Abstract: Introduction: despite of the importance of physical activity (PA) in improving metabolic control in type 2 diabetic patients, many of them do not this behavior adequately, which highlights the need to design and implement effective physical activity interventions for this patients based on theories of behavior change. The aim of this study was to investigate the effect of an 8-week physical activity program on metabolic control in type 2 diabetic women in Hamadan based on TransTheoretical Model (TTM).

Methods: In this Experimental study, Fifty women with Type 2 diabetes who were inactive (based on International Physical Activity Questionnaire or IPAQ) and in pre-action stage of change model at baseline completed the TransTheoretical Model questionnaire and measurement of metabolic control factors (HbA1C, TG, Total Cholesterol, HDL and LDL). Participants randomly divided into control (n=25) and intervention groups (n=25). PA consultations were delivered for 8 weeks to intervention groups and control group received routine education. After 3 month participants completed IPAQ, TransTheoretical Model questionnaire and metabolic control factors were evaluated.

Results: no differences were found between groups in metabolic factors and TransTheoretical Model constructs at baseline. After education, interventional group showed significant decrease in total Cholesterol (17mg/dl) and HbA1C (.66) comparing with control group (P < 0.05). PA level and stage of change was significantly increased in interventional group comparing with control group (P < 0.05). Also interventional group showed significant increase in cognitive Process, behavioral process of change and self- efficacy (P < 0.05). Increase 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 found 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 programs based on theories of behavior change to increase the metabolic control in type 2 diabetic patients is recommended.