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Management of Positive and Negative Symptoms of Schizophrenia with Cognitive Behaviour Therapy: A Case Study

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Mr. Z. was a 35 years old man, educated up till eighth grade, eldest among five siblings and was a resident of Lahore. He was referred to the hospital with the complaints of hearing a voice which was commanding client about everyday life chores, suspiciousness that someone was trying to harm him and belief that people look and laugh at him. He also reported feelings of restlessness and social withdrawal. The client was diagnosed with Schizophrenia, Multiple Episodes, currently in Acute Episode on the basis of formal and informal assessment. The case was conceptualized on Cognitive Behaviour Therapy (CBT) and it was used to devise a management plan for the client. A total number of 16 sessions were conducted with him in which different techniques like normalization, ABC model for hallucination and delusion, coping strategies enhancement, challenging beliefs about voices and delusions through verbal challenging techniques and empirical testing, family counselling, relapse prevention were used for the management of symptoms. The client reported to have approximately 70% of improvement by the termination of therapy.

Key Words: Schizophrenia, positive symptoms, negative symptoms, cognitive behavior therapy

Schizophrenia is a multifaceted psychological disorder which is characterized by an array of positive and negative symptoms. Positive symptoms of schizophrenia include hallucinations, delusions, formal thought disorders and bizarre behaviour while, negative symptoms include alogia (lack of verbal expressivity), avolition (lack of engagement in constructive activities), anhedonia (lack of ability to experience pleasure in activities) and a-sociality (lack of interest in social activities) (APA, 2013). Negative symptoms can occur in response to positive symptoms or can serve as a protective factor for the client when they face threatening delusions and hallucinations (Beck et al., 2009). The onset of schizophrenia typically ranges from late teens to mid-30s and the onset is rare prior to adolescence. For men, the onset of the first psychotic episode is in the early- to mid-20s and for women, it is in the late-20s (APA, 2013). A study conducted in Pakistan with the sample of 128 men and 111 women diagnosed with schizophrenia showed that the mean age of onset of first psychotic symptoms was 24.86 ± 8.83 years for men while 26.57 ± 9.96 years for women (Naqvi et al., 2010).

Previous studies supported the idea that genetic influences play a significant role in the development of schizophrenia (Gejman et al., 2011; Henriksen et al., 2017). A cognitive explanation also supports the biological view that the brain of an individual with schizophrenia produces strange and unreal sensations that are triggered by biological factors (Comer, 2013). However, further features of the disorder emerge when an individual attempts to understand their

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unusual experiences (Tarrier, 2008, as cited in Comer, 2013). A stress vulnerability model proposed that the course and severity of schizophrenia are determined by an interplay between biological vulnerability, environmental stress, and coping skills. When an individual has a biological vulnerability to schizophrenia, that vulnerability can be triggered by environmental stress, leading to the emergence of symptoms and characteristic impairments (Zubin & Spring, 1977).

Both pharmacological and nonpharmacological treatments are advised to optimize the long term results of schizophrenia (Ganguly et al., 2018). Considering the nonpharmacological treatments, cognitive behavior therapy (CBT) has shown effective results for positive symptoms of schizophrenia (Gould et al., 2001; Rector & Beck, 2001). Furthermore, Wykes et al. (2008) reported small - moderate effect sizes for both positive and negative symptoms through controlled trials. Therefore, it can be concluded that CBT is effective for the management of positive symptoms (such as hallucinations and delusions) but CBT alone does not respond in cases where extreme delusional conviction or extreme negative symptoms are present (Brabban et al., 2009). It was also reported that CBT gives more promising results when used adjunct to pharmacotherapy with clients having acute symptoms of schizophrenia rather than chronic condition (Zimmermann et al., 2005). Therefore, the present study focused on the management of positive and negative symptoms of schizophrenia with the help of cognitive behaviour therapy (CBT).

Objective of the Study

The objective of the study was to investigate the efficacy of Cognitive Behaviour Therapy for positive and negative symptoms of schizophrenia

Hypotheses of the Study

Cognitive behaviour therapy is likely to significantly reduce client's presenting complaints such as auditory hallucinations (hearing a voice which was commanding client about everyday life chores), persecutory delusions (suspiciousness that someone was trying to harm him), referential delusions (people look and laugh at him), social withdrawal and restlessness.

Method

Research Design

An ABA research design was employed to investigate the efficacy of CBT in treating schizophrenia.

Sample

The sample included was a 35 years old man who was educated up till eighth grade and was eldest among five siblings.

Case Description

The client Y.R. was a 35 years old man, educated up till eighth grade and was eldest among five siblings. The client was referred to the hospital with the complaints of hearing a voice, which was commanding him about everyday life chores, suspiciousness that someone was trying to harm him and belief that people were looking or laughing at him. He was also experiencing social withdrawal and restlessness. According to the informant (mother), the client's problem started back in 2010, when he was employed in a garment factory. His

colleagues in the factory used to smoke due to which client also developed the habit of smoking. One day, he was caught smoking by one of his senior colleagues during the working hours which was against the rules and regulations of factory. Coincidently, the factory caught fire and one block of the factory burnt down on the same day. His colleagues along with the higher authorities accused the client for the fire in the factory because of smoking cigarette in that block. However, the matter was resolved after investigation as it was due to short circuit of the wires. The client felt insulted and humiliated as he was a hardworking employee and no one in the factory stood with him when he was being accused so he quit the job on the same day. He started looking for another job but was unable to find any. During these days, he started questioning people around him and felt that they were against him. He started staying in his room most of the time and refused to do anything. He also stopped changing his clothes for days which was not his usual behaviour as he used to change clothes daily.

After struggling for 4-5 months, he found a job at another garment factory. Client reported that when he went there, he felt as if every employee was looking at him. Client also felt that he was experiencing his thoughts as voices and people could hear them. So, he stayed in his corner and did not look here and there. He did not make any friends there and did not talk to anyone. When someone tried to talk to him, he answered with 1-2 words only. He worked there for 1 week when he felt that he was hearing a voice of a girl who was calling his name. He looked around but there was no one present. Initially, the client ignored it and tried to focus on his work. Within a week, he started hearing the voice clearly, which was telling him to quit the job. He didn't understand it and was confused about the voice. Therefore, he asked his mother about it but she reported that she did not hear any voice. Client told her that he was hearing a voice then mother told him that it might be due to stress over the job and asked him to ignore it. Whenever he heard the voice, he tried to stop the voice by covering his ears but they did not stop, however, became less clear. He quit the job within 2 weeks. He reported that during this time whenever he used to go outside, he felt that people were looking at him. At that time, the client also started questioning his mother as she was asking client to ignore the voices and used to talk to her only when he needed something. He also started eating alone and if someone had even touched his chapatti while eating, he used to stop eating.

In the meanwhile, his friends asked him to start a business with them. He agreed and invested a large sum of money for business against the command of voice. After giving money, he started feeling that his friends were holding meetings without him and did not call him except when they needed him for financial support. Client got suspicious and started saying his friends were using his money and didn't want to start a business. He asked his friends about it and they asked him to come to another city with them for buying machines for business. Client reported that the voice was telling him not to go there, but he agreed and went with them but he felt odd there. He felt as if he had seen the places before but in reality, it was his first visit to that city. Mother reported that when he reached home, he asked his family to lock all the doors and hide all the things. He went to his room and hid himself into the quilt. He stayed in the bed for two days and didn't eat anything. Mother asked him to come out but he was not responding and was showing an expressionless gaze. He also started walking here and there at home for no apparent reason. His self-care was also affected as he didn't change his clothes for days or washed his face. Mother reported that she got worried and went to a spiritual healer in 2011, who gave verses for recitation. Client's condition didn't improve so they went to another spiritual healer after 2-3 months. The relatives on seeing the client's condition asked his mother to consult a psychiatrist. In December 2011, mother took him to a nearby government hospital where a

psychiatrist diagnosed the client with schizophrenia and prescribed medications. After taking medicines for 3-4 months, mother reported that his hygiene was improved but he used to stay quiet in his room and used to sleep for 12 to 15 hours. Client reported that the voice of girl was reduced to one or two times a month. His fear was also reduced but he mostly stayed in his room sleeping. Client took this medicine for approximately one year. Due to extreme lethargic behaviour, mother took him to another psychiatrist in July, 2013. He also diagnosed and treated him as having schizophrenia. After taking the prescribed medicines, he started spending time with his family and started talking like before. Furthermore, the client reported that the voice of the girl and the fear was gone. He was feeling better and again started searching for earning. Client continued to take the medicines (Oridone, Kempro, Zauxit and Neuxam) and had follow up sessions with the psychiatrist. He was not referred to the clinical psychologist for sessions at that time.

In December 2013, the client's brother-in-law asked him to come to Islamabad and work with him at his shop. Mother thought that his symptoms were improved so she sent him to Islamabad. His brother-in-law was a tailor and had a well-established shop in Islamabad. He employed the client in his shop. He learnt how to sew clothes and got adjusted there. Mother said that he was slow in work but he was working. Client was also satisfied and didn't hear the voices again. In July 2015, he thought that he was better now so he left the medicines without consulting a psychiatrist. After approximately 3-4 months, he again started hearing the voice. Firstly, he ignored it and didn't focus on it but with time, it became clearer. The voice was telling him to quit the job and go back to Lahore. Client felt fearful and used to sit down and cover his ear whenever he heard the voice. Mother reported that she asked him to go to the psychiatrist but client didn't go and started taking the medicines he was previously taking. However, this did not help the client. After this incident, his performance at the job was significantly affected. He was previously sewing 2-3 suits daily which reduced to one or no clothes in a day. Client reported that whenever he sewed clothes, voice commanded him to stop it. Client reported that the voice used to haunt him unless he fulfilled the command of the voice. His brother-in-law complained to the client's mother that he did not work. He just sat quietly all the time at shop. When the workers used to ask him anything, he used to stay quiet due to which they stopped talking to him. Client reported that whenever he went outside and went to the shop, people used to look at him due to which he stopped looking here and there. Mother reported that in 2016, he came home saying that he feels that the employees wanted to harm him. He stayed at home most of the time. He also stopped eating and used to sleep all day. He did not talk to her family unless he needed something.

In April 2016, he stopped taking medicines by saying that he was all right and does not need any medicines. In May 2016, his symptoms were intensified. Client was hearing voice which was commanding him to stop working and about everyday life chores. He was feeling that people looked and laughed at him and someone was behind him to harm him. He also experienced symptoms of restlessness. Client reported that someone was following him. Client's level of functioning in work was disturbed as he left the work and was unable to find a new job. His self-care was also significantly disturbed. These symptoms were present for more than 6 months (for almost 6 years). Mother reported that she consulted another Psychiatrist and he referred them to a Clinical Psychologist. He came to the hospital and got admitted with the complaints of hearing voice, suspiciousness that someone was trying to harm him, social withdrawal and restlessness.

Assessment Measures

Clinical Interview

Interview was conducted to obtain detailed information i.e. history of present illness, family history, personal history etc. of client. The interview was conducted to explore the precipitating and predisposing factors of the client's psychological problem. Before conducting the interview, it was ensured that client's information would be kept confidential.

Mental Status Examination (MSE)

MSE was conducted during the first session of the therapy in order to assess the current functioning of the client. Client had average height and weight. He was wearing shalwar qameez, which was dirty and crumpled. During the interview, he was sitting with hunched shoulders and his neck was bent to the right side. He didn't maintain eye contact and was continuously looking downwards. His speech was slow with low pitch and was answering the questions with 2-3 words only. His mood was low which was congruent with his affect. Persecutory delusions (someone is trying to harm me and someone is coming behind me) and delusion of reference (people are looking and laughing at me) were present. Auditory hallucinations were also present. Depersonalization, derealisation, obsessions and compulsions were absent. His orientation to time, place and person was intact. Abstract thinking, attention and concentration were not intact. Remote memory was not intact however, immediate and recent memory were intact. Insight was absent in the client.

Visual Analogue

The client was asked to rate his symptom once a week on a 10-point scale where 0 meant no symptoms and 10 meant severity.

Table 1

Table Showing Rating of Symptoms at Pre-Treatment Level

Symptoms	Ratings
Suspiciousness	9
Hearing voices	9
Anxiousness	10
Restlessness/pacing	9
Social withdrawal	10

Symptom Checklist-R (Rahman et al., 2009)

It is an indigenous scale developed to explore the symptoms of different psychological disorders such as depression, somatoform, anxiety, obsessive-compulsive, schizophrenia, and level of frustration tolerance. In the present study, only schizophrenia subscale was administered and the participant scored 54 on the respective scale. The mean of the scale was 26 (*SD*=13), therefore, the result showed that the symptoms of schizophrenia were significant. On the basis of formal and informal assessment, the client was diagnosed with 295.90 (F20.9) Schizophrenia, Multiple Episodes, Currently in Acute Episode (APA, 2013).

Procedure

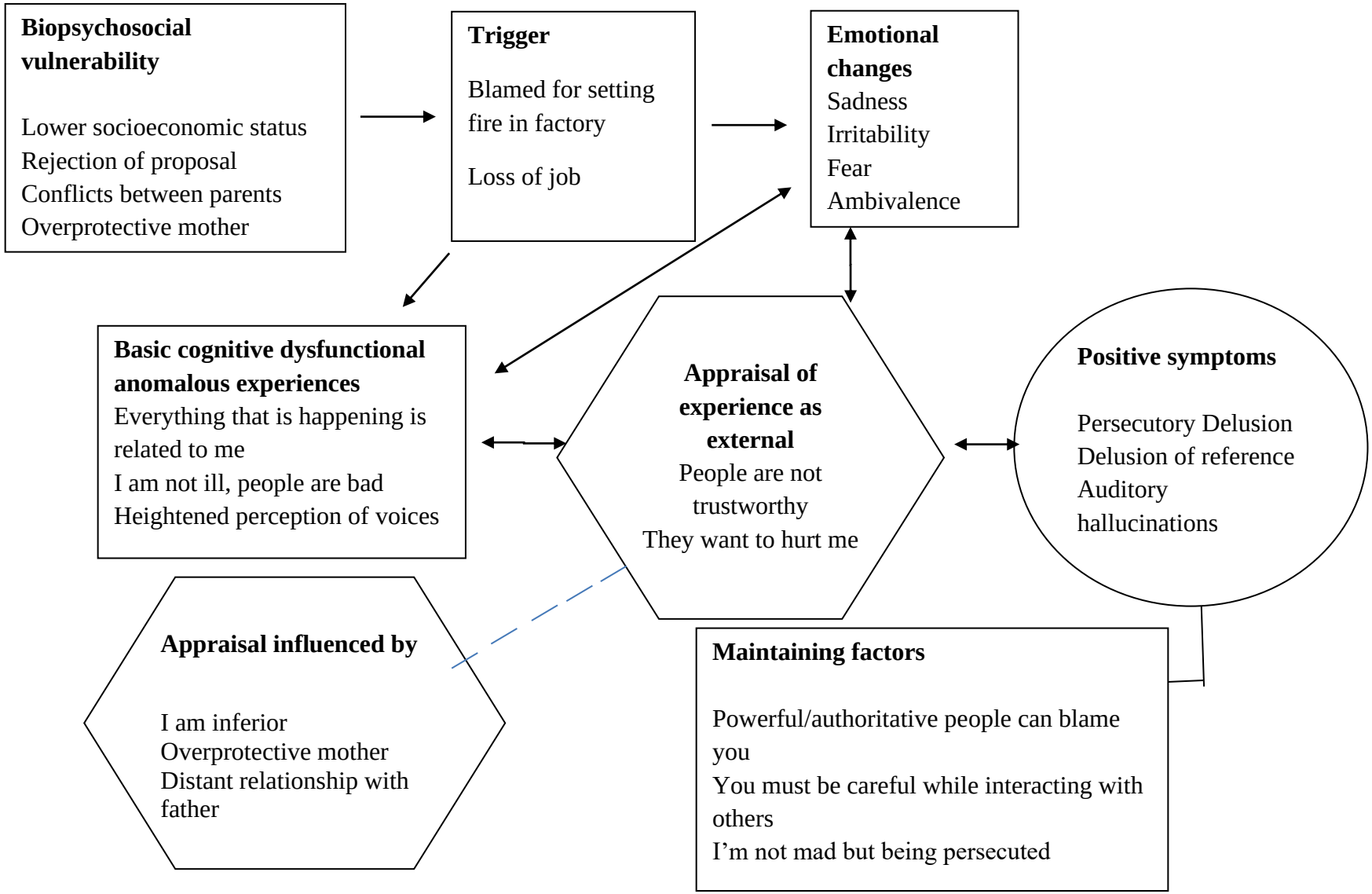
Case Conceptualization

The present case was conceptualized on Garety et al. (2000) model of positive symptoms of psychosis. It conceptualizes that an array of factors develops and maintain positive symptoms such as delusions and hallucinations. The model further explains that psychosis occurs in individuals with a biopsychosocial vulnerability and the onset often follows life events, adverse environments, periods of isolation and illicit drug use. These factors lead to emotional changes, disruptions in cognitive processes (such as attention, perception, or judgement). At onset, its most significant symptoms are hallucinations and delusions.

Client's biopsychosocial vulnerability was lower socioeconomic status, critical mother and conflicting relationships between parents. His trigger was being accused of catching fire at the workplace. This resulted in sadness, irritability, fear and ambivalence and as a result, he started feeling that people are not trustworthy and they wanted to hurt him. Furthermore, low self-esteem and overprotective family further influenced these appraisals and it resulted in positive symptoms i.e., delusions and hallucinations. His maintaining factors were reported to be the beliefs such as I am helpless and this illness is not curable.

Figure 1

Cognitive Model of Positive Symptoms of Psychosis (Garety et al., 2000)



Intervention

Session 1

- Rapport building
- History taking
- Visual analogue
- Mental Status Examination
- Education
- Feedback and summary of session
- Homework: DTR for delusions, Hallucination Diary

Session 2

- Administration of Symptom Checklist-R
- Feedback and summary of session
- Homework: DTR for delusions, Hallucination Diary, Activity Scheduling

Session 3

- Review Homework
- Family Counselling
- Feedback and summary of session
- Homework: DTR for delusions, Hallucination Diary, Activity Scheduling

Session 4

- Review Homework
- Socialization
- Feedback and summary of session
- Homework: DTR for delusions, Hallucination Diary, Activity Scheduling

Session 5

- Review homework
- Idiosyncratic case conceptualization
- Feedback and summary of session
- Homework: DTR for delusions, Hallucination Diary, Activity Scheduling

Session 6

- Review homework
- Socialization
- Progressive Muscle Relaxation
- Feedback and summary of session
- Homework: DTR for delusions, Hallucination Diary, Activity Scheduling

Session 7

- Agenda setting
- Hierarchy of situations in which hallucinations are experienced
- ABC model of hallucinations
- Coping Strategies Enhancement
- Feedback and summary of session
- Homework: Use coping strategies enhancement, DTR for delusions, Hallucination Diary, Activity Scheduling

Session 8

- Agenda setting
- Review homework
- Generating list of idiosyncratic distraction techniques
- Evidence for and against
- Feedback and summary of session
- Homework: activity scheduling

Session 9

- Agenda setting
- Review homework
- Hierarchy of delusions
- Downward arrow technique for delusions
- Behavioral experiment regarding hallucinations
- Feedback and summary of session
- Homework: activity scheduling

Session 10

- Agenda setting
- Review homework
- ABC model of delusions
- Feedback and summary of session
- Homework: activity scheduling

Session 11-12

- Agenda setting
- Review homework

Session 13-14

- Agenda setting
- Review Homework

- ABC model of delusions
- Evidence for and against delusion
- Feedback and summary of session
- Homework: activity scheduling and mastery and pleasure

Session 15

- Agenda setting
- Review homework
- Assertiveness training
- Relapse prevention (Therapy Blueprint)
- Feedback and summary of session
- Behavioral experiment for challenging delusions
- Feedback and summary of session
- Homework: activity scheduling and mastery and pleasure

Session 16

- Post assessment
- Mental Status Examination
- Visual Analogue Scale
- Symptom Checklist -R

Results

After management of the client's complaints, post-assessment was done. The results of the post-assessment are shown below.

Visual Analogue

The client was asked to rate his symptom once a week on a 10-point scale where 0 meant no symptoms and 10 meant severity.

Table 2

Showing Pre and Post Assessment Ratings of Presenting Complaints

Symptoms	Pre-Treatment	Post Treatment
Suspiciousness	9	3
Hearing voices	9	4
Anxiousness	10	4
Restlessness/ pacing	9	4
Social Withdrawal	10	3

Symptom Checklist-R (Rahman et al., 2009).

After the completion of therapy, the Schizophrenia subscale of Symptom Checklist-R was re-administered and the participant scored 24 on the scale. The obtained score was below the mean (M=26, SD=13) and showed a significant decrease in the symptoms of schizophrenia.

Discussion

In the present case, client was experiencing auditory hallucinations, referential delusions and persecutory delusions. Client's level of functioning in work, interpersonal relationships and self-care was also markedly impaired. According to DSM-5 (APA, 2013), at least two symptoms must be present for a significant portion of time during a 1-month period or longer. At least one of these symptoms must be the clear presence of delusions, hallucinations, or disorganized speech. Grossly disorganized or catatonic behaviour and negative symptoms may also be present. Schizophrenia also involves impairment in one or more major areas of functioning. The symptoms of the client were consistent with the diagnostic criteria of Schizophrenia.

In the present case, client's predisposing factors were his low socio-economic status, conflicting relationship between parents and overprotective mother. Kohn (as cited in Kring et al., 2012) explained that higher rates of schizophrenia are found in people of the lowest socioeconomic status (SES). It may be due to low levels of education, lack of rewards and opportunities when taken together with low SES make people predisposed to develop schizophrenia. It is evident in the present case as the client belonged to lower socio-economic status and was educated till secondary. According to Comer (2013), parents of people with this disorder often (1) display more conflict, (2) have greater difficulty communicating with one another, and (3) are more critical of and overinvolved with their children than other parents. It can be observed in the present case, as client's parents always had conflict with each other and had difficulty communicating with each other. His mother was also critical and was overly involved with client and his siblings.

According to Beck et al. (2009), traumatic events can result in the formation of delusions and hallucinations. In the present case, client's first episode was triggered when he was blamed for setting fire at his workplace and lost his job. From that time, he was conscious of not making any mistakes. According to the cognitive explanation (Tarrier, 2008, as cited in Comer, 2013), symptoms of schizophrenia are triggered when an individual attempts to understand their unusual experiences. When an individual first confronts the voices, they turn to friends and relatives, who deny the reality of these sensations, and eventually, the sufferers conclude that the others are hiding the truth from them. They begin to reject all feedback and some develop beliefs (delusions) that they are being persecuted. It is evident in the present case, the client discussed these experiences with mother who denied it and then the client felt that she was trying to reject him and resulted in delusions.

Client's maintaining factors were his biased thinking, safety behaviours and the high expressed emotions in family. Beck et al. (2009) also reported that clients with delusions, especially persecutory delusion often use a number of safety behaviours in an attempt to avoid or neutralize danger. In the present case, client's safety behaviours were 'not looking here and there' and 'not talking to anyone'. Similarly, Beck et al. (2009) explained biased thinking for the analysis of delusions. They proposed that they have egocentric orientation that pre-empts normal information processing in favour of self-referential attributions of irrelevant events. Depending on the content of this self-centred orientation, these clients unrealistically perceive themselves as the central focus of others' attention. The central feature of the biased thinking is the indiscriminate attribution of negative or positive intentions to other people. In the present case, client was thinking that if people are laughing, they are laughing at me and people are not trustworthy.

Client's maintaining factors were the high expressed emotions in family. Families who are high in expressed emotions i.e. members frequently express criticism, disapproval, and hostility towards each other and intrude on one another's privacy. Further, it was reported that individuals who are trying to recover from schizophrenia are almost four times more likely to relapse if they live with such a family than if they live with one low in expressed emotion (Bebbington & Kuipers, 2011, as cited in Comer, 2013). In the present case, the client was living in environment with high expressed emotions. Garety et al. (2000) proposed that biopsychosocial vulnerability along with life events, adverse environments, illicit drug use, or periods of isolation lead to emotional changes, and disruptions in cognitive processes of attention, perception, or judgement which ultimately lead to delusional beliefs and hallucinations. These factors were maintaining the symptoms of client.

Conclusion

Client remained in treatment for approximately two months and showed compliance towards therapy. In the beginning, the client was resistant and it was difficult for him to understand that he was distressed by the appraisal of hallucinations and delusions rather than the voice itself. With time, client learnt that the voice has no control over him and people are not against him. Client reported that he benefitted most from verbal challenging technique i.e., evidence for and against. He also reported that mastery and pleasure chart helped in motivating him for work. At the time of termination, client reported significantly less number of hallucinations and degree of conviction on delusions also decreased. His pacing and restlessness was significantly improved and he also started talking to other people at work. Overall, 70 % improvement was observed.

Limitations and Suggestions

- There is a need to work on the evaluative beliefs of the client which would further help client in reducing the chances of relapse and it would help client in improving his beliefs regarding himself.
- Follow up sessions are also suggested to further check the maintenance of therapeutic procedures.

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2.	Fakhra Wakil	Pre and Post Assessment, Review of Manuscript