

# Effect of Psychodrama on the Severity of Symptoms in Depressed Patients

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**Abstract** Psychodrama has been successfully used in the management of certain psychosomatic ailments. However, no controlled studies examining its effectiveness in depression have been conducted. The aim of this study was to evaluate the effect of a program for psychodrama on the severity of symptoms of depressed patients. This quasi-experimental study was conducted in El-Abassia Hospital for mental health. It included a sample of 30 patients having depression, randomly divided into a study group to attend a psychodrama intervention, and a control group having routine hospital protocol. Data were collected using an interview form with Beck Depression Inventory (BDI). The study was carried out in assessment, implementation, and evaluation phases. The study group was exposed to 12 one-hour sessions of psychodrama. The study lasted from September to December 2016. The patients in the two groups had similar demographic characteristics. At the pretest, the depression score was higher in the study group ( $p=0.003$ ), but its duration had no statistically significant difference. After the intervention, all study group patients had no depression, except one, compared to 9 (60.0%) in the control group ( $p=0.08$ ). The median score of depression was lower in the study group (1.0) compared with the control group (10.0),  $p=0.001$ . In multivariate analysis, the intervention was identified as a significant independent negative predictor of the depression score, while married status was a positive predictor. The results point to the effectiveness of a psychodrama intervention in alleviating the severity of depression. Hence, it is recommended to utilize this technique on a larger scale in patients with major depression.

**Keywords:** psychodrama, major depression, symptoms, patients, Beck Depression Inventory (BDI)

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## 1. Introduction

Major depressive disorder (MDD) is a serious worldwide, affecting approximately one-third billion persons, particularly in developing countries [1]. A prevalence rate of 5.5% was reported in a national Study in Canada over the last decade [2]. In Egypt, there is no national figure, but few studies reported rates in specific groups. Thus, [3] reported that 65% of medical students in Assiut had depressive symptoms. In elderly residing in nursing homes in Cairo, 37.5% had depressive symptoms. Even higher rates were shown among disadvantaged elders in Alexandria [4]. The wide discrepancies in the rates are often due to the use of different diagnostic tools and definitions, in addition to variance of settings.

According to [5], the prevalence of depression is not changing, and this was attributed to a number of factors, but mainly the disease management problems. Thus, new approaches in the treatment of this disorder were recommended. Psychodrama could be one of these approaches. It is a method of group psychotherapy with interactive improvisation theatre and other contextual

frameworks [6]. Clients use spontaneous dramatization, role-playing, and dramatic self-presentation to investigate and gain insight into their lives [7]. It has been defined as the process of enacting or reenacting relevant aspects or roles from current and past events to instill hope in clients who are facing life issues [8]. This technique can help individuals look at self and own situations from an outside view, and explore novel solutions to their problems [9]. Hence, and given its cost-benefit, it is now considered an important tool in the national health care system in Italy [10].

Psychodrama and related interventions have been successfully used in the management of a number of psychosomatic ailments and distress such as in the treatment of irritable bowel syndrome [11], and in acute inpatient psychiatry units [12]. It has even been used with success improving nurses' self-awareness [13], as well as increasing the empowerment perception and burnout levels of oncology nurses [14]. As regards depression, very early, [15] reported its use in post-partum depression. More recent studies examined its applicability in the management of patients with major depression [16,17,18]. However, to-date, no controlled studies examining the effectiveness of psychodrama in depression have been conducted.

## 1.1. Aim of Study

The aim of this study was to evaluate the effect of a program for psychodrama on the severity of symptoms of depressed patients.

## 1.2. Research Hypothesis

The depression score of the patients attending the psychodrama program will be significantly lower compared with those on routine treatment protocols.

## 2. Subjects and Method

### 2.1. Research Design and Setting

A quasi-experimental design with control group was used to achieve the aim of this study, which was conducted in El-Abassia Hospital for mental health. This governmental hospital is the largest hospital for psychiatric patients; it provides care for all sectors in the Egyptian community, especially in Cairo.

### 2.2. Participants

The study included a random sample of 30 male and female patients diagnosed as having depression in the setting during the time of the study. This was the only inclusion criterion, while the presence of any additional psychiatric problem or physical disablement was exclusion criteria. The patients were randomly divided into two equal groups of 15 patients each. The study group was to attend the psychodrama intervention, while the control group was treated using the routine hospital protocols. The sample size was calculated to demonstrate a 7-point difference in the depression score between the study and control groups after the intervention, with 7.0 standard deviation, at 95% level of confidence and 80% power using the Open Epi software package.

### 2.3. Data Collection Tool

Data were collected using an interview sheet including the Beck Depression Inventory (BDI). This scale was constructed by [19] to measure the depth and behavioral manifestation of depression. It is designed to help establish the existence of depression and to provide a guide to its severity. The tool is formed of several groups of questions, which assess the various depressive symptoms including sleep, appetite, mood, negative thoughts, etc. It is a standardized, consistent instrument with proven validity and reliability; and it has been widely used in research. The Arabic version (BDI-11) transliterated by [20] that was utilized in this study. The tool consists of 21 statements, each having four responses of increasing severity. Numerical values from 0-3 are assigned to each statement to indicate the degree of severity. The patient is asked to pick-up, for each statement, the response that best describes how he/she feels at that particular point in time. The scores of the 21 statements are summed-up for a total score ranging from zero to 63. The total score is then interpreted to indicate absence of depression or normal

(0-9), mild depression (10-16), moderate (17-29), or severe (30 or above) depression. The tool was appended with some questions about patient's personal characteristics as age, gender, education, and marital status, as well as the duration of illness, hospital stay, treatment modalities, and chronic diseases. This last part was rigorously revised by six experts in nursing and medical psychiatry completeness. The BDI reliability in the present study was very high with Cronbach's Alpha coefficient 0.987.

### 2.4. Pilot Study

The tool was pilot-tested on three patients having depression to assess its clarity, feasibility and applicability. The pilot subjects were not included in the main study sample.

### 2.5. Study Maneuver

The study was carried out in three phases, namely assessment, implementation, and evaluation. It lasted for 12 weeks from September to December 2016.

*Assessment phase:* Upon securing all necessary permissions, the researchers visited the setting, met with the patients, and invited them to participate after explaining to them the aim and procedures of the study in simple terms. Those who gave their consent were recruited in the study sample. They were administered the beck depression inventory (BDI) to measure their level of depression using the data collection tool. Thus took 15-20 minutes for each patient. The patients were then randomly assigned to either the study of the control groups.

*Implementation phase:* The patients in the study group were exposed to twelve one-hour long sessions of psychodrama. This psychodrama intervention is focused on "present time" and on "here and now." It uses techniques like role playing, role reversal, mirror technique, future-projection technique, monologue, creativity, play, movement, voice, storytelling, and dramatization. The performance arts have a central position within this therapeutic relationship. Empty-chair technique was also used to express emotions and life events of the patients. Each session of psychodrama included several basic players, namely protagonist, auxiliary egos, audience, stage, and director. As it was difficult to manage the whole 15-member group of patients at the same time, participants were divided into three equal groups of five patients each. The intervention was applied twice weekly, for a total of six weeks. During this time, the patients in the control groups were receiving the routine treatment modalities according to the setting protocols.

*Evaluation:* By the end of the six-week program, all patients in the study and control groups were interviewed using the same data collection form to reassess their level of depression.

### 2.6. Administrative and Ethical Issues

The study protocol was approved by the research and ethics committee in the Faculty of Nursing, Fayoum University and Faculty of Nursing, South Valley University. An agreement to conduct the study was

obtained from the hospital director. All research ethics principles were applied according to Helsinki Declaration. The researchers contacted the depressed patients individually to explain the purpose and procedures of the study to obtain their informed consent to participate. Voluntary participation was assured, as well as the right to withdraw at any time with no reason to be given. Participants were assured about the confidentiality and anonymity of the collected data and that it would be only used for the purpose of the current study. No actual or potential harms were foreseen from conducting the study on participants.

## 2.7. Statistical Analysis

Data entry and statistical analysis were done using SPSS 20.0 statistical software package. Cronbach alpha coefficient was calculated to assess the reliability of the BDI scale through its internal consistency. Quantitative continuous data were compared using the non-parametric Mann-Whitney test. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less

than 5, Fisher exact test was used instead. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of the depression score, multiple linear regression analysis was used, and analysis of variance for the full regression models was done. Statistical significance was considered at p-value <0.05.

## 3. Results

As illustrated in Table 1, the patients in the study and control groups had similar demographic characteristics, with equal median age of 32 years and an almost similar gender distribution. Slightly more than half of the patients in the two groups had formal education (53.3%), and one third were married (33.3%). All patients in the study group and the majority (86.7%) in the control group had urban residence. The only difference of statistical significance between the two groups was related to income, which was more sufficient in the control group (p=0.03).

**Table 1. Socio-demographic characteristics of patients in the study and control groups**

Socio-demographic characteristics	Group				X <sup>2</sup> test	p-value
	Study (n=15)		Control (n=15)			
	No.	%	No.	%		
Age:						
<40	13	86.7	11	73.3		
40+	2	13.3	4	26.7		
Range	20-43		21-45			
Mean±SD	30.9±7.0		32.3±8.1		U=0.17	0.68
Median	32.0		32.0			
Gender:						
Male	8	53.3	9	60.0		
Female	7	46.7	6	40.0	0.14	0.71
Education:						
None	7	46.7	7	46.7		
Educated	8	53.3	8	53.3	0.00	1.00
Marital status:						
Unmarried (single/divorced/widow)	10	66.7	10	66.7		
Married	5	33.3	5	33.3	0.00	1.00
Job:						
Unemployed	9	60.0	10	66.7		
Working	6	40.0	5	33.3	0.14	0.70
Residence:						
Rural	0	0.0	2	13.3		
Urban	15	100.0	13	86.7	Fisher	0.48
Income:						
Insufficient	11	73.3	5	33.3		
Sufficient	4	26.7	10	66.7	4.82	0.03*
Crowding index:						
<2	4	26.7	9	60.0		
2+	11	73.3	6	40.0	3.39	0.07

(\* Statistically significant at p<0.05 (U) Mann-Whitney test.

Table 2 demonstrates that all patients, except one in the study group had severe depression. However, the depression score was significantly higher among patients in the study group ( $p=0.003$ ). The duration of depression had wide ranges and was mostly five or more years in both groups, with no statistically significant difference. The median hospital stay was higher in the study group (120 days) compared with the control group (90 days), but the difference was not statistically significant. As for the treatment modalities, all patients in the study and control groups were on pharmacological therapy, and only one patient in the control group had additional psychotherapy.

The table also shows that none of the patients in the study group had any chronic disease, compared with three in the control group, with no statistically significant difference.

After implementation of the study intervention, all patients in the study group had no depression, except one patient who still had severe depression. In the control group, only 9 (60.0%) had no depression, but none had severe depression. The difference between the two groups was of borderline significance ( $p=0.08$ ). However, the median score of depression was significantly lower among the patients in the study group (1.0) compared with the control group (10.0),  $p=0.001$  Table 3.

**Table 2. Medical history of patients in the study and control groups**

	Group				Test	p-value
	Study (n=15)		Control (n=15)			
	No.	%	No.	%		
Depression:						
Moderate	1	6.7	0	0.0		
Severe	14	93.3	15	100.0		
Score (max=63):						
Range	20-63		33-56		U=8.84	0.003*
Mean±SD	53.6±11.0		45.9±6.5			
Median	58.0		48.0			
Duration of illness (years):						
<5	6	40.0	5	33.3		
5+	9	60.0	10	66.7		
Range	1.0-20.0		2.0-17.0		U=0.67	0.41
Mean±SD	6.1±4.9		7.4±4.7			
Median	5.0		7.0			
Hospital stay (days):						
<90	6	40.0	8	53.3		
90+	9	60.0	7	46.7		
Range	65-150		47-210		U=0.28	0.60
Mean±SD	112.9±29.7		109.5±45.6			
Median	120.0		90.0			
Treatment:						
Pharmacological	15	100.0	15	100.0	0.00	1.00
Psychic	0	0.0	1	6.7	Fisher	1.00
Have chronic diseases:						
No	15	100.0	12	80.0		
Yes	0	0.0	3	20.0	Fisher	0.22

(\*) Statistically significant at  $p<0.05$

(U) Mann-Whitney test.

**Table 3. Prevalence of depression among patients in the study and control groups after the intervention**

	Group				X <sup>2</sup> test	p-value
	Study (n=15)		Control (n=15)			
	No.	%	No.	%		
Depression:						
None	14	93.3	9	60.0	Fisher <sup>@</sup>	0.08
Mild	0	0.0	4	26.7		
Moderate	0	0.0	2	13.3		
Severe	1	6.7	0	0.0		
Depression score (max=63):						
Range	0-60		0-28		U=11.69	0.001*
Mean±SD	5.9±15.1		12.7±7.6			
Median	1.0		10.0			

(\*) Statistically significant at  $p<0.05$  (@) Test between depressed and not depressed (U) Mann-Whitney test.

**Table 4. Correlation between patients' depression scores and their characteristics**

	Depression score	
	Spearman's rank correlation coefficient	p-value
Age	0.12	0.38
Education	-0.09	0.47
Crowding index	0.05	0.72
Hospital stay (days)	0.01	0.96
Duration of illness	0.05	0.71

**Table 5. Best fitting multiple linear regression model for the depression score**

	Unstandardized Coefficients		Standardized Coefficients	t-test	p-value	95% Confidence Interval for B	
	B	Std. Error				Lower	Upper
Constant	80.88	5.23		15.451	<0.001	70.40	91.36
Intervention	-40.43	2.67	-0.88	15.141	<0.001	-45.78	-35.09
Married	4.99	1.66	0.18	3.012	0.004	1.67	8.31

r-square=0.80

Model ANOVA: F=119.16, p<0.001

Variables entered and excluded: age, education, length of stay, duration of illness, group.

As regards the relations between patients' scores of depression and their socio-demographic characteristics, Table 4 demonstrates no statistically significant correlations with any of these characteristics.

In multivariate analysis (Table 5), the study intervention was identified as a statistically significant independent negative predictor of the depression score. Conversely, the married status was a positive predictor. As shown by the value of the standardized beta coefficient, the most influential factor on the depression score was the intervention (psychodrama). The model explains 80% of the variation in patient's depression score as indicated by the value of the model r-square. Other patients' characteristics had no influence on the depression score.

## 4. Discussion

The results of the study indicate that group-based psychodrama therapy led to significant decrease in the score of depression in the study group compared with the control group. The finding leads to acceptance of the research hypothesis and indicates the supremacy of this treatment approach over the conventional treatment modalities.

The two study groups in the current study had similar socio-demographic characteristics, which is quite important in studies testing the effect of an intervention in order to obviate the effect of any confounding variables. Thus, they had similar age, gender, education, marital status, and residence distributions. These factors are known to be associated with depression as previous research indicates [21,22,23,24].

Nonetheless, one difference of statistical significance was revealed between the two groups, which was regarding income. According to the study findings, more patients in the control group had sufficient income. This factor may have an influence on the occurrence and severity of depression. In congruence with this, a large national study in South Africa demonstrated a significant relationship between income inequality and household income from one side and the prevalence of depression

from the other side [25]. On the same line, a study in Spain revealed lower levels of depression in the European countries with higher socioeconomic levels [26]. A similar association between low socioeconomic level and the prevalence of depression was reported by [27] in the United States. However, the lower income in the study group of the current study would increase the risk and severity of depression among them, and thus it acts against the study hypothesis.

Similarly, the present study findings indicated that, before implementation of the study intervention, the depression score was significantly higher among the patients in the study group. This is again against the study hypothesis, meaning that the baseline of depression being significantly higher in the study group, this would need a stronger effect of the intervention in order to achieve the research hypothesis. Therefore, it adds to the evidence of the effectiveness of the study intervention in decreasing the severity of depression.

As regards the characteristics of the depression problem among the patients in the current study, all patients in both groups were on pharmacological therapy. The findings indicate a chronicity of the disease, with a median duration of five or more years in both groups, and with no statistically significant difference. Moreover, the median hospital stay was high in both groups, averaging three to four months. In agreement with this, [28] in a study in Austria demonstrated a significant association between the length of hospital stay and the diagnosis of major depression.

The implementation of the current study intervention demonstrated a statistically significant difference in the score of depression, which was in favor of the patients in the study group. Since these patients had statistically significantly higher depression scores at the baseline, this fosters the positive effect of the intervention in reducing the depression score. Moreover, the independent effect of the intervention was confirmed in multivariate analysis, which identified it as the most influential negative predictor of the depression score. The finding is in agreement with [29] in Brazil, where the application of a psychodrama intervention led to significant improvements

in patients' levels of depression. On the same line, [30] in a study on Hispanic immigrants in the USA demonstrated the effectiveness of a collaborative care intervention in improving depression. However, in disagreement with this finding, a study in Turkey [31] could not reveal a significant effect of psychodrama on depression. This could be attributed to their smaller sample size, as well as the short duration of the intervention, which involved only a 3-hour session of psychodrama.

Nevertheless, the categorical analysis of the level of depression showed only a trend towards lower grades in the study group, with only borderline significance. This lack of statistical significance is certainly due to the small sample size. In fact, the sample size was calculated based on differences in the mean score of depression rather than its categorical levels, which would necessitate a much larger sample size. This could also explain the lack of any statistically significant correlations between patients' scores of depression and their socio-demographic characteristics,

Lastly, the multivariate analysis of the present study identified the status of being married as a statistically significant independent positive predictor of the depression score. Thus, the unmarried patients got more benefit of the psychodrama intervention, while being married was associated with a higher depression score. In congruence with this, a study in Spain revealed an association between depression and marital dissatisfaction, which was mediated by neuroticism [32]. Moreover, previous research indicated that the patients with major depression are less likely to be married [33], which is in line with our sample, where only one-third of the patients were married. However, a more recent study in India [34] revealed that older women with major depression were more likely to be married; the authors attributed this to age and gender differences.

## 5. Conclusion and recommendations

The study results point to the effectiveness of a psychodrama intervention in alleviating the severity of depression. Hence, it is recommended to utilize this technique on a larger scale in patients with major depression. However, further research is needed to confirm the findings with a higher level of evidence through using a true randomized clinical trial design rather than the quasi-experimental design, which is a limitation of the present study. Additionally, a larger sample size is required to demonstrate the changes in the grades of depression effected by the psychodrama technique.

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