COMPAIRING GROUP BEHAVIOUR ACTIVATION AND CONTROL GROUP STUDY FOR RELAPSE PREVENTION IN MAJOR DEPRESSIVE DISORDER: A 6 MONTH FOLLOW UP STUDY

ABSTRACT:

A group offers a valuable experience where individuals not only have a therapist to help them with their problems but also have opportunity to learn from the experiences of other group members. And, as BA works on the assumption that depression results from changes in the patient's life circumstances or his/her environment which causes reduction in positive reinforcement; a group based BA would really be efficacious in treatment as it will offer individuals taking treatment learn through using behavioural techniques during the sessions with other group members. Depression been identified as the leading cause of disability worldwide, (WHO, 2018) it is important to explore a cost effective and time efficient therapeutic measure to treat. Also, in Indian context there is a scarcity of intervention based studies for treating depression using behavioural techniques alone and thus, with this aim; the present study is set to explore the effect of group based behaviour activation therapy in treating major depressive disorder.

The subjects in the study were assessed and reassessed using Beck Depression Inventory. The data gathered was analyzed using Regression analysis of mixed between –within ANOVA (Split – Plot Analysis). The result indicated that individuals receiving behaviour activation group intervention showed improvement in their level of depression over time in comparison to wait list control; thus Behaviour Activation was effective in treating and prolonging relapse along with improving condition of individuals suffering from Major Depressive Disorder.

Keywords: Major Depressive Disorder, Behaviour Activation Group Therapy, relapse prevention

MANUSCRIPT:

Introduction:

The core concept of Major Depressive Disorder (MDD) came into existence since the time mankind existed; with what Hippocrate (460–377 BC) described melancholia which was similar to how mood disorders are described today.

However, a clearer picture and understanding for the concept of MDD came with DSM III (APA; 1980), DSM IV (APA; 1994) and DSM IV –TR (APA; 2000); where depression was differentiated in term of its severity and occurrence of episodes; where if a patient is experiencing a first major depressive episode in his or her lifetime, MDD single episode is diagnosed. On the other hand, if previous episodes have been present, MDD recurrent is considered, with other related symptoms. These developments in understanding and conceptualization of depression also led to studies exploring its prevalence.

A lifetime prevalence of the MDD is 10% to 25% for women and between 5% and 12% in men with onset of MDD, Blazer Dan G II 2000; & Kessler RC. 2003) between the ages of 20 and 40 years making it the second leading cause of burden of the disease (WHO, 2005). With the greatest risk associated with MDD as threat of suicide, both attempted and completed. Thirty percent of completed suicide cases have a mood disorder diagnosis (Inskip HM et. al 2004). Moreover, MDD is also found to be linked with other social disability, and the lifetime risk of death by suicide (Kaplan HI, Sadock BJ; 2003) which makes MDD one of the world's greatest public health Problem (Murray CJL, Lopez AD; 1996)

Researches all over world states that psychological treatment combined with antidepressant is associated with a higher improvement rate than drug treatment alone (Pim Cuijers et.al.; 2013).

Among psychological treatment cognitive behaviour therapy and cognitive therapy are the most researched and tried treatment method, both treatment option have shown efficacy in treating depression. Researchers have also shown that CBT is as effective in treating depression as antidepressant medications (Robert J. DeRubeis, Greg J. Siegle, and Steven D. Hollon, 2008; Gerald Gartlehner Gernot Wagner et.al,2017; Sandro Pampallona, ScD; Paola Bollini, MD,et.al,2004)

Research reviews have stated that there has been no study based on Indian population to prove the efficacy of any new psychotherapeutic methods, and none to see the efficacy of new generation therapy as Behaviour Activation (BA). Thus, the present study is conducted with the view to see the efficacy of group based BA on individuals suffering from MDD on a pre and post test intervention in comparison to those in waiting list Control (WLC).

METHODOLOGY:

Study Design:

The present research is an experimental study, by type and an applied research, by purpose, which has been done within pre-test-post-test and 6 month follow – up design taking into account a control group (Figure 1).

Figure 1: Research Design

Experimental group			
Depression pre- test	10 therapy session 60 minutes each For 10 weeks } trained therapist	Depression post- test	Depression 6 month follow – up post treatment
Control group			
Depression pre - test	10 unstructured meeting 20 minutes each For 10 weeks } Counsellor	Depression post test	Depression 6 month follow –up Post treatment

Statistical Population, the Sample and the Sampling Procedure

Overall sample comprised of 120 consenting adults of which 35 dropped out of study due to financial, family constraints and taboo associated with treatment and 25 individuals were not considered as study sample as they did not fit the inclusion criteria for the study.

Finally 60 individuals both men and woman above age 20 and below age 45 years from hospitals and rehabilitation centres providing psychiatric treatment, with diagnosis of Major Depressive Disorder, as per Diagnostic and Statistical Manual for Mental Disorder (DSM – IV TR); were selected as sample of the study. All the participants were screened using Beck Depression Inventory (BDI), Beck, A. T. (2017) to get the baseline score for Depression, and the Psychiatric Diagnostic Screening Questionnaire (PDSQ), Zibberman, M. (2002) for assessing the co-morbidity. Individuals selected as sample should have a score of 20 and above on BDI and should not have any co-morbid condition on PDSQ. These procedures were carried out by trained Counsellor (training of these counsellors will be done by licensed Clinical Psychologist).

Those participants who consented for participating in the study were randomly allotted to two treatment groups (BA and WLC) (the random allocation of participants was done using permuted blocks

randomization) After randomization; group therapy sessions for BA was conducted by Licensed Clinical Psychologist (Therapist) and for WLC group was conducted by counsellor.

Variables in study: The independent variable in the study is the treatment provided to all participants through BA and WLC (GROUP). The dependent variables in the study are the score of Depression as assessed by BDI at three times span (pre test, post test and 6 month follow up scores for depression)

Data collection instruments

Beck Depression Inventory (BDI)

BDI is used as a screening tool for symptom of depression present in an individual. It is a self – report inventory. Alpha reliability ranges from .76 to .95 in psychiatric population. BDI takes approximately 5-10 minutes to complete. Each statement is scored on a four point scale (0 – 3) and a total score is obtained by summing the ratings of each statement. Sum point of all 21 item ranges form 0 – 63. A score of 0-13 indicates no depression, score of 14 – 19 indicative of mild depression. 20– 28 indicative of moderate depression and score 29-63 and above indicative of severe depression.

Psychiatric Diagnostic Screening Questionnaire (PDSQ)

It is a screening tool for co – morbid conditions. It is a self- report instrument designed to screen for the DSM IV; Axis I disorders. The scale had 125 yes/no items and takes approximately 15 to 20 minutes to be administered and completed. PSDQ can be scored to obtain subscale score in 13 areas : major Depressive Disorder, Obsessive –Compulsive Disorder, Post- traumatic Stress Disorder, Bulimia/ Binge Eating Disorder, Psychosis, Agoraphobia, Social phobia, alcohol abuse/ dependency, drug abuse/ dependency, generalised anxiety disorder, somatization disorder and hypochondriasis. The PSDQ scale will be used to just assess if the participant is having any other co –morbid condition. The score of PDSQ will not be used for analysis purpose in the present study.

TREATMENT:

Behaviour Activation (BA) ten sessions of group intervention for BA were conducted in ten weeks time. Each session was for 60 minutes.

Briefly; session one would include welcoming the group members and expressing optimism about their decision to attend the sessions. It would include an introduction to the common rules and regulation to be followed by all the group members this would be: confidentiality, no acting out or interruptions during session, complete participation, following and completing the homework assignment. The therapist would also describe some of the benefits of group therapy. Further the group members would introduce them self to each other. The session would include an introduction to the behavior theory of depression elaborating the goal and importance of Behavior Activation in treating depression. The role and responsibility of therapist focusing on; how the therapist would be a personal trainer to every group member, and guide them in achieving their therapeutic goal would also be discussed in the session. The session would end by asking members of group to fill BDI to take the initial score for depression. Finally the members would be encouraged to participate in the study.

Sessions 2nd to 9th would include helping group members understand treatment aim and goal. In these sessions the therapist would aim to teach individuals treatment techniques such as (functional assessment, mastery and pleasure rating of activities, verbal report of activities, maintaining and completing daily activity scheduling, understanding relationship between mood and environment, active approach toward problem solving; using methods such as: role play, role rehearsal, reinforcement of activity and others. Therapist would also aim at discussing the past experiences of individuals so as to assist him/her by reflecting, probing and clarifying with the mindset of identifying behaviors to target for intervening. Members of the group will begin their group activity from a warm up exercise (progressive muscle relaxation, relaxation, imagery or other) followed by use of various other techniques to increase positive experiences from life.

The main focus is to increase the amount of responsibility to the group members and this involves the individuals to take on more responsibility for their own treatment as well as for helping other group members with treatment. The final phase would include setting of homework assignment.

The tenth session includes sharing of any meaningful experiences by group members; and detailing the individual's about relapse prevention including how to identify relapse and quick review of implementation of behavioral techniques to counter the symptoms. There was also a small session planned for family members where they were interviewed on their view about depression, intervention based

treatment method and their report of improvement shown by their respective family member. The final phase the individuals would be asked to score themselves using BDI.

Waiting list Control (Group):

Individuals in Waiting List Control will be seen by a trainee counsellor for therapy sessions. Individuals in waiting group will not be given structured sessions; which mean that there will be no cognitive or behavioural techniques used in treating these individual it will be. However, they will be asked to meet their therapist as frequently as individuals receiving group behaviour activation.

RESULTS:

Data Analysis Method

In order to analyze the data, we have used analysis of mixed between –within ANOVA (Split – Plot Analysis) all stages of analysis have been done by using SPSS software.

TABLE 1: *Statistical Description of Depression Test in the Experimental & Control group*

Group	Variables	Number of Subjects	Pre –test	Post- test	6 month follow – up
			Mean	Mean	Mean
BA	Depression	30	30	20	9
CONTROL	Depression	30	32	29	23

Table 1 shows the mean value of each group (behaviour Activation and wait list control) across three time points respectively (pre- test, post test and 6 month follow up) for numeric differences in level of depression. In the table above the mean score for Behaviour Activation group for pre tests were 30 while post test was 20 and it further reduced to 9 at 6 months follow - up. In other words there was a considerable decrease in depression score across three time point in those who received treatment in comparison to control.

A representational graph for same is also presented below to give a clearer view of how means have changed from pre to post study in the two therapy groups BA and WLC

GRAPH 1: Graph representation of group mean with passage of time
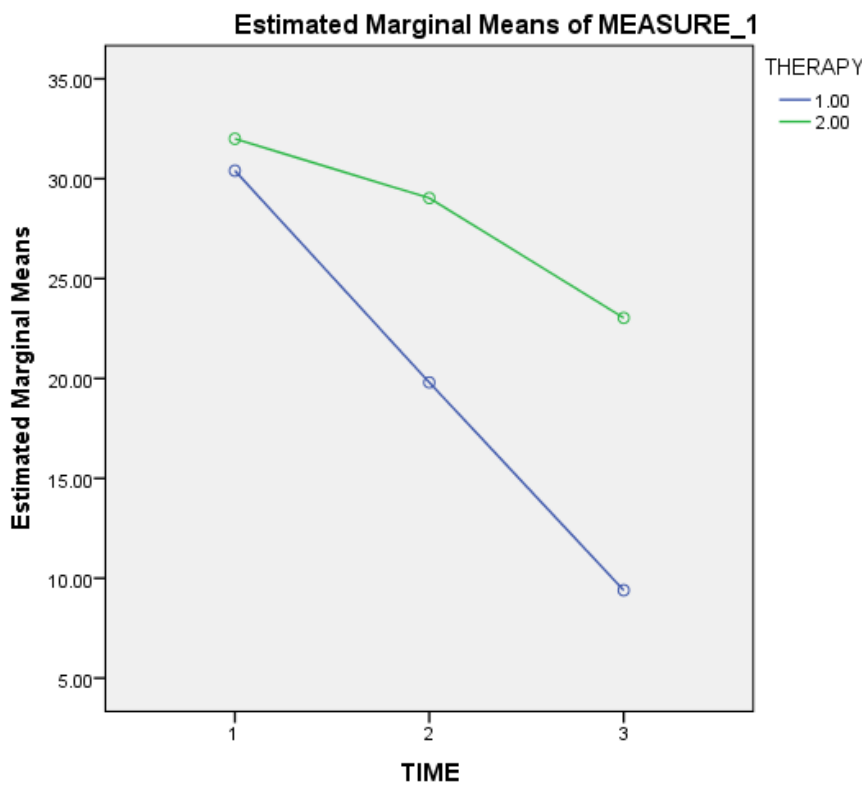
GRAPH 1: In the graph above time represents the three time points respectively (pre- test, post test and 6 month follow up) the estimated means represent the mean value of two therapies (1. BA group intervention, 2. WLC group). The graph clearly shows the drop in mean value showing significance change in the value of depression score for therapy 1 that is BA group intervention in comparison to 2 that is WLC group with passage of time.

TABLE2: Interaction effect

$P<.0,$ $f > .14$

Effect		Value	Hypothesis df	Error df	Sig.	Partial Eta Squared
Time	**Wilks' Lambda**	.121	2.000	57.000	.000	.879
time * group						
	Wilks' Lambda	.529	2.000	57.000	.000	.471

TABLE 2: Shows the interaction effect to assess whether there is any chance in score of Depression over time for two different groups. The result above shows a significant value for time and group interaction

which means that across time therapy showed effect; with a higher value for partial eta square indicative of large effect size which means that time and group interactive were highly significant for therapy.

Further, the table also showed significant value across time with higher value for partial eta square this indicates that there is a significant difference with large effect size in Depression score across three time point; which means that level of Depression reduced with time for post test and then further for 6 month follow- up.

TABLE 3: Pair wise Comparisons (three time point)

Pairwise Comparisons						
Measure: MEASURE_1						
(I) TIME	(J) TIME	Mean Difference (I-J)	Std. Error	Sig.b	95% Confidence Interval for Differenceb	
					Lower Bound	Upper Bound
1	2	6.783*	.635	.000	5.218	8.348
	3	14.983*	.839	.000	12.914	17.052
2	1	-6.783*	.635	.000	-8.348	-5.218
	3	8.200*	.420	.000	7.165	9.235
3	1	-14.983*	.839	.000	-17.052	-12.914
	2	-8.200*	.420	.000	-9.235	-7.165
Based on estimated marginal means (Time point 1. Pre test ; 2. post test ; 3. 6 month follow- up)						
*. The mean difference is significant at the .05 level.						
b. Adjustment for multiple comparisons: Bonferroni.						

P <.05

Table 3: shows which time point (pre- test, post – test and 6 month follow – up respectively) was significantly different from each other; the finding above shows that time point 1 compared to 2 and 3 had significant difference; which means that level of Depression improved from pre -test to post- test and further reduced at 6 month follow- up. Further, results also indicates that time point 2 had significant difference in comparison to time point 3 which means that there was further significant improvement in level of Depression from post test to 6 month follow up. Thus, it could be concluded that exposure to treatment over time has significant difference over level of Depression.

DISCUSSION:

The present research aimed at exploring the efficacy of BA when conducted in group in a 6 month follow – up study; in treating MDD for age group 20 to 45 years on Indian adults. Present research findings indicated that there were significant changes in the level of depression among individuals being treated with group BA in comparison to WLC. The present study findings also showed that the improvements in the depression scores were not only limited to post intervention among treated individuals but, depression score further decreased in 6 month post treatment follow- up. These findings thus implicate that; the individuals who attended the therapy were able to practice these techniques to improve their condition post treatment. The present study also shows that with time; there was a significant change in self – rating of depression, which indicates that BA therapy when conducted in group helped individuals in prolonging their relapse. Thus, these findings imply that behaviour activation is a workable therapy among Indian population. The research finding of present study are in line with results already reported by; (Porter, Spates, And Smitham, 2004; Dobson et al.2008; Dimidjian et al.2006; Ekers D,2014).

Group intervention for BA also seemed to have its own perk as indicated by the observational report of the present study. It was observed that individuals in group helped each other during therapy session by discussing their life events to identify those life events that had lead to decreased reinforcement and pleasure seeking and has added to negative events in their lives and thus, further help each other adapt to improved method of acting and handling situation, with an active help of the therapist during sessions. It was also seen that individuals in group helped each other differentiate between health and unhealthy coping mechanisms. Group also offered an effective environment for role play, modelling, and behavioural rehearsals.

Group intervention in the present study helped in changing the myths and stigma related to depression. The individuals who attended therapy and their family members during the last session were interviewed on their pre and post treatment view about therapy and depression where they reported to have learn that depression can happen to anyone irrespective of caste, economical condition, education, marital condition or gender. And if approached adequately individuals having depression can learn adaptive mechanism to deal effectively with same.

Present study also has further implications for clinicians treating MDD considering the cost-conscious environment. In the present research we found significant improvement in MDD only in 10 sessions of group therapy. If we see this from an economical perspective, the use of group format allows the clinician to render their services to more individuals per unit of time, compared to individual therapy (Porter, Spates, And Smitham, 2004). Group therapy can also be cost effective for the individuals receiving treatment; however this completely depends on the clinician.

BA group therapy is easy to administer and easy for a therapist to assess the change in the recipient. It is very easy to learn and follow because participants does not require abstract thought processes or developed cognitive ability; it could even be helpful to those with limited intellectual abilities, regardless of whether they are suffering from depressive condition. (Porter, Spates, and Smitham, 2004)

CONCLUSION:

The present study is an explorative study to assess the efficacy of group BA among Indian adults. In the present study result analysis have show positive results; that group BA can be used among adults and help them deal effectively with their depressive symptoms.

The present study has also shown that group intervention has its own benefit; where it not only provided individuals in treatment with an environment for role play and rehearsals, but is also cost effective and allows the therapist to render their service to many individual in a single setup.

Among the restrictions of the present research, we may refer to the shortness of the training period and the lack of a follow up study to explore the effectiveness of group BA intervention method. Furthermore, further research should include 12 months and 18 month follow- up to see if there is any long term improvement achieved through therapy. Also separate analysis should be included to explore the cost effectiveness and time effectiveness for the group therapy.

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