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Effect of Training Metacognitive Skills and Positive Thinking Strategies on Reduction of Negative Body Image in Pregnant Women

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A B S T R A C T

During pregnancy, along with significant changes that may occur in a relatively short time, women experience changes in their body image creating dissatisfaction and concern about their body's form. Body image can be defined as individuals' experience of their body. The prevalence of depression in Iranian pregnant women is between 25% and 46.5%. Due to the prevalence of negative body image in pregnant women and great effects on mother, baby, mother-child relationship and even couple's relationship and also given that psychological factors contribute greatly to this disorder, their prevention and treatment are very necessary. Training metacognitive skills and positive thinking strategies can modify dysfunctional beliefs, and lead to flexibility in the choice of appropriate behavioral and cognitive strategies and prevention of cognitive-attentional syndrome in response to triggers. Therefore, this study aimed to evaluate the effectiveness of training metacognitive skills and positive thinking strategies on reduction of negative body image. The statistical population included 200 pregnant women at health centers in Bushehr from which 80 women were selected randomly and assigned into two groups of experimental and control. The Oxford Happiness Questionnaire and multi-dimensional body-self relationships were used as research tools. In this experimental research, pretest-posttest was used for control group, and after training metacognitive skills and positive thinking strategies, data were analyzed by multivariate covariance analysis and the following results were obtained. There is a significant difference between training metacognitive skills and positive thinking strategies and reduction of negative body image in women in Bushehr ($p < 0.01$); so, training metacognitive skills and positive thinking strategies are effective on the reduction of negative body image.

Keywords: Body Image, Metacognitive Skills, Positive Thinking Strategies, Pregnant Women.

INTRODUCTION

Body image is a way by which individuals understand themselves and is their perception about how they are seen by others. Fundamental changes occur in body shape and weight during pregnancy, and these changes initiate even before the woman ensures about her pregnancy¹. Women who have a positive image of

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their bodies may also maintain the same image during pregnancy, so if a person accepts her pregnancy with joy, physical changes may be even desirable for her^{2,3}.

Training positive thinking strategies to control and change negative or false thoughts can be effective and can turn overwhelming anxiety and fear to hope and positive efforts for improvement so that in this way people can use their energy for wise interactions and positive emotions, not for irrational and wrong thoughts, and take the opportunity to develop their mental growth⁴. These trainings seem to be very useful for individuals to strengthen and improve their positive communication with themselves, positive relationships with others and life (the world) and also increase their self-esteem and help them to better understand themselves and be curious about themselves and the world. Metacognitive skills have great effect on emotional disorders, especially anxiety and depression⁵. Self-regulatory executive function developed by Wells and Matthews is one of the most important patterns for explanation of mental disorders in recent years. In self-regulatory executive function, all mental disorders can be linked to dysfunctional pattern of cognition which is called cognitive-attentional syndrome^{6,7}.

This syndrome is a pattern of strategic processing triggered by cognitive knowledge stored in long-term memory.

Training metacognitive skills can cause increase in flexible control for choosing behavioral cognitive strategies, the growth of new proposals for self-regulatory executive function, increase in disapproval processing focused on dysfunctional beliefs and prevent cognitive-attentional syndrome in response to triggers.

METHODOLOGY

First, pregnant women who attended health centers in Bushehr were selected and randomly assigned into four groups (two experimental groups and two control groups). Pretest was conducted for four groups (by Oxford Happiness Test and multi-dimensional body-self relationships) before implementing training positive thinking strategies and metacognitive skills. Experimental groups, each consisting of 20 pregnant women, were divided into two groups: the experimental group (1) was trained in 10 sessions for positive thinking strategies (twice a week), each session about 60 minutes, the experimental group (2) was trained in 10 sessions for metacognitive skills (twice a week), each session about 60 minutes. At the end of sessions, posttest was conducted for the four groups. A summary of training sessions for positive thinking strategies and metacognitive skills is presented in the following research proposal diagram.

Table 1. Research proposal diagram

Groups	Pretest	Independent variable	Posttest
First test	T ₁	X ₁	T ₂
Second test	T ₁	X ₂	T ₂
First control	T ₁	-	T ₂
Second control	T ₁	-	T ₂

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Training positive thinking strategies was conducted during 10 sessions (two sessions per week) using a book titled “Positive thinking and applied positivism” by Susan Quilliam and a book titled “Negative thinking” by John Roger and Peter McWilliams. A summary of training sessions for positive thinking strategies is presented in the following table.

Table 2. Summary of training sessions for positive thinking strategies

Session	Subject	Content
First	General discussion about optimism and positive thinking, explanation the way of holding sessions (briefing)	Creating mental readiness to reinforce positive and healthy thinking in subjects
Second	Positive thinking meaning	Understanding the concepts of positive thinking
Third	Self-awareness and self-knowledge	Strengthening self-worth feeling and increasing self-respect in subjects
Fourth	Realization of one’s own potential abilities	Recognizing the talents, abilities and inherent emotions and discovering the strengths and weaknesses and improving potential abilities of subjects
Fifth	How do pessimism and negativity affect us?	Subjects will become familiar with the harmful effects of negativity and pessimism
Sixth	The effect of positive and negative self-talks on feeling and behavior in the form of example	Subjects’ familiarity with the effect of negative automatic thoughts to increase positive self-talks about themselves through replacing negative thoughts with positive thoughts
Seventh	Positivism and discovering strengths by group discussion method and providing additional activities for subjects	Facilitating the creation of positive attitude toward self and others
Eighth	Love and friendship	The importance of positivism in interpersonal skills and positive interactions
Ninth	Physical health, social relations and positive thinking	Maintaining health and its effect on subjects’ positivism
Tenth	Summary of discussions and asking subjects’ views on the issues raised	Reviewing past sessions, acknowledging the members and implementing post-test

In this study, descriptive methods were used, including frequency distribution tables, mean and standard deviation and inferential statistical methods were also used, including multivariate covariance, analysis of variance and SPSS software.

RESULTS

The mean values and standard deviation of negative body image and happiness in pretest and posttest in experimental and control groups are presented in the following tables.

Table 3. Mean distribution and standard deviation of negative body image in experimental and control groups

	Pretest		Posttest	
	Mean	Standard deviation	Mean	Standard deviation
Metacognitive experimental group	144.55	8.79	134.95	6.71
Positive thinking experimental group	144.30	9.75	136.00	8.95
Control group 1	144.60	8.60	145.10	8.41
Control group 2	143.85	8.20	143.80	6.11
Total	144.32	8.69	139.96	9.37

The results of table show the mean and standard deviation of negative body image in pregnant women in pretest and posttest in experimental and control groups. The mean of negative body image in the pretest of metacognitive control group was 144.55 with standard deviation 8.79 and in the posttest the mean was 134.95 with standard deviation 6.71. The mean of negative body image in the pretest of positive thinking group was 144.30 with standard deviation 9.75 and in the posttest the mean was 136.00 with standard deviation 8.95. The mean of negative body image in the pretest of control group (1) was 144.60 with standard deviation 8.60 and in the posttest the mean was 145.10 with standard deviation 8.41. The mean of negative body image in the pretest of control group (2) was 143.85 with standard deviation 8.20 and in the posttest the mean was 143.80 with standard deviation 6.11.

Table 4. Comparison between experimental and control groups in terms of negative body image

Group (I)	Group (J)	Means difference	Standard error	Significance level
Metacognitive experimental group	Positive thinking experimental group	0.835	1.608	1.00
Metacognitive experimental group	Control group 1	10.569	1.610	0.001
Metacognitive experimental group	Control group 2	9.746	1.608	0.001
Positive thinking experimental group	Control group 1	9.734	1.635	0.001
Positive thinking experimental group	Control group 2	8.911	1.929	0.001
Control group 1	Control group 2	0.823	1.601	1.00

Comparison between the groups in terms of negative body image show that there is a significant difference between metacognitive experimental group and positive thinking experimental group and control groups (1) and (2) in terms of negative body image at the level of $P < 0.01$. There is a significant difference between positive thinking experimental group and positive thinking experimental

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group and control groups (1) and (2) in terms of negative body image at the level of $P < 0.01$. There is no significant difference in terms of negative body image between control groups (1) and (2).

Table 5. Estimation of the effect size of training metacognitive skills on negative body image

Parameter	B	Standard error	t	Significance level	Confidence level at 95%		Partial η^2
					Lower limit	Upper limit	
Intercept	30.338	8.755	3.465	0.001	12.599	48.076	0.245
Pretest	0.794	0.060	13.154	0.001	0.671	0.916	0.824
Experimental group	-10.110	1.023	-9.881	0.001	-12.183	-8.037	0.725

Parameter estimation shows that the effect size of training metacognitive skills on reduction of negative body image was significant at $P < 0.001$. The effect is between 8.04 and 12.18 reduction unit.

Table 6. Comparison between experimental and control groups in terms of negative body image

Group (I)	Group (J)	Means difference	Standard error	Significance level
Experimental group	Control group	-10.110	1.023	0.001

Comparison between groups show that there is a significant difference between experimental and control groups in terms of reduction in negative body image at $P < 0.001$.

Table 7. Adjusted means of negative body image in experimental and control groups

	Mean	Standard error	Confidence level at 95%	
			Lower limit	Upper limit
Experimental group	134.970	0.724	133.504	136.436
Control group	145.080	0.724	143.614	146.546

Adjusted means show that the mean of negative body image is 134.97 in the experimental group that with confidence level at 95% it can be said that the mean of negative body image of pregnant women in the experimental group is between 133.50 and 136.44. The mean in the control group is 145.08 that with confidence level at 95% it can be said that the mean of control group is between 143.61 and 146.55; therefore, the hypothesis is confirmed.

Table 8. Estimation of the effect size of training positive thinking strategies on reduction of negative body image

Parameter	B	Standard error	t	Significance level	Confidence level at 95%		Partial η^2
					Lower limit	Upper limit	
Intercept	45.387	17.399	2.609	0.013	10.133	80.640	0.155
Pretest	0.684	0.121	5.677	0.001	0.440	0.928	0.466
Experimental group	-8.108	2.117	-3.830	0.001	-12.398	-3.818	0.284

Parameter estimation shows that the effect size of training positive thinking strategies was significant on reduction of negative body image at the level of $P < 0.001$. The effect is between 3.82 and 12.40 reduction unit.

Table 9. Comparison between experimental and control groups in terms of negative body image

Group (I)	Group (J)	Means difference	Standard error	Significance level
Experimental group	Control group	-8.108	2.117	0.001

Comparison between groups show that there is a significant difference between experimental and control groups in terms of reduction in negative body image at the level of $P < 0.001$.

CONCLUSION

Training metacognitive skills is effective on reduction of negative body image: the results showed that the effect size of training metacognitive skills is significant on reduction of negative body image. So, comparison between the groups showed that there is a significant difference between experimental and control groups in reduction of negative body image.

According to the research results, pregnant women experience wide variations in their body appearance and these changes may sometimes be desirable and in some cases undesirable. During pregnancy, along with significant changes that occur in a relatively short time, women experience changes in their body image. Given that negative body image among pregnant women is one of the most common psychiatric disorders and has a chronic and relatively stable course during pregnancy and causes women's physical disorders and leads to mental disorders in women, it is necessary to reduce negative body image with an effective therapeutic plan i.e. metacognitive therapy which has immediate and continuing effectiveness. This method of treatment and its effectiveness have been proven in several studies.

The effect of attention training on beliefs is clearly consistent with the view that direct modification of attentional processes can lead to simultaneous changes in dysfunctional beliefs. The effect is clearly related to the dynamic view of cognition in psychological disorders. Several mechanisms may underlie the clinical effectiveness of attention control training, including decreased self-focused attention, discontinued worry and rumination-based processing strategies, increased executive control over processing and attention and process reinforcement with metacognitive method.

Training positive thinking strategies is effective on reduction of negative body image: the results showed that after adjustment of the pretest effect, the effect of training positive thinking strategies was positive on reduction of negative body image and 28.4% of reduction variance of negative body image can be explained by

training positive thinking strategies. Therefore, the effect of training positive thinking strategies was significant on reduction of negative body image and comparison between groups showed that there is a significant difference between experimental and control groups in terms of decreased negative body image.

According to the results of hypothesis, in such circumstances training positive thinking strategies to pregnant women is very useful in order to promote and strengthen positive relationship with themselves, positive relationships with others and life, and also increased self-esteem and enjoyment of life, more and deeper understanding and attention to positive things in life and not pay attention to negative aspects of life and try to enjoy life by having a positive view on pregnancy and having a better quality of life.

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