

Application of Cognitive Behaviour Therapy for The Management of Delusion and Hallucination of Patients With Schizophrenia

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Abstract :

Aim: The study was undertaken with the aim to investigate the applicability of cognitive behaviour therapy in the management of delusions and hallucinations in patients with schizophrenia.

Method: A total of 20 patients with schizophrenia having prominent delusions and hallucinations were selected through purposive sampling technique. Samples were divided into two groups, control and experimental, with 10 subjects in each group. The psychotic symptom rating scale was used for the pre and post assessment of the severity level of the hallucinations and delusions of patients with schizophrenia. The individual case conceptualization was done and then suitable cognitive behaviour therapy techniques were used for the management of delusions and hallucinations of the individual cases. The commonly used cognitive behaviour therapy techniques for the management of delusions are socratic questioning, downward arrow technique,

cognitive restructuring, evidence analysis, behavioural experiments for reality testing of delusional beliefs and dysfunctional thought record for identifying and avoiding the precipitating contexts. Cognitive restructuring techniques and coping strategies are used for the management of hallucinations. The Wilcoxin Signed Rank Test used for the analysis of within group difference and Mann Whitney U Test used for the analysis of between group differences.

Result: The findings suggest that cognitive behaviour therapy is significantly effective in reducing delusional thinking, associated distress, beliefs and associated distress related to hallucinations.

Conclusion: Cognitive behaviour therapy is significantly effective to the management of delusional thinking and beliefs associated to hallucinations.

Key Words: Hallucinations, Delusions, Cognitive Behaviour Therapy.

Introduction

Schizophrenia is characterized by a broad range of unusual behaviours that cause profound disruption in the lives of people suffering from the condition, as well as in the lives of the people around them. The symptoms of schizophrenia seem peculiar to people who observe them. However, when people are experiencing schizophrenic symptoms they have little or no insight that their perceptions or behaviours are strange. The lack of insight can make schizophrenia very frustrating and frightening for loved ones.

The worldwide review of persons with schizophrenic symptoms were studied by World Health Organization (1973), the most frequent symptoms of schizophrenia are lack of insight – 97%, auditory hallucinations – 74%, ideas of reference – 70%, suspiciousness – 66%, flatness of affect – 66%, voices speaking to the patient – 65%, delusional mood – 64%, delusions of persecution – 64%, thought alienation – 52% and thought spoken aloud – 50%[1].

The most obvious kinds of impairment caused by schizophrenia involve how a person thinks. The individual can lose much of the ability to rationally evaluate his or her surroundings and interactions with others. They often believe things that are untrue, and may have difficulty accepting what they see as “true” reality. This leads to the formation of delusions.

In schizophrenia one has difficulty in discriminating between real and unreal experiences, accompanied by the inability to think logically, have contextually appropriate emotions, and to function in social situations. Jaspers (1962) define: “Hallucinations proper are false perceptions that are not in any way distortions but spring up on their own as something quite new and occur simultaneously with and alongside real perception”. The common hallucinations that occur in schizophrenia are auditory hallucinations.

Despite major researches efforts on understanding the genetics and biological basis of schizophrenia especially for hallucinations and delusions, and over five decades of intensive development of new drugs for these conditions, psychopharmacology has not yet provided a complete solution for severe mental disorders especially schizophrenia. Treatment failures, residual symptoms, chronicity and recurrences are commonplace. Additional treatment methods such as cognitive behaviour therapy are needed to help patients understand and manage their illness, reduce symptoms and solve problems that do not fully respond to medication.

Cognitive Behaviour Therapy is a psychological treatment technique proposed by Beck (1952) that addresses the interactions between how we think, feel and behave [2]. The cognitive behaviour therapy is the combination of cognitive therapy and

behaviour therapy which help the individuals to identify their cognitive patterns or thoughts and emotions that are linked with behaviours. It is usually time-limited, focuses on current problems and follows a structured style of intervention.

There is substantial evidence that cognitive behavioural interventions can add to the effects of medication in reducing hallucinations and delusions [2,3,4]. Cognitive behaviour therapy strategies aim to teach patients specific skills to fight early signs and symptoms and thereby restrict or stop the progression of symptoms (Basco 2006). Meta analyses of more than 20 randomized controlled studies have established the efficacy for cognitive behaviour therapy in schizophrenia in reducing persistent positive symptoms in patients [5].

Though the widespread researches have been done about the effectiveness and applicability of the cognitive behaviour therapy for the management of the positive symptoms of schizophrenia but whether cognitive behaviour therapy with pharmacological treatment provides only symptomatic relief from delusions and hallucinations or is helpful in reducing the associated beliefs and distresses is still in dilemma especially for Indian population because there are very few studies conducted regarding such problem. This study was done to find out the applicability of cognitive behaviour therapy in the management of the delusions and

hallucinations in patients with schizophrenia.

Method

Sample: 20 male patients of schizophrenia with hallucinations and delusions were selected and divided into control and experimental group through purposive sampling technique from inpatients of Ranchi Institute of Neuro-Psychiatry and Allied Sciences (RINPAS), Kanke, Ranchi. Both the groups were matched on socio-demographic and clinical variables. The age range of patients was between 25-55 years; minimum education level was upto standard 10 and the patients were on maintenance dose of medications. The patients having formal thought disorders, prominent negative symptoms, severe cognitive deficits, other co-morbid psychiatric disorders, mental retardation, organic history and substance abuse history were excluded.

Tools: For the present study following tools were used:

Socio-demographic and Clinical Data Sheet: It was semi structured proforma especially designed for this study. It contains information about socio-demographic variables like age, sex, education, marital status, residence, occupation, religion and clinical variables like age of onset of illness, mode of onset of illness, course of illness, duration of illness, medication, history of alcohol or substance abuse, family history of mental illness and co-morbid psychiatric illness.

The Psychotic Symptom Rating Scale: The Psychotic Symptom Rating Scale (Haddock, 2009) was used for the pre and post assessment of variables of delusions and hallucinations and related stressors. It is an interviewer administered scale and contains two scales rating of auditory hallucinations and rating of delusions. The scales have demonstrated excellent inter-rater reliability for hallucinations ranging from 0.79 to 0.90 and for delusions 0.79 to 0.88. A substantial validity was found on comparing the Psychotic Symptom Rating Scale with the psychiatric assessment scale (Krawiecka et. al 1977).

Procedure: Initially clinical interview sessions were focused to collect the required history from patient and case record file. Then socio-demographic and clinical data sheet were filled for necessary information and sample selection. The Psychotic Symptom Rating Scale was subsequently administered on patients for baseline assessment. Then the drawn samples were divided into two groups (Control and Experimental Group) with 10 subjects in each group. Both the groups underwent psycho-educational programme, along with routine therapeutic intervention (group meeting and pharmacotherapy). However, only the experimental group received cognitive behaviour therapy intervention. The therapeutic intervention was started with individual case conceptualization of hallucinations and delusions, and then different

cognitive behaviour therapy techniques were used as per requirement of nature of problem in each of the individual cases. Patients of both groups were re-assessed after two months period of time.

The cognitive behaviour therapy for the management of delusions and hallucinations:

The therapy sessions were scheduled twice a week for a period of two months. In beginning sessions, a brief introduction given to patients about the therapeutic intervention and their effectiveness in their problems related to hallucinations and delusions. Subsequent sessions were focused on detail assessment and cognitive conceptualization of the patient's problems. The therapeutic procedure started with psychoeducating and normalizing patients for reducing their uncertainty and distresses related to symptoms. The further sessions progressed with the socialization and cognitive conceptualization of the patients' problematic behaviour related to delusions and hallucinations. Then identification and modification of the cognitive distortions related to hallucinations and delusions through socratic questioning and downward technique were done. The cognitive challenging and restructuring of delusional belief and beliefs associated with hallucinatory voices through evidence analysis, behavioural experiment and dysfunctional thought record form were done. The dysfunctional thought record form was

also used for understanding the relationship of event, emotion, thinking and consequences related to delusional belief and hallucinatory voices and also used in preventing and managing the further triggering events and situations of delusions and hallucinations. Those cases with hallucinations which was not showing significant improvement in their topographical (frequency, location, loudness and duration of hallucinations) characteristics were managed by distraction techniques such as reading story books, watching T.V., talking with other patients and occupational therapy in a high noise work setting. After working through the beliefs about delusions and hallucinations the later sessions were focused on helping the patients for preventing and managing the further triggering events and situations for hallucinations and delusions.

Statistics: The Wilcoxin Signed Rank Test used for the analysis of within group difference and Mann Whitney U Test used for the analysis of between group differences.

RESULT

Baseline Assessment

Table 1. Baseline assessment in hallucinations of patients suffering from schizophrenia on Psychotic Symptom Rating Scale

The baseline assessment of hallucinations denotes that the frequency of hallucinations, duration of hallucinations, location of hallucinations, loudness of

Areas of assessment	Mean Rank	Mann Whitney	
		U value	Z Score
Frequency	100	45	0.46 ^{NS}
Duration	95	40	0.93 ^{NS}
Location	100	45	0.44 ^{NS}
Loudness	101.5	46.5	0.32 ^{NS}
Belief of voices	95	40	0.89 ^{NS}
Amount of negative content	87	32	1.53 ^{NS}
Degree of negative content	83.5	28.5	1.83 ^{NS}
Amount of distress	90	35	1.51 ^{NS}
Intensity of distress	79	24	2.33 ^{NS}
Disruption of life	97	42	0.70 ^{NS}
Controllability	89.5	34.5	1.53 ^{NS}

hallucinations, belief about voices, amount of negative content of hallucinatory voices, degree of negative content of voices, amount of distress due to hallucinatory voices, intensity of distress due to hallucinatory voices disruption of life and controllability of hallucinatory voices are found almost similar amount of severity in both experimental and control group.

Table 2. Baseline assessment of delusions in patients suffering from schizophrenia on psychotic symptom rating scale

Areas of assessment	Mean Rank	Mann Whitney	
		U value	Z Score
Amount of preoccupation	80	25	2.19 ^{NS}
Duration of preoccupation	75	20	2.67 ^{NS}
Conviction	100	45	0.61 ^{NS}
Amount of distress	97.5	42.5	0.64 ^{NS}
Intensity of distress	90	35	1.51 ^{NS}
Disruption of life	95	40	0.94 ^{NS}

The baseline assessment of delusions shows that the amount of preoccupation with delusions, duration of preoccupation with delusions, conviction with delusions, amount

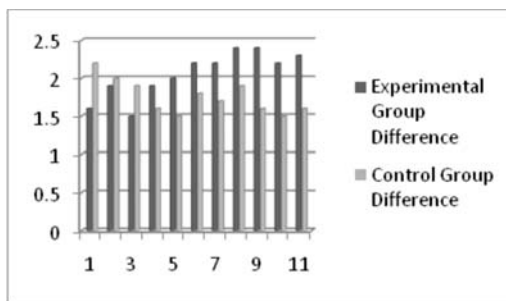
of distress due to delusions, intensity of distress due to delusions and disruption of life due to delusions are found in almost similar amount of severity in both experimental and control group.

Between group difference

Table 3. The comparison of difference between post assessment of experimental and control group of hallucinations on Psychotic Symptom Rating Scale

Areas of Assessment	Group Difference (Mean±SD)		Mann Whitney U Test	
	Exp. Group Difference (Pre-Post)	Control Group Difference (Pre-Post)	U value	Z Score
Frequency	1.60±0.22	2.20±0.38	29	1.68 ^{NS}
Duration	1.90±0.22	2.00±0.41	42.5	0.60 ^{NS}
Location	1.50±0.26	1.90±0.44	45	0.40 ^{NS}
Loudness	1.90±0.22	1.60±0.40	43	0.59 ^{NS}
Belief of voices	2.00±0.25	1.50±0.44	38.5	0.93 ^{NS}
Amount of negative content	2.20±0.30	1.80±0.47	45.5	0.35 ^{NS}
Degree of negative content	2.20±0.30	1.70±0.39	46	0.32 ^{NS}
Amount of distress	2.40±0.28	1.90±0.44	45.5	0.36 ^{NS}
Intensity of distress	2.40±0.28	1.60±0.47	49.5	0.04 ^{NS}
Disruption of life	2.20±0.27	1.50±0.42	35.5	1.15 ^{NS}
Controllability	2.30±0.24	1.60±0.44	38.5	0.94 ^{NS}

NS - Not significant at 0.05 level of confidence



The mean difference of pre and post assessment of hallucinations.

The difference of post assessment between experimental and control group on hallucinations in Psychotic Symptom Rating

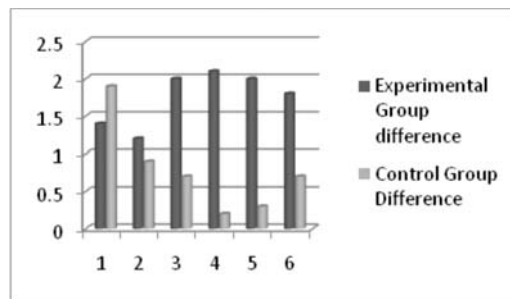
Scale showed that all the domains of hallucinations were not found significantly different at 0.05 level of confidence suggests there is no significant changes were found in post assessment of both experimental and control group participants. This indicates that there is no statistically significant difference between pharmacological intervention and cognitive behaviour therapy together in reducing the all domains of hallucinations in psychotic symptom rating scale. But the mean difference showed in the graph indicates that loudness of voices, belief about voices, amount of negative content, degree of negative content, amount of distress, intensity of distress, disruption of life and controllability of voices does show reduction in experimental group as compared to control group which suggests that pharmacological intervention is better in the management of hallucinations as compared to pharmacological intervention alone.

Table 4. The comparison of difference between post assessment of experimental and control group of delusions on psychotic symptom rating scale

Areas of assessment	Group Difference (Mean±SD)		Mann Whitney U Test	
	Exp. Group Difference (Pre-Post)	Control Group Difference (Pre-Post)	U value	Z Score
Amount of preoccupation	1.40±0.22	1.90±0.22	12.5	3.08*
Duration of preoccupation	1.20±0.20	0.90±0.20	13	3.09*
Conviction	2.00±0.25	0.70±0.17	9	3.43**
Amount of distress	2.10±0.24	0.20±0.22	1.5	3.90**
Intensity of distress	2.00±0.21	0.30±0.17	3	3.79**
Disruption of life	1.80±0.20	0.70±0.28	7.5	3.40**

*Significant at 0.05 level of confidence

**Significant at 0.01 level of confidence



Mean difference of pre and post assessment of delusions

DISCUSSION

Baseline Assessment

The baseline assessment suggest no significant difference on socio-demographic variables, clinical variables and hallucinations and delusional variables of Psychotic Symptom Rating Scale which reflects both experimental and control group participants were almost similar.

Between Group Difference

The comparison of post assessment findings of experimental and control group after two months with or without cognitive behaviour therapy intervention on all the domains of hallucinations in Psychotic Symptom Rating Scale were not significant statistically between experimental and control group. However the mean differences shows that belief about hallucinatory voices, amount of negative content, degree of negative content due to hallucinations, amount of distress due to hallucinations, intensity of stress due to hallucinations, disruption of life due to hallucinations, controllability of

hallucinatory voices was considerably reduced in experimental group in comparison to control group. However, the frequency, duration, location and loudness of hallucinatory voices were markedly reduced in control group as compared to experimental group. The similar findings were obtained in different researches, such as Wykes et al. (1999) found in their exploratory study of effectiveness of cognitive behaviour group treatment for auditory hallucinations that there were significant changes in perceived power of hallucinations, associated distress and coping strategies [6]. Wiersma et al. (2004) studied the hallucinations focused integrative treatment improves quality of life in schizophrenic patients [7]. The findings suggest that the psychosocial treatment (cognitive behaviour therapy and coping training) was effective in the management of patients with schizophrenia. The follow-up data suggest a significant improvement of quality of life and in particular in social role functioning in favour of the integrated treatment. This integrated treatment is very effective in reducing overall disability levels due to hallucinations. Pinkham et al. (2004) studied group cognitive-behavioural therapy for auditory hallucinations and found the significant effectiveness of group cognitive behaviour therapy for positive changes in the participant's beliefs about hallucinatory voices, negative reaction to the voices and beliefs or distress associated with the voices [8].

The findings on delusions in the Psychotic Symptom Rating Scale suggest that the most of the domains of delusions were significant statistically which indicates the significant reduction of duration of preoccupation with delusional thinking, conviction with delusional thinking, amount of distress due to delusional thinking, intensity of distress due to delusional thinking and disruption of life due to delusional thinking in experimental group participants after two months of cognitive behaviour therapy intervention along with pharmacological treatment as compared to control group, who were only on pharmacological intervention except the amount of preoccupation with delusions. This indicates cognitive behaviour therapy management is significantly effective

in reducing delusional thinking and associated distress as compared to only pharmacological management. Faith B Dickerson (2000) studied the cognitive behavioural psychotherapy for schizophrenia: a review of recent empirical studies. Many studies of clinical trials of cognitive behaviour therapy for schizophrenia since 1990 suggest that cognitive behaviour therapy is beneficial in reducing overall symptom level, especially the severity of delusions [9]. Top of Form

Conclusion

The findings of the study suggest that cognitive behaviour therapy is significantly applicable for the management of delusional beliefs and distresses associated with beliefs about voices of hallucinations.

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