Title: The effect of 8 week physical activity program on metabolic control in type 2 diabetic women in Hamadan based on TransTheoretical Model (TTM)

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Abstract: Introduction: despite of the importance of physical activity in improving the metabolic control in type 2 diabetes, many of patients do not regular physical activity. Lack of physical activity highlight the need of designing and implementing physical activity interventions for diabetic patients based on theories of behavior change. the aim of this study was to investigate the effect of 8 week physical activity program on metabolic control in type 2 diabetic women in Hamadan based on TransTheoretical Model (TTM).

Methods: 50 sedentary physical activity participants that were in pre-action phase of stage of change model randomly divided into control (n=25) and intervention groups (n=25). 8 weeks Physical activity consultations were delivered for intervention group. and control group received routine education. At baseline and 3 month assessed metabolic factors such as HbA1C, TG, Total Cholesterol, HDL and LDL. Also Questionnaires assessed change in physical activity level and TTM constructs about physical activity.

Results: no differences found between groups in metabolic factors and TTM constructs at baseline. after 3 month, interventional group showed significantly decrease in total Cholesterol (17mg/dl) and HbA1C (.66) comparing with control group (P < 0.05). Physical activity level and stage of change was significantly increased in interventional group comparing with control group (P < 0.05). Also interventional group showed significantly increase in cognitive Process, behavioral process of change and self-efficacy (P < 0.05) but increased in decisional balance was not significant (P > 0.05). Significant differences between groups were found in cognitive and behavioral process of change levels (P < 0.05) but no differences showed between groups in self-reevaluation (P > 0.05).

Conclusions: results showed that physical activity program based on TransTheoretical model is effective in increasing stage of change transition to adopt regular physical activity and improve metabolic control in patients with type 2 diabetes. Therefore, designing and implementing physical activity program based on theories of behavior change to increase the metabolic control in type 2 diabetic patients is recommended.

women, type 2 diabetes, metabolic control, physical activity, TransTheoretical Model

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