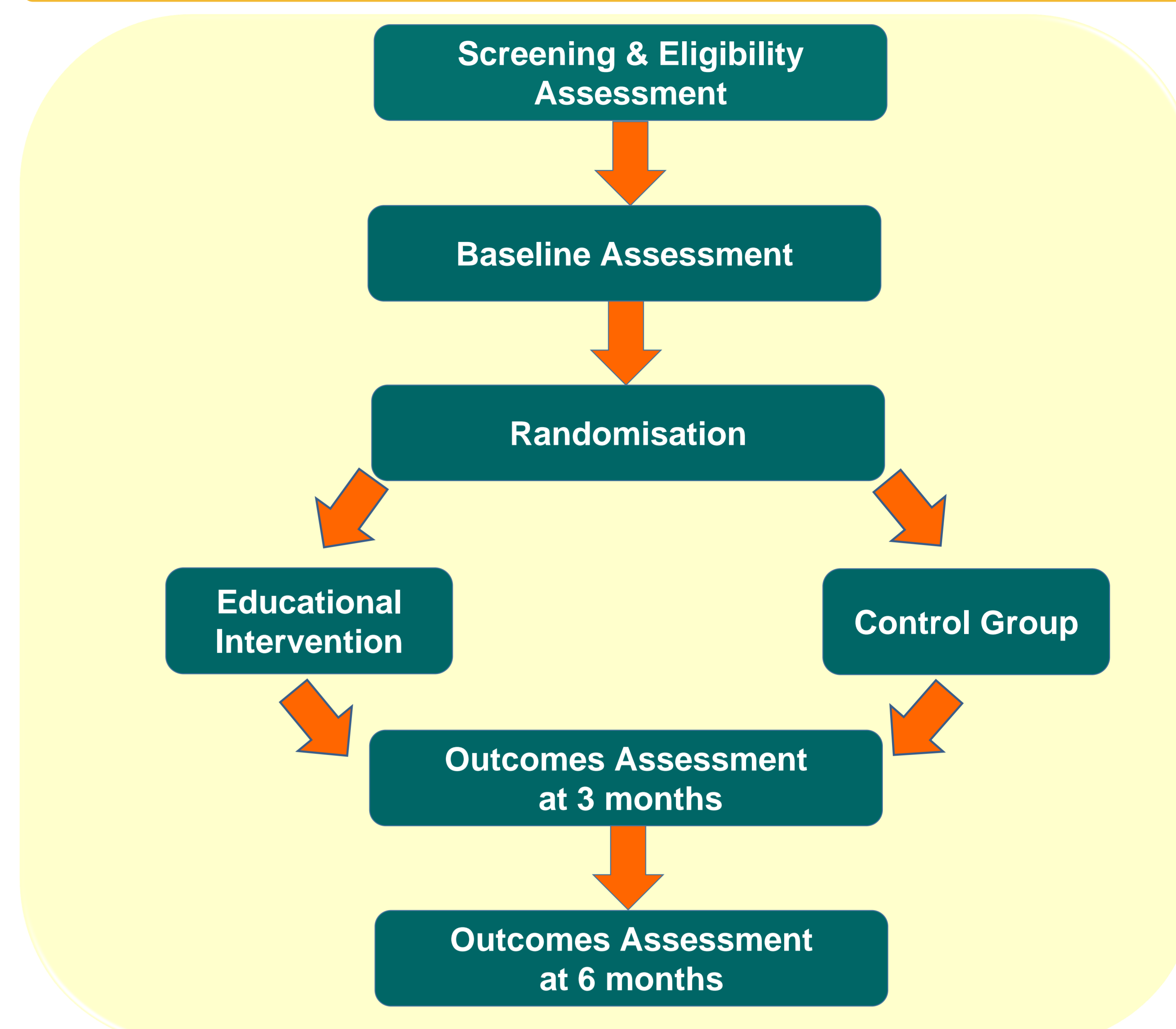
To examine the effects of IMB Model-based diabetes self-management educational intervention on three self-management activities: patients' eating habits, physical activity and medications management, in patients who attend the Jordanian National Centre for Diabetes, Endocrinology and Genetics (NCDEG).

Method

A two group trial with randomised allocation of 230 participants on 1:1 average for both groups. Intervention group will receive the educational and motivational support package. Control group will receive usual clinical care and referral to diabetes educational consultation if required.

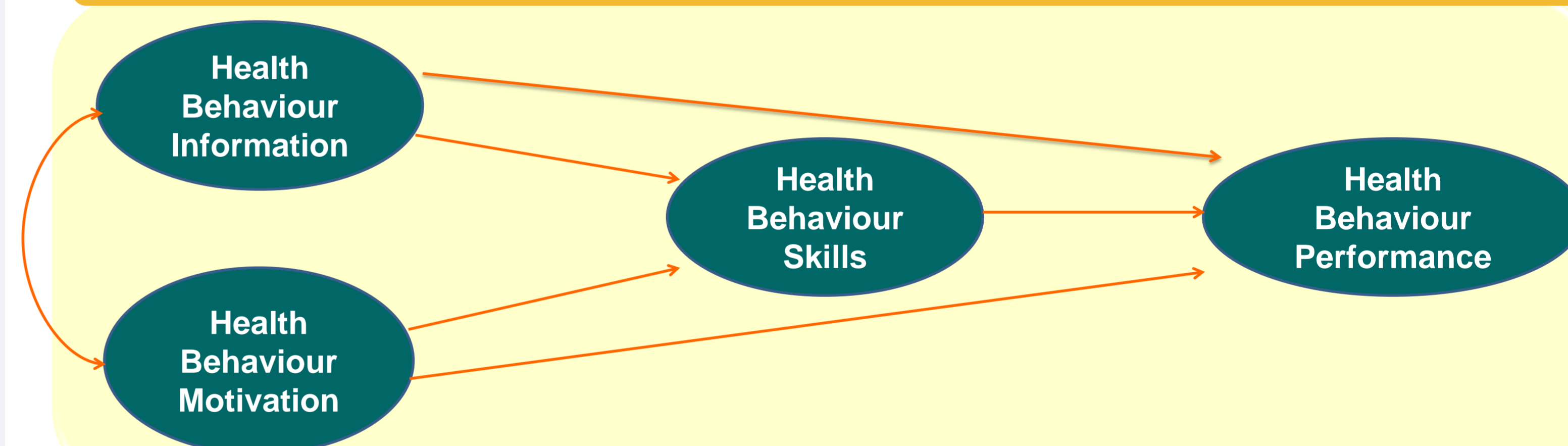
Both groups will be assessed at 2 follow-up times for self-management knowledge, motivation, behavioural skills, HbA1c, blood pressure and weight. Primary outcome is diabetes self-care activities measured by the summary of diabetes self-care activities scale at each clinic visit. Interviews with 15 intervention group participants will be conducted to evaluate the process of diabetes education implementation.

Figure 1. Research Method Flowchart



The intervention will be based on IMB model constructs targeting three self-care behaviours eating habits, physical activity and medications management. Individually tailored informational and motivational package will be delivered starting with face-to-face session in the outpatient clinic and by weekly phone calls for 12 weeks.

Figure 2. The IMB Skills model of health behaviour change



Study Implications

This clinical trial will contribute to knowledge of implementing behavioural change techniques, as well as individually and culturally tailored needs, within self-management educational intervention for patients with T2DM. This trial is designed on three main operations: elicitation, implementation and evaluation. Each element is constructed on IMB model constructs, and will allow assessment of changes in patients' Knowledge, Motivation, Behavioural skills and metabolic outcomes over time. Performance in self-management behaviours will be determined pre-and-post intervention and after follow up at 3 and 6 months.

Conclusion

This randomised controlled trial will examine the effectiveness of IMB model-based educational intervention among patients with type 2 diabetes. We will test whether IMB behavioural change model is suitable for application in an outpatient clinic setting. We will promote self-management through individually tailored advice using positive reinforcement and patient empowerment approaches, aiming to improve patient metabolic outcomes and quality of life.

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