



## Effect of Supportive Nursing Care on Self Esteem of Patients Receiving Electroconvulsive Therapy: A Randomized Controlled Clinical Trial

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### ABSTRACT

**Introduction:** Self-esteem is an important potential indicator in etiology, diagnosis and treatment of patients with severe mental illness. ECT is a popular treatment for these patients that can effect on their self-esteem and reinforce their problems. The purpose of this study is to determine the effect of supportive nursing care in increasing self esteem of patients receiving ECT.

**Methods:** This clinical trial was conducted in the Baharan psychiatric hospital of Zahedan. A total of 70 cases of patients who received ECT were randomly allocated to control (n=35) and intervention (n=35) groups. The data were collected by demographic characteristics questionnaire and Rosenberg Self Esteem Scale (RSES). Intervention group received the supportive nursing care. The control group received only routine treatment. Self esteem level was measured and compared before and after intervention for two groups. The data was analyzed by SPSS using the  $\chi^2$ , t-test and ANCOVA.

**Results:** Results showed that both groups were homogeneous on the socio-demographic characteristics. The mean self esteem in the intervention group compared with the control group was significantly increased. While controlling the effects of individual and social variables, the result shows significant differences between two groups in the mean scores of self esteem after the intervention.

**Conclusion:** The results suggest that supportive nursing care can have positive effect on self esteem of patients receiving ECT. It is recommended to use this method for increasing self esteem of these patients.

## Introduction

Self-esteem is an important concept whose importance has been studied in the recent literature. Self esteem is defined as an individual's opinion about themselves and the degree of its acceptance or rejection. Self esteem is correlated with individual's willingness to participate in specific strategies and affects the ability of adapting to a new situation.<sup>1</sup>

Positive idea of a patient toward himself can directly affect the symptoms and behaviors related to those symptoms. The higher self-

esteem, the more motivated is the patient to engage in self-care behaviors and it eventually reduces symptoms and improves patient's mood.<sup>2</sup>

In the past decades, self esteem was a potential indicator in etiology, diagnosis and treatment of patients with severe mental disorders.<sup>3</sup>

Nurses, due to the nature of their job, have closer and more frequent interactions with patients than other health care professionals so their performance can have high effect on the Patient's attitudes and treatment efficacy.<sup>4</sup>

Providing support is one of the primary tasks of nurses. They are usually the main source

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of support for patients and families during illness and stress.<sup>5</sup> Supportive care includes a set of general and special medical interventions carried out by a nurse to protect and comfort the patient and not just to treat his illness.<sup>6</sup>

Recent studies indicate that the supportive care by nurses for cancer patients may improve their mood<sup>7</sup> and in patients on dialysis is effective in reducing anxiety and depression.<sup>8</sup>

One of the most important therapeutic procedures in the management of patients with severe mental disorders is Electroconvulsive Therapy (ECT)<sup>9</sup> which provides therapeutic effects by inducing seizures.<sup>10</sup>

About 100 thousand people in the United States and more than 1 million people worldwide receive ECT annually.<sup>11</sup> Due to the high prevalence of psychiatric disorders and its associated negative consequences and also high efficacy of ECT, this treatment has been considered as a useful and effective method of treatment.<sup>12</sup>

Despite wide usage of ECT, this method has been faced with social, political, legal and public rejection for years.<sup>13</sup> According to the past studies, most of the ECT patients announced the other patients as their main source of information for this procedure<sup>14</sup> which causes misconception, legend stories, misunderstanding, stigma and low self-esteem.<sup>15</sup>

False representation of ECT in the media and lack of useful training to properly represent the reality cause negative psychosocial effects such as low self-esteem.<sup>11</sup>

There is a direct association between low self-esteem, depression, hopelessness and feelings of worthlessness. Low self-esteem intensifies vulnerability to the stressors.<sup>16</sup> This can lead to difficulty in communicating and unwillingness to participate in the treatment plans.<sup>3</sup>

Thus paying attention and providing an effort to enhance self-esteem is very crucial.

Traditionally, Iranian studies on ECT were mostly focused on the effectiveness and the side effects of the treatment.<sup>17</sup>

Although Cognitive disorders and physical complications following ECT always have been considered, Psychological adverse effects are usually ignored.<sup>18</sup> Especially, to the best of our knowledge, there is no study on the effect of supportive care on self esteem in patient receiving ECT.

Considering the wide application of ECT<sup>19</sup>, our aim in this study is to assess the effect of supportive care by nurses on the self esteem of patients undergoing ECT treatment. If the effectiveness of the intervention was proved, we emphasize on the importance of providing proper nursing support to reduce psychological side effects associated with ECT.

## Materials and methods

This is a randomized clinical trial. Ethical approval was granted by Study approval was received from institutional review board of Tabriz University of Medical Sciences (2786/4/5) and Baharan psychiatric hospital of Zahedan University of Medical Sciences (2013).

Participants were selected from all in patients receiving ECT at the time of the study that were: above 18 years, able to read and write, and had no physical disease leading to cognitive disorder or bipolar disorder with high self esteem. We excluded Patients in acute psychosis phase, those who have received ECT less than 4 sessions and lack of interest in continuing to participate in the research.

To determine the sample size, a pilot study was conducted on 24 patients receiving ECT who met the inclusion criteria. At 0.05 statistical significance level and with a power of 0.9, and also regarding Mean difference and standard deviation before and after the intervention for study group 5.16 (2.77) and control group -2.66 (2.65), 30 patients was estimated for each group. However,

considering an attrition rate, a final sample of 70 eligible patients were included in the study and were allocated simple randomly by random numbers chart to each group.

Data collected using a two-part questionnaire. The first part included socio-demographic data as age, gender, marital status and education level. The second part was a 10 item standard Rosenberg self-esteem scale. Responses to each item are based on the following range: completely agree, agree, disagree, and quite the opposite. Each item ranges from 0-3, with 3 indicating the highest score possible. Items 1, 3, 4,7,10 are positive items whose scores are 3,2,1,0 and the rest of the items are negative items whose scores are reverse.

The scale ranges from 0-30. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem and scores above 25 represents high self esteem.

This scale has been used in several studies. To measure the reliability and validity of Rosenberg Self-Esteem Scale in Iran a study conducted by Reza Rajabi in Chamran University that reported adequate validity and a cronbach alpha of 0.84<sup>20</sup>. In the present research, the reliability of this tool with 24 participants with Cronbach's alpha was 0.8.

We recruited eligible patients from Baharan centre which is a training hospital belong to Zahedan University of Medical Sciences. After a complete explanation about the study were given to the volunteers who had a normal or low self esteem score according to standard self esteem scale, signed a written consent form and then randomly were allocated to study or control group.

Nurses of the intervention and control group were different. Patients in the intervention group received supportive care by our trained nurses.

Nurses interested in participating, received necessary training sessions according to the instruction booklet one week before the study by the researcher. To ensure the usefulness of the training as well as getting feedback from the nurses, pre and post-test was

obtained through a booklet-based questionnaire where the scores were improved by more than 50%.

The booklet was developed according to the purposes of the study, the collected articles related to the topic, reference books, periodicals and scholarly research. Patients received supportive nursing care until the end of their ECT that was at least four sessions. Time of ECT was between 8 to 9 o'clock in the morning every other day. Interventions provided from 12 hours before to 6 hours after ECT.

These interventions are designed based on: effective communication with the patient and providing informational, emotional and physical supportive care. The delivered interventions included the following: Providing information to the patient, encourage expressing feelings, assessing negative beliefs and fear of patient, supporting patient to make a decision regarding ECT, Explaining reasons advantages and disadvantages of using this method, explaining responsibilities of treatment group members and answering to the questions of patient before, during and after ECT, as well as physical care (NPO, voiding, leaving jewelries and metals, proper IV line, considering any damage due to cognitive impairment after ECT).

Control group received routine care by nurses control group including: NPO, voiding, leaving jewelries and metals, proper IV line. After completion of all ECT sessions, self esteem was assessed in both groups once more. To omit the confounding effect of cognitive impairment after ECT, questionnaires were completed 6 hours after through the interview.

The data were analyzed using SPSS software version 13 (SPSS Inc., Chicago, IL, USA). We used statistics (number, percentage, Mean and standard deviation) to analyze participant's characteristics and their self esteem. Considering the normal distribution of data using the Kolmogorov - Smirnov, self-esteem scores compared before and after

intervention using paired t-test, also to compare self esteem changes in two groups before and after intervention an independent t test was used.

The effect of demographic variables was controlled using the Analysis of Covariance (ANCOVA). Gender, marriage, job and educational level in two groups were compared by chi-square test and their age was compared by an independent t-test. P values less than 0.05 were considered as significant.

## Results

Chi-square test showed that both groups are similar in socio demographic characteristics such as gender, marital status, job and educational level. The independent samples t-test results showed no significant difference in age distribution between the intervention 41.00 (10.90) and control 41.08 (11.22) groups ( $t=-0.03$ ,  $P>0.05$ ). Table 1 shows some socio-demographic characteristics of the subjects.

According to the results, Paired t-test showed a significant difference between the mean self-esteem score in both groups before and after intervention. On the other hand, an independent t-test showed that the mean self-esteem score of both groups has no significant difference before intervention but after the intervention was significantly different (Table2).

Analysis of research findings (Levin test) regarding the study hypothesis showed that variances of the dependent variable in both groups are equal that is a necessary prerequisite for using ANCOVA test. Results of ANCOVA analysis showed that the self esteem changes after the intervention is significant and it means that supportive care provided by nurses can improve self esteem score (Table3).

## Discussion

Comparison of mean self esteem in both groups showed a significant difference before and after intervention. The means score in the

intervention group increased from 13.68 (3.81) to 18.22 (2.36) and in the control group it decreased from 13.14(3.40) to 11.54 (3.60). Also mean difference of self esteem score showed a significant statistical difference between before and after intervention.

The possible cause of decrease in the average self-esteem score after ECT could be receiving information from invalid resources and lack of appropriate physical and emotional support. Therefore, results of this study revealed that the information, emotional and physical supportive care has a positive effect on increasing self-esteem in patients receiving ECT.

Self-esteem and its importance in patients with different psychiatric disorders have been studied from different perspectives. For example Guillon and colleagues studied the relationship of self-esteem and mental disorders in adolescents. They found that mental disorders in adolescents is associated with low self-esteem and appropriate therapeutic interventions can enhance adolescents' self-esteem.<sup>1</sup>

Vracotas and colleagues also examined the role of self-esteem in the first episode of psychosis and showed a positive impact of high self-esteem on the psychotic symptoms.<sup>21</sup> Their result is consistent with the present study in the sense that they also considered the importance of self-esteem in patients with psychiatric disorders and providing interventions to improve it.

Seo and colleagues studied the effect of nursing interventions, such as social skill training, on self-esteem and social skills of chronic schizophrenic patients. They showed that Social skills training is effective in enhancing patients' self-esteem<sup>22</sup> which is consistent with informational support given in present study.

Madani et al., assessed the relationship between self esteem and extent of coping strategies and self-care programs in Multiple

Sclerosis patients. Results revealed that self care education can enhance self esteem.<sup>23</sup> This study is in conjunction with the patients who

**Table 1.** Demographic characteristics of patients receiving ECT in intervention and control group

Variable	Intervention (n=23) N (%)	Control (n=23) N (%)	Statistical indicators
<b>Education</b>			$\chi^2=3.00$ df=4 P=0.69
Illiterate	7(20.0)	10(28.6)	
Primary	4(11.4)	5(14.3)	
Secondary	6(17.1)	3(8.6)	
Diploma	16(45.7)	15(42.9)	
Associates degree	2(5.7)	1(2.9)	
Bachelor or higher	0(0)	1(2.9)	
<b>Job</b>			$\chi^2=3.07$ df=2 P=0.54
Employee	0(0)	1(2.9)	
Self employed	8(22.9)	6(17.1)	
Retired	2(5.7)	3(8.6)	
Jobless	16(45.7)	20(57.1)	
House wife	9(25.7)	5(14.3)	
<b>Gender</b>			$\chi^2=0.05$ df=1 P=0.81
Male	16(45.7)	17(48.6)	
Female	19(54.3)	18(51.4)	
<b>Marriage</b>			$\chi^2=1.46$ df=2 P=0.48
Single	10(28.6)	13(37.1)	
Married	21(60.0)	16(45.7)	
Divorced	4(11.4)	6(17.1)	

**Table2.** Comparison of mean self esteem score in intervention and control group

Groups	Before intervention Mean(SD)	After intervention Mean(SD)	95% CI for changes	Paired t- test
Intervention	13.68 (3.81)	18.22 (2.36)	- 5.53, -3.54	t=9.28, df=34, P=0.001
Control	13.14 (3.46)	11.54 (3.60)	0.89, 2.30	t=4.59, df=34, P=0.001
95% CI for difference	-1.19, 2.28	5.23, 8.14		
Independent t- test	t=0.62, df=68, P=0.53	t=9.16, df=68, P=0.001		

**Table 3.** Results of covariance test on self esteem score on intervention and control group

Source of changes	Sum of squares	Degree of freedom	Mean square	F	P -value	Effect size	Power of Study
Pre test	295.90	1	295.90	63.00	0.001	0.50	1.00
Age	0.16	1	0.16	0.03	0.85	0.001	0.05
Gender	0.21	1	0.21	0.04	0.83	0.001	0.05
Marriage	0.001	1	0.001	0.001	0.99	0.001	0.05
Education	1.91	1	1.91	0.40	0.52	0.001	0.09
Job	0.03	1	0.03	0.001	0.93	0.001	0.07
Group	686.13	1	686.13	146.08	0.001	0.70	1.00
Error	291.20	62	4.69				
Total	16926.00	70					

suffer from other stressful conditions and is consistent with present study from patient education perspective.

This study examined the effect of supportive care and education on increasing self-esteem in patients receiving ECT and has common results with several studies that evaluated the effect of care and education on increasing self esteem in different patients. For example Sanaei and colleagues studied the effects of a family-centered empowerment on self-efficacy and self esteem in patients undergoing coronary artery bypass surgery where their results indicated an increased self esteem.<sup>24</sup> Rahimi *et al.*, also studied the effect of continuous care model on self-esteem in hemodialysis patients and they found positive effect on the levels of self-esteem.<sup>25</sup>

Previous studies of patients receiving ECT were more concerned with physical complications associated with the procedure.<sup>17</sup> However, our goal was to investigate the effect of care and education on patients' self esteem following ECT.

Najafi *et al.*, studied the effect of an educational DVD on reducing complications after ECT. Educational video before treatment leads to less headaches, memory deficits and nausea.<sup>26</sup> Their approach is similar to the physical and informational support provided in our study which could decrease the physical side effects of ECT. The present study further examined the impact of this support on the self-esteem.

Akhondi *et al.*, studied the effect of education on consciousness and cognitive status in patients treated with ECT and confirmed that pre procedure education is effective on cognitive status of patients. Patients who get required training prior to ECT about related and advantages of using this method, materials and procedures, and temporary side effects of the treatment, had better cognitive status.<sup>19</sup> Education provided is consistent with informational support of current study. In present study, emotional and physical support in addition to

information provided by trained nurses could increase self esteem.

In this study, the importance of supportive care provided by nurses has been considered. Our results show a positive effect of this support on the psychological complications associated with the ECT which is consistent with the results provided by Eghtedar *et al.*, who assessed the effect of informational, physical and emotional support on quality of life of 100 women with breast cancer. The results of this study indicate that promoting supportive care improves quality of life in breast cancer patients.<sup>27</sup>

Similar to the emotional aspect of current study for self esteem, leung *et al.*, in their study showed that emotional support is more important than instrumental support regarding psychological status in 507 elderly Chinese who suffered anxiety and depression.<sup>28</sup>

## Conclusion

In this study we indicated the positive effect of supportive care provided by nurses on self esteem of patients receiving ECT. Regarding high prevalence of psychological disorders and their negative consequences and also high efficacy of ECT, this procedure is highly recommended as a useful treatment.

ECT is a very important treatment for psychiatric disorders. However, due to many reasons, the patients receiving ECT experience many psychological side effects such as low self-esteem. Some of the reasons causing these effects are lack of public acceptance, getting information from invalid sources and negative attitudes toward this treatment. Low self-esteem in patients with psychiatric disorders is associated with many negative consequences and enhances their vulnerability to stressors.

Nurses, due to the nature of their job, are in a close relationship with their patients and can provide proper and standard support to decrease the adverse side effects of ECT.

These nonmedical interventions are mostly easy to deliver and generally they are in the score of nursing duties. According to the results of this study it is recommended that nurses should spend more time with patients to meet their informational, physical and emotional needs. Nursing managers can prepare their staff through training courses in order to provide care and support for particularly patients receiving ECT.

One of the limitations of this study was the possible interactions between nurses in the intervention and control group through conversation. This limitation was partially controlled by training specific nurses in the morning or the night shifts, encouraging their participation through incentives and by collaborating with the management system.

However, in order to minimize the possibility of exchanging information between the intervention and control group further actions should be taken.

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## Ethical issues

None to be declared.

## Conflict of interest

The authors declare no conflict of interest in this study.

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