

Effectiveness of a group and brochure psychoeducation intervention to improve depression level and treatment continuity among adults with depression in turkey: A controlled study.

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Abstract

Purpose: The current study examined the efficacy of a group and brochure psychoeducation intervention for improving levels of depression among patients with a depressive disorder.

Methods: This study is a semi-experimental with a pre-test, post-test, control group and follow-up. The sample of this study consisted of patients with depression (n=153). Based on their scores in depression inventory, the patients were divided into three groups. The groups received Continuity Enhancement Treatment for Antidepressants (CETA) with form of group and brochure. The psychoeducation and brochure groups both received psychoeducation and antidepressant treatment. The control (CG) group not received a psychoeducation and only continued antidepressant treatment. The “Personal Information Form” and “Beck Depression Inventory” (BDI) were used.

Results: When the scores of the depressed patients in the experimental groups and control group were compared at the pre-test, posttest and 3 and 6 months follow ups, a significant difference was only found in BDI post-test scores.

Conclusion: Group and brochure psychoeducation included CETA program was effective for improving antidepressant adherence. Psychoeducational approaches to be applied by psychiatry nurses to outpatients who received diagnosis of depression for the first time were also considered as cost-effective methods.

Keywords: Depression, Adherence, Cost-effectiveness, Measurement, Antidepressants.

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Introduction

Among the mental illnesses, depression is a major widespread public health concern prominent with serious loss of function, suicide ratios up to 15% and distinctive health expenses. It is expected that it will have the second place among the health problems to be taken off globally in the year 2020 [1,2].

According to World Health Organization (WHO), depression has the largest place among the nonfatal illnesses, constitute about 12% of life-long inefficient times and unipolar depressive patients constitute about 4.4% of globally taken off diseases [3-5]. Today, only 50% of depressive patients are able to be diagnosed, 25% of them are able to be treated and only 10% of them are able to be properly treated [6]. Good level of response to the treatment is a critical issue in depression care. Pharmacotherapy factors (medication type, dosing, continuity, availability) have influenced the success of the treatment [7]. In the USA, confederate care programs are recommended in depression treatment. It was indicated in literature that pharmacotherapy was not sufficient in depression and

psychosocial approaches should also be implemented together with pharmacotherapy [8]. Low adherence, low continuity to antidepressant medication is widespread problem [7]. Despite all these initiatives, healing rates are still at 30% levels [1].

The cost of each successful outpatient depression patient varies between 250-500 dollars. There are limited studies about the treatment costs of depression patients [1]. Psychosocial initiatives commonly focus on functional disorders, problem, pathology and treatment and reflect traditional medical model. Psychoeducation on the other hand is more holistic and competence-oriented approach focusing on cooperation, coping, enhancement and health [9]. Besides, there is need for cost-effective psychoeducation approach to improve clinical management of depression because of high prevalence and limited resources [1,10]. The cost of each depression outpatient successfully treated is between 250-500 dollars and there are limited studies about the treatment cost of depression patients [1]. Psychoeducation, a cost-effective method, is a supportive method strengthening the patients and relatives and improving

adaptive skills. It can be implemented individually or in groups. Group psychoeducation sessions provide significant contributions for interaction, social learning and social support and rely on cognitive, behavioral and social learning approaches [11].

Previous studies revealed that psychoeducation provided various gains for patients such as reduced illness frequency, improved functionality, knowledge about the illness, general health status and reduced loss of labor. Psychoeducation is also the mostly recommended method of NICE among the intervention strategies for depression and anxiety [12]. Psychoeducation should be provided at euthymic stage of the illness for better efficiency and it has a prophylactic impact especially in prevention of relapse [13].

Psychosocial initiatives are classified as psychological, psychotherapeutic, cognitive-behavioral methods and all these methods are directed only to deal with the illness. Besides, cognitive-behavioral approach was found to be effective in depression treatment. However, since health professionals have busy schedules and have an intense time pressure over them, they stated that cognitive-behavioral approach was not sufficiently benefited in clinical implementations [12,14]. On the other hand, psychoeducation allows the management of the illness based on the severity and helps in prevention of residual effects and the method was found to be both a time and cost-effective method [14]. Most of the evidence-based implementations recommend psychoeducation especially to psychiatry patients and care providers. Previous studies revealed that psychoeducation was commonly used in mental disorders and substance-use disorders [15]. In depressive patients, psychoeducation was found to be effective at mild to moderate depression and acute stage; it had significant clinical, social and economic benefits in improvement of pharmacological treatment and follow up [10].

Cognitive-behavioral approaches are also commonly used in care of depressive patients. These approaches were found to be longer-lasting in chronic stage and in reducing relapse risks of patients with recovered symptoms. It was observed that both approaches improved the healed state of the patient and changed the nonfunctional attitudes, but psychoeducation was found to be more time and cost-effective [10].

Materials and Method

Study design

This study used a semi-experimental design with a pre-test, post-test, control group and follow-up to investigate of psychoeducation in patients with depression in Turkey.

Setting and sample

The study was conducted between May 2009 and March 2010 in a total of six psychiatric polyclinics for people who received diagnosis of depression for the first time in Istanbul, Turkey. The research universe was composed of entire patients applied to psychiatry polyclinic of a state hospital in a month and

diagnosed with depression (major depressive disorder to dystymia) as assessed by DSM-IV (N=1500) and the research sample was composed of 153 patients with depression diagnosis and antidepressant treatment for the first time and accepted participation into this study. Research sample was considered to be minimum 25 people to identify the differences between the groups obtained with 4.5 units standard deviation and 4 units mean. Since there was no upper limit, the up most number of patients were tried to be reached to improve the reliability of the study. Randomization methods were employed to achieve homogeneity among the groups. The recruitment criteria were set as: (a) Have unipolar depression diagnosis based on DSM-IV criteria, (b) treatment plan have included that antidepressants and have the antidepressant treatment for the first time, (c) have BDI score of between 17-30, (d) not to have any other additional diagnosis rather than depression diagnosis, (e) be literate, (f) the ages 18-65, (g) not visually impaired, (h) not previously hospitalized, (i) not using any oral or depot antipsychotic medication, (j) no learning disabilities, (k) organic brain diseases or alcohol or substance abuse problems. All study procedures and informed consents were improved

Instruments

The data was collected by using "Personal Information Form" and "Beck Depression Inventory (BDI)".

Personal information form

The form was developed by the researcher through a literature review and form items question the personal characteristics of the participants.

Beck depression inventory (BDI)

The inventory was developed by Beck and colleagues in 1961. It is a self-evaluation scale composed of 21 multi-choice items and used commonly as a follow up tool by clinical researchers. Each one of these 21 items of BDI is used to assess depressive patient-specific symptoms, attitudes and depressions. Each item is scored with scores between 0-3. When the total score is between 0-9, there aren't any depression symptoms. The score between 10-18 indicate mild to moderate depression symptoms, the scores between 19-29 indicate moderate to severe depression symptoms and the scores between 30-63 indicate severe depression symptoms. In original report of Beck, following the internal consistency works, regression coefficient was reported as 0.86 and spearman-Brown correlation coefficient was reported as 0.93. The coefficients between psychiatric samples were reported as between 0.76 - 0.95. These outcomes were approved in different populations [16]. In this study, reliability coefficient was identified as 0.90 one month after education and 0.94 six months after education.

Procedure

Based on their scores in depression inventory, the patients who met the inclusion criteria were divided into experimental

(psychoeducation (n=49), brochure (n=51)) groups and control (medication (n=53)) group. The psychoeducation group (experimental group 1) both received group psychoeducation (usual care+CETA; Continuity Enhancement Therapy for Antidepressants) in five sessions and antidepressant treatment. The brochure group (experimental group 2) both received CETA with a brochure and antidepressant treatment. The medication (control group) group not received any psychoeducation about depression, antidepressants and only continued antidepressant treatments that were given by their psychiatrists. The patients participating into psychoeducation groups were composed of 8 individuals. Within the scope of the study, pre and post-education follow-ups of 153 patients were performed by the researcher for 6 months. The education in psychoeducation group was performed weekly on the same

day and hour of each week starting one week after the initiation of medication. The psychoeducation program was a structured program covering 5 weeks. The program (CETA) included information on depression prognosis, biopsychosocial reasons, pharmacologic treatment at acute and basic phases, medication side effects, complications, early symptoms of relapse, management of depression symptoms in case of relapse. Cognitive-behavioral techniques were also employed in psychoeducation and their non-functional cognitions about problem solving and life style were tried to be rehabilitated. The same education program was provided to the second group in a brochure. The psychoeducation program (CETA) applied in this study was the modified form of some existing psychoeducation programs (Table 1).

Table 1. Sections of psychoeducation program.

S.No	Sections of Psychoeducation Program	Content	Duration
1	Preparatory Session	Introduction of objectives and content of psychoeducation program, application of pre-tests, build the nurse-patient relationship, conduct comprehensive assessment for understanding the patient's problems and care needs	45 min
2	Depression recognition Session	Find out participant's goal for visiting psychiatry clinic, explore patient's attitude, perceptions and feelings toward depressive disorder and its impact, recognition the reasons of depression prognosis, the symptoms to be controlled the symptoms to be intervene	60 min
3	Compliance (medication adherence) recognition Session	Explore the experience of medication taking, its benefit, barriers to adhering to drug taking, recognizing the significant of compliance with the treatment and the factors affecting the drug adherence, provide information reasons for using antidepressant drugs, assign homework to make them have a sense of success, explore the experience of medication taking, its benefit and barriers to adhering to drug taking	60 min
4	Side-Effects recognition and continuing adherence Session	Provide information about antidepressant treatment and side effects, how to manage adverse effects, modify their behaviors that didn't facilitate drug taking or recovery, prepare for solutions to drug taking problems for a long time, rehearse alternative options when forgetting to take drugs, provide information to deal with the problems related to non-adherence, encourage medication intake after the end of the program	60 min
5	Evaluation session	Assessment of psychoeducation, depression levels, compliance with treatment, final applications of questionnaires. Revision and summarization	45 min

Usual treatment (Usual Care (UC)): Participants in this condition received usual treatment provided by psychiatrists that included pharmacotherapy. Effectiveness of pharmacotherapy was determined by psychiatrists.

CETA: Participants received UC that was enhanced with five sessions of CETA, providing in participants language of choice. 45-60 min sessions were provided as group or individual brochure psychoeducation at the time 2, time 3, time 4 evaluations. Like UC (drug group) participants, those receiving CETA received naturalistic psychopharmacologic treatment.

The process included groups to learn of relevant antidepressant concerns, feedback from participants who received the intervention, and final revisions to the manual. Interventional manual consists how struggling or confronting the frequent psychosocial stressors experienced by participants. It also related to the strength and resilience involved with struggling against a difficult social reality. This program emphasized the importance of antidepressant continuity and gives a message as, "the problems can't be solved by just taking a pill. In the

group psychoeducation and individual brochure psychoeducation, stigma (for example having a mental illness) and physical concerns (for example adverse events) revealed associated with antidepressants. Especially these fears concordance with antidepressant continuity were examined. CETA empathized the participants' concerns about antidepressant treatment and also found out their internal power to overcome depressive symptoms. When appropriate, participants were provided with targeted antidepressant information.

Sections of CETA program

- 1. Preparation session:** Acquaintance, introduction of the rules, objectives and content of psychoeducation, identification of educational needs of participants, performance of pretests. The purpose of this session to adapt participants to medication process
- 2. Depression recognition session:** Recognition of the reasons of depression, prognosis, the symptoms to be controlled, the symptoms to be intervened, the methods to

- cope with depression. The purpose of this session to acquaint the participants with all aspects of depression.
- 3. Compliance (medication adherence) recognition session:** Recognition of the significant of compliance with the treatment, the factors effecting the treatment and depression treatment order. The session includes general information on prescribed antidepressant, anxiolytic, mood stabilizers, their effects on depression symptoms, type of uses, doses, over dose, the factors effecting medication. In this session, four basic messages were given to patients: The time expected to take the medication, the time for the end of side effects, how to control minor side-effects, what to do in case of problems, persistence in medication even they feel well. The purpose of this session to increase the awareness of the necessity of adherence to treatment, recognizing the effective factors
 - 4. Side-effects recognition and continuing adherence session:** This session includes information about the side effects of antidepressant, anxiolytic, mood stabilizers, the effects observed in medication interactions, early diagnosis of these effects, the things to be done in case of side-effects. The purpose of this session to deal with the problems related to non-adherence.

- 5. Evaluation session:** This session includes assessment of psychoeducation, compliance with medication, depression levels, final applications of questionnaires. Additional sessions are also planned in this session if necessary. The purpose of this session to revision and summarization.

The “Personal Information Form” and “Beck Depression Inventory” was applied before psychoeducation and “Beck Depression Inventory” was applied from baseline (time 1) to six months (time 4) after psychoeducation.

Data analysis

Frequency analysis was used to assess demographic characteristics and family data; Mann-Whitney U test was to compare two dependent groups and to assess the effects of psychoeducation on depression symptoms; Kruskal-Wallis test was used to compare 3 and more independent groups. Duncan multiple range test was used to identify the different groups. Significance level was taken as 5% in analyses and assessments. All calculations were performed by using SPSS 23 (Statistical package for social sciences 23) software.

Table 2. Distribution of demographic characteristics.

Demographics		Psychoeducation group N=49 n(%)	Brochure group N=51 n(%)	Drug Group N=53 n(%)	Total N=153 n(%)	χ^2/p
Age	18-28 age	15 (30.6)	17 (33.3)	12 (22.6)	44 (28.8)	$\chi^2=12.86; p=0.87$
	29-39 age	19 (38.7)	19 (37.4)	23 (43.3)	61 (39.9)	
	40-50 age	10 (20.4)	12 (23.5)	13 (24.5)	35 (22.8)	
	51 and upper	5 (10.2)	3 (5.8)	5 (9.6)	13 (8.5)	
Sex	Man	7 (14.3)	1 (2)	4 (7.5)	12 (7.8)	$\chi^2=5.26; p=0.07$
	Women	42 (85.7)	50 (98)	49 (92.5)	141 (92.2)	
Education Status	Illiterate	1 (2)	2 (3.9)	5 (9.4)	8 (5.2)	$\chi^2=10.27; p=0.24$
	Primary School	30 (61.2)	33 (64.7)	38 (71.8)	101 (66)	
	Secondary School	9 (18.4)	4 (7.8)	5 (9.4)	18 (11.8)	
	High School	7 (14.3)	9 (17.7)	5 (9.4)	21 (13.7)	
	University	2 (4.1)	3 (5.9)	0 (0)	5 (3.3)	

Ethical consideration

Ethical consideration was obtained from MREC with the protocol number B.30.2.MAR.001.02.AEK/80 and a public hospital with the protocol number B.10.4.İSM.4.34.25.28/250/7947. The Permission from MREC was granted on 17.09.2008 and the public hospital was granted on 23.10.2008. According to The Code of Ethics of the World Medical Association (Declaration of Helsinki) participants were told the purpose and importance of this study before the survey and written informed consent was obtained from each

participant who was literate. They were assured of confidentiality and their rights to withdraw from the study at any time.

Results

Significant differences were not observed in ages, genders and educations of psychoeducation, brochure and medication groups and there was a homogeneity among the groups (Table 2).

Distribution of data related to pre and post-education depression score averages

When the depression scores of the groups are compared, while there weren't any significant differences between pre-education and one month after education; significant differences were observed between the groups three month

after education (Bonferroni Adjustment and Mann-Whitney U test significance level was $p=0.012$) and significant differences were also observed from six month after education (Bonferroni Adjustment and Mann-Whitney U test significance level was $p=0.000$) (Table 3).

Table 3. Comparison of Pre/Post-education depression scores of the groups.

Groups	Pre-education average depression scores (time 1)	the depression the average depression scores (time 2)	After one-month of education the average depression scores (time 3)	After 3 months of education the average depression scores (time 4)	After 6 months of education average depression scores (time 4)
	(M ± SD)	(M ± SD)	(M ± SD)	(M ± SD)	(M ± SD)
Psychoeducation Group (n=49)	26.53±8.01	18.00±11.50	17.53±12.01	11.18±10.36	
Drug Group (n=53)	25.23±8.66	19.73±10.46	18.59±13.72	16.16±12.95	
Brochure Group (n=51)	25.03±7.36	18.94±9.21	16.19±9.78	12.25±10.01	
	$\chi^2=25.725$	$\chi^2=76.770$	$\chi^2=950.838$	$\chi^2=26,770$	
χ^2/p	$p=0.873$	$p=0.703$	$p=0.039^{**}$	$p=0.001^{**}$	

*Kruskal Wallis Test; ** $p<0.05$

Discussion

In this study, the depression-related psychoeducation provided to antidepressant medicated patients was found to be effective in mitigating depressive symptoms of the patients. While there was not any significant differences between psychoeducation provided in groups and brochures, groups sessions were found to be more effective with regard to frequency values. When the depression scores of entire groups were compared, it was observed that depression score average of psychoeducation group was at the lowest level six months after education with regard to other control group (Table 3).

Statistical analyses revealed that depression score averages decreased and increased treatment adherence of depressed patients three and six months after education compared to pre-education scores and the differences among them were found to be significant. Such findings indicated a gradual decrease in depression symptoms from pre-education to six months after education in psychoeducation groups. Despite antidepressant medication in all three groups, the differences in group depression scores in post-education, three-six month follow ups was the highest in psychoeducation group and it was followed respectively by brochure group and medication group. These findings pointed out that psychoeducation provided together with antidepressant medication was highly significant in mitigating depression symptoms.

When the education was assessed with regard to groups, the further analysis carried out to identify the group resulting in such differences revealed that a significant decrease was observed in pre-education depression level of psychoeducation group compared to other stages. Such a finding is highly significant since it indicates rehabilitation between their initial states and their depression levels at last follow up. Decreasing

depression scores with medication is an expected case. The main point here in is to have such decrease at the highest and long-lasting level with psychoeducation. Current findings revealed that there were not any significant differences among psychoeducation, brochure and medication group before and one month after education, but significant differences were observed three and six months after education between psychoeducation and medication group, between brochure and medication group. The further analyses revealed the reason of such significant differences as the psychoeducation provided to psychoeducation and brochure group. Such findings were found to be significant with regard to efficiency of psychoeducation.

As stated in earlier literatures, it is hard to distinguish psychoeducation from the cognitive, behavioral and interpersonal therapies. They all improve the area of focus, but since psychoeducation includes several approaches, it improves various symptoms. The efficiency of such methods, in other words whether/or not they are clinically effective, can only be assessed through scales or inventories. In depressive stages, the important point is not the identification of effective method, but the identification of the method to cope with depression [17]. The present study revealed that the psychoeducation program implemented by psychiatry nurse was effective on depression symptoms and improved the persistence to the treatment, thus can be used as a cost-effective method in depression treatment. In one study was carried out a study on patients with major depression using antidepressants and found only psychoeducation more effective than cognitive-behavioral approach in mitigating depression levels of the patients with newly major depression at acute stage. On the other hand, researchers found cognitive-behavioral approach more effective than psychoeducation in

improving depression levels of the patients reached to major depression level 5 years ago. They also found cognitive-behavioral approach superior to psychoeducation in prevention of relapse [10].

In other study was carried out a study on Chinese patients with mental disorders for the first time and followed them up for 6 months. Researchers determined the efficiency of need-based psychoeducation program under the guidance of a nurse. They measured mental health levels, internalization of the illness, self-efficiency and hospitalization rates of the patients in psychoeducation group taking general care. They reported significant rehabilitations in measured values of patients participated into psychoeducation group six months after education [18]. A study was indicated positive effects of psychoeducation on patients with depression and bipolar disorder and reported that psychoeducation reduced the loads of social functions and care providers by 20% in schizophrenic patients and decreased relapse and hospitalization rates. Therefore, Rabovsky and Stoppe developed "mixed diagnosis group program" to ease the inclusion of psychoeducation into treatment various psychiatric disorders in 2006 [19]. A study was carried out a study covering 5142 patients and reported decreased relapse and hospitalization rates following psychoeducation intervention. Besides, researchers indicated that psychoeducation preserved social and global functions and provided clinical improvements [20]. In other study was carried out a meta-analysis study and were not able to mention about a certain judgement about the most effective intervention or persistence duration in optimum persistence treatment in antidepressant treatment [4].

In a study was carried out a study with hospitalized depression patients and compared the costs of care with general antidepressant use. The patients received 19 points and over from Hamilton Depression Scale participated in that study. The program had 9 sessions each of having 60 minutes. The number of days spent without depression symptoms increased at the end of the program. While the number was 17 days for a normal care period of 6 months, the number reached to 50 days after graduated care program but the costs increased. In this case, they concluded that psychoeducation might cost less in depressive patients than the other approaches. Those findings comply with the results of the present study [1]. Total costs were reported monthly during depressive episode as 7042 Euros in a study and indicated that this cost was reduced by 993 Euros in each month with reduced depressive symptoms. Those data comply with the present findings about the decreasing depressive symptoms in psychoeducation and brochure groups and cost-effective brochure-type education [21]. Various psychoeducational therapies implemented in different fashions by the nurses decreased the mild to moderate depression symptoms and found to be effective in prevention of depressive cases and in treatment of unipolar depression [22-24]. As it was in psychoeducation studies carried out with depressive patients of different cultures, depression symptoms decreased in the same levels in psychoeducation and brochure groups of the present study. Such a finding is significant to indicate the significance of brochure-type education provided

in outpatient depression treatment of patients using antidepressants for the first time. Current findings are also significant in pointing out psychoeducation as a cost and time-effective method in mitigating depression symptoms.

Conclusion

Depression is the most common psychiatric disorder worldwide. It results in significant losses in labor and health expenses and depressive patients have high risk of suicide and relapse. Therefore, it should be handled with great care by health professionals, especially by mental health and psychiatry nurses. Psychoeducational approaches, commonly used together with medication, include several approaches. Mental health and psychiatry nurses play a key role in implementation of psychoeducational approaches. Thus, evidence-based depression studies should be improved to allow the mental health and psychiatry nurses to gain competence in prevention and treatment of depression [8]. However, quite small amounts of time is allocated to psychiatry patients in Turkey because of increasing workloads, number of patients and limited sources of health facilities. Patients are not sufficiently informed about the disorder and treatment. Then, the patients are not able to cope with the disorder and commonly unsuccessful persistence in treatment. Psychoeducation is played in educational roles of nurses and it actually high-level role of psychiatry nurses [25]. Direct care, support, education, consultancy and implementation of psychoeducation sessions are also among the significant roles of psychiatry nurses [26]. The present study was carried out on patients with mild to moderate depression diagnosis for the first time and patients were followed up for 6 months. Along with current findings, further studies can be implemented by psychiatry nurses on patients with severe depression levels and longer follow-up durations. In this way, reliability of the method can be tested.

In Turkey, psychoeducation is provided from the polyclinics, but a follow up process has not been structured yet for outpatients. Psychoeducation programs especially implemented by psychiatry nurses should be provided right at the first application of the patients to polyclinics and psychiatry nurses should play an active role in such programs. Considering the time and cost of psychoeducation, the present study proved that psychoeducation group sessions were effective on mild to moderate depression levels at acute stage. It was also concluded that psychoeducation should be provided to patients with depression diagnosis for the first time and using antidepressants in brochures rather than in group sessions for economic purposes.

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