

Transtheoretical model (ttm) to promote exercise in overweight women



Journal Article

The overweight and obesity epidemic has become one of the major health concerns across the world. According to the data of the World Health Organization (WHO), there were approximately 1.9 billion overweight and approximately 600 million obese adults in the world in 2014.¹ Obesity can lead to major health concerns down the road including type 2 diabetes, hypertension, dyslipidemia, and can affect the length and quality of life. Studies have shown that in Turkey physical activity has not yet become a lifestyle and there is a need for education and motivation to encourage the population to achieve a regular, active exercising habits. The Transtheoretical Model (TTM) is widely used today to improve the process of health behavior change and to achieve the most effective health behavior change.¹ The TTM has been shown to be very effective in promoting exercise. The goal of this study was to assess how TTM based education could facilitate exercise in overweight women. There were two hypotheses in the study, first was that the TTM-based education and follow-up would enable the women in the experimental group to progress in their stages of exercise behavior change. The second hypothesis was that TTM-based education and follow-up would improve the mean process of change, self-efficacy and decisional balance for exercise scores of the women in the experimental group.¹

The study was a pretest-posttest, controlled, semi-experimental study conducted between January of 2011 and January of 2013. The population in the study was made up of women overweight women with a BMI of 25- 29.9

and were between the ages of 20-45. Fifty five women were placed in the control group and another fifty five women were selected for the experimental group. Women were included in the sample group through improbable randomization and individuals were included in the experimental and control groups in sequence, one to each of the groups. ¹ Data collection included a personal information questionnaire consisting of socio-demographic questions. A brief questionnaire for stages of exercise change consisted of five questions to reveal the individuals stage of change, either precontemplation, contemplation, preparation, action or maintenance. The process of change scale for exercise was a five point scale to determine how experiences affect the exercising habits of people. A self-efficacy scale was used to assess the perceived beliefs of individual's exercise efficiency using six questions of a five point scale. To determine the cognitive and motivational factors in making decisions about exercise behavior the decisional balance scale for exercise was used, discussing the pros and cons of exercising. The overall score of the scale is obtained by subtracting the total score of perceived cons from the total score of perceived pros. ¹

Home visits were performed to collect data. The data of the experimental group was collected before the education (pretest), immediately after the conclusion of the education (second test) and 6 months after the education (posttest). The data of the control group was collected at baseline and month 6. ¹ Pedometers were provided to the women to assess their activity based on the daily amount of steps. Height and weight were also important factors measured in the beginning of the study. Those who were in the experimental group attended a ten week education session and six months later had a <https://assignbuster.com/transtheoretical-model-ttm-to-promote-exercise-in-overweight-women/>

follow up visit. The control group did not receive any kind of educational session. The duration, number and contents of the education given to the women in the experimental group were decided on according to their stages of change.¹ Women in the precontemplation stage received at least five educational sessions while women in the maintenance stage only received one or two education sessions. By administering the TTM-specific questionnaires and scales to the women before each education, their stages of exercise change and processes of change were determined.¹ During the six month follow up, participants were phoned three separate times to discuss any questions, motivate them on their action, record their average daily steps, and any weight loss. Educational exercise brochures were given to participants based on their stage of change. An exercise CD was given to any participants in the preparation, action, or maintenance stage. The CD included movements to warm up and cool down, losing weight with the help of objects such as a plastic bottle, chair and pillow at home, becoming fit, weight lifting and movements to improve the strength of the heart and respiration system.¹ The data was statistically analyzed using a t-test, McNemar test, one-way ANOVA and x2 test. The education and exercise brochures given to the women in the experimental group were also given to the women in the control group after the administration of posttests.¹

There was no statistical significance between the experimental and control group based on their socio demographics and their TTM scores were similar between the two groups. At the pretest measurements, 9.1 % of the women were either in the action or maintenance stage. When the post

measurements were taken, the percentage of women in the action or maintenance stage went up to 54.5%. A statistically significant difference was found in the experimental group between pretest and posttest with respect to their stages of change ($p < 0.001$); no such difference was found in the control group ($p > 0.05$).¹ Only twelve women in the experimental group did not progress to a new stage of change. The mean scores of Processes of Change Scale for Exercise and Self-Efficacy Scale were low in the experimental group during pretest but improved with repeating tests. Their mean overall scores of Decisional Balance Scale for Exercise and mean pros of exercise improved as tests were repeated and the mean scores of cons of exercise decreased over time. The mean score of the processes of exercise change of the control group was low at pretest, it increased at posttest and the difference between the measurements was significant ($p < 0.001$).¹ The control groups mean score for self-efficacy of exercise and decisional balance did not change. Women in the experimental group increased their average number of steps per day from their mean pretest steps. Their BMI values also decreased from their pretest value. The mean scores of the experimental group were higher in all scales compared to the control group and the difference between the groups was significant ($p < 0.001$).¹

It has been reported that TTM based education helps enable progression in the stages of exercise change. This study showed that 78.1% of women showed change in the direction of progress after their TTM based education.

This suggests that the TTM based education was effective helping the

women in the experimental group improve their physical activity. This result
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confirms the hypothesis that “ TTM-based education and follow-up enables women to progress in their stages of exercise behavior change.”¹ In the experimental group the women’s self-efficacy scores increased as they progressed from precontemplation to the maintenance stage. Many other domestic and foreign studies confirm that perceived self- efficacy increases as progress is made from the precontemplation stage to the maintenance stage.¹ The education provided and the six month follow up was effective in helping improve self-efficacy scores in the women in the experimental group. From the study it was conclude that all the women in the experimental group were aware of the benefits of exercising, but as they progressed through the stages they became more aware of the cons preventing them from exercising.

The TTM based education and follow up concluded that the women made progress in their stages of exercise change by the end of the study. It also increased the mean process of change, self- efficacy and decisional balance for exercise scores of the women.¹ Both hypotheses were verified from this study. The women in the experimental group also increased their mean daily steps, engagement in physical activity, and decreased their BMI values. From these results we can see how important it is to promote TTM based education to overweight clients, before they reach obesity and follow ups should be performed to help keep them on track and accountable. TTM based education might not only be able to increase clients’ stage of exercise, but could be used to help increase consumption of fruits, vegetables, and whole grains. Studies should be done to try out different eating behaviors to determine if TTM based education can be used to help clients reach a

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healthy diet. From the study, it can be concluded that TTM based education was effective in this study and multiple studies have shown similar results.

References

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