

## OCCUPATIONAL THERAPY INTERVENTION IN HALLUCINATIONS

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### INTRODUCTION

Hallucinations are perceptions experienced in the absence of corresponding sensory stimuli. They are experienced as immediate, vivid and independent of will, and are often felt to be real. Hallucinations can affect any sensory system and sometimes occur in several concurrently. They vary according to sensory modality, degree of complexity of hallucinated experience, perceived location of the hallucination, e.g. inside or outside the body. These influence a person's behavior and functional capacity depending upon the degree to which the person believes that the hallucination is actually real.<sup>1</sup> The persistent hallucinations affect a person's ability to engage in work, leisure, and self-care tasks, but the effects are highly variable and individualistic. For some patients with persistent psychotic illness, hallucinations are directly responsible for profound dysfunction in all aspects of daily life. Such patients find it difficult to engage in meaningful tasks or relationships. For some patients, hallucinations are problematic only in certain situations or at specific times, such as when they are alone or in a stressful situation. For others, hallucinations can have a positive effect in that the hallucinations may provide companionship and guidance in an environment that is often isolative and prejudicial towards persons with mental illness.<sup>2</sup>

The traditional medical approach for controlling hallucinations is the administration of antipsychotic drugs. However drugs are only partly successful in controlling the hallucinations associated with psychotic disorders; they often reduce the more florid symptoms of a dysfunction but do not necessarily totally eliminate hallucinations.<sup>3,4,5</sup> About 20% to 40 % of patients continue to experience persistent hallucinations inspite of treatment with psychotropic medications.<sup>6</sup>

There are several methods that have been evaluated for controlling hallucinations either without the use of psychopharmaceuticals or in addition to them. Attempted techniques have included humming, use of earplugs, varying auditory input by the use of stereo headphones, increasing auditory input by the use of stereo headphones, and aversion therapy.<sup>7,8,9,10,11</sup> All these techniques have met with some success but results have not been consistently replicated. A major limitation of all these studies is that the locus of control is with the researcher or clinician. It is also possible that the inconsistent findings are related to the level of involvement of the individuals being studied.

Another approach to the study of this problem is to discover the coping mechanisms initiated and directed by persons with hallucinations. Breier and Strauss conducted a study in which 20

persons hospitalised for psychotic disorders were given semi-structured interviews with the purpose of assessing the ability to self-control psychotic symptoms.<sup>12</sup> "Subjects described three major kinds of special control mechanisms: self-instruction, decreased involvement in activity, and increased involvement in activity" (p.1143). Their conclusion is that self control measures, although not always effective, do have a significant role to play in management of psychotic disorders and deserve further study.

A case study conducted by Fisher and Winkler also supports the value of self-control measures, but credits success of these techniques to the subject's belief in their effectiveness.<sup>13</sup> Researchers agree that further investigation is needed both on specific techniques and on the phenomenon of hallucinations in general.

Although the topic of hallucinations has been widely addressed in the psychological and psychiatric literature, it is virtually ignored in the occupational therapy literature. This lack of discussion is probably because the occupational therapy is more likely to focus on the disruption of occupational performance areas of work, leisure and self-care rather than on specific symptoms.<sup>14</sup> Occupational therapists often minimize the importance of symptomatology, believing symptoms to be separate from their main concern of functional ability. Usually, occupational therapists working with clients having psychosocial dysfunctions evaluate the hallucinations as a part of routine assessment, and provide a general intervention for the patient; i.e. we do not employ any special intervention strategies for hallucinations per se.

More recently the 'Model of Functional Deficits associated with hallucinations' has been reported in the literature which looks at the phenomenon of hallucinations from an occupational therapy perspective.<sup>15</sup>

The purpose of this article is to demonstrate the usefulness of this model not only in identifying persons who have hallucinations, but also in developing strategies for helping these patients cope with their hallucinations.

### MODEL OF FUNCTIONAL DEFICITS ASSOCIATED WITH HALLUCINATIONS

The model was developed by Anne MacRae in 1991 as a framework for examining the phenomenon of hallucinations.<sup>16</sup> In the model, various types of dysfunctions are correlated with specific manifestations of hallucinations. For example, when the dominant feature of hallucinations is the content, i.e. what the voices are saying, typically there is evidence of poor self-esteem, such as frequent self-deprecating remarks, poor posture, lack of social interaction, and poor motivation. But when the dominant feature

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of the hallucinations is the intrusiveness, dysfunctions would more likely include what is considered to be inappropriate behavior, such as laughing and talking to self, poor attention to tasks, all of which may be response to internal stimuli. The model does not differentiate the sensorium involved in the hallucinations. The behaviors suggested in this model are merely guidelines for the therapist to use for observations and to explore with the individual patients so that appropriate coping strategies can be developed for specific functional deficits. It is also possible for a person to

continue to function in occupational performance areas, despite ongoing hallucinations. At times the hallucinations might even be helpful.<sup>15</sup> In other words, although there are specific dysfunctions associated with hallucinations, pathology or dysfunction cannot be assumed simply because hallucinations are present.

The Model of Functional Deficits has been revised several times since its publication in 1991. The final version has seven classes as follows :

**TABLE:1**

<b>MODEL OF FUNCTIONAL DEFICITS ASSOCIATED WITH HALLUCINATIONS</b>		
<b>Classification</b>		<b>Observable Behavior</b>
Class 0	Insufficient information	None identifiable
Class I	No hallucinations	None
Class II	Intermittent hallucinations with minimal or no functional deficits	Hallucinations reported upon questioning or in appropriate settings: patient may appear withdrawn
Class III	Intermittent or persistent hallucinations with functional deficits related to the content of the phenomenon	Evidence of poor self-esteem, such as frequent self-deprecating remarks, poor posture, lack of social interaction and poor motivation
Class IV	Intermittent or persistent hallucinations with functional deficits directly related to the intrusiveness of the phenomenon	Inappropriate behavior while apparently responding to internal stimuli; inappropriate affect, such as giggling, not related to the outside environment; conversations with self; poor attention to task on hand but can be directed to task and surroundings
Class V	Intermittent or persistent hallucinations with functional deficits directly related to both content and the intrusiveness of the phenomenon	See Class III and IV
Class VI	Persistent hallucinations with profound functional deficits (generally acute)	Inability to appropriately respond to the external environment

**CLASS:0**

Denotes that there is insufficient information to determine whether hallucinations are present. When psychotic symptoms are mild, or partially controlled by medication, it is often difficult to know whether hallucination are truly present and whether they are responsible for a patient's ongoing dysfunction. The therapist may need to explore further whether patient is really experiencing hallucinations or he or she is simply not ready to acknowledge it.

**CLASS:1**

Includes individuals who not only deny the presence of hallucinations but exhibit no behaviors that might be indicative of their presence. It is not important whether hallucinations ever existed, are in remission, or are completely controlled by medication. The implication is that no intervention (other than the possibility of continued medication) is required.

**CLASS:II**

Functional deficits are not evident even though hallucinations are

present. Some authors have reported that hallucinations may incur benefits for the individual by providing companionship or entertainment.<sup>3</sup> What is important is to look for subjective distress. If this is absent then special intervention may not be necessary. However, if the frequency or subjective distress related to the hallucination increases then intervention is appropriate. Occupational therapy intervention may include social skills training and structured activity groups.

**CLASS:III**

Significant functional deficits are directly related to the content of hallucinations, which are usually auditory in nature. Occupational therapy interventions consist of social skills training, assertiveness training and communication skills, as well as structured activities to enhance a sense of self-esteem. Patients with a poor self-esteem often develop a maladaptive cycle in which they feel ineffective and controlled by external factors and therefore lose motivation to interact with their environment or explore and master potential life roles in work, play and self-care. It has also been reported that

poor self-esteem can manifest itself as grandiose behavior accompanied by poor judgement and lack of safety awareness.<sup>2</sup>

**CLASS:IV**

The hallucinations have a quality of intrusiveness into one’s day-to-day activities. Patients show inappropriate behavior while apparently responding to internal stimuli; inappropriate affect, such as giggling without reason that is not related to the outside environment; conversations with self; poor attention to task on hand which can be directed to task and surroundings. It is not unusual for individual to feel out of control, yet it is often possible for the hallucinator to be re-directed by another person or to learn specific coping strategies to decrease intrusiveness. Intervention techniques are quiet variable and should be specifically tailored to the individual. Typically, modalities involve the altering of environmental stimuli either by increasing involvement in a specific task or by filtering and limiting stimuli through conscious relaxation.

**CLASS:V**

In this class patients have intermittent or persistent hallucinations with functional deficits directly related to *both* content and the

intrusiveness of the phenomenon. It should not be assumed that patients with class V hallucinations necessarily have greater dysfunction than patients with class III or class IV hallucinations. The occupational therapy intervention will depend upon the patient’s level of dysfunction, which will vary from patient to patient. Social skills training with extensive perceptual checks for reality orientation and activities to enhance a positive, yet realistic, self-image remain appropriate modalities.

**CLASS:VI**

This classification is reserved for the patients having severe and persistent hallucinations with profound functional deficits, generally seen in an acute episode of a psychotic disorder. They are unable to appropriately respond to the external environment. Treatment is geared towards the stabilization of the patient. Typically, a new medication or increased dosage of patient’s current medication is prescribed. Environmental modification to create a non-stressful atmosphere with minimal demands or stimuli may also facilitate the stabilization process.

**OCCUPATIONAL THERAPY INTERVENTION**

**TABLE:2**

**ELEMENTS OF OCCUPATIONAL THERAPY INTERVENTION FOR COPING WITH HALLUCINATION**

<b>Element</b>	<b>Strategy</b>
Foster trust	create safe environment
Work with patient	Identify types and classification Identify specific dysfunction resulting from hallucination
Explore skills and interests	Assess activity interest and cognitive abilities of patient
Modify environment	Recommend and assist in implementing changes in invironment to alter stimuli
Faciltate coping strategies	Implement simple techniques Assist patient in identifying personal meaning of these techniques
Provide consistency and support	Develop strategies to incorporate techniques into daily living (e.g. home program) Educate family members Follow up to monitor results and modify program if needed

The presence of hallucinations competes with external stimuli for a person’s attention. How can the occupational therapist realistically expect people who are experiencing hallucinations to engage in purposeful activities and improve their functional ability when their energy is divided? First, the therapist must strive to understand the experience of the individual and acknowledge the presence of this problem. In some cases, it is possible for a patient to shift attention to external stimuli away from the hallucinations.

The therapist has to ascertain the presence of hallucinations particularly because patients with subtle hallucinations or psychotic symptoms that are partially controlled by medication may

underreport or minimize the functional importance of their hallucinations. For this the therapist must provide sufficient time to develop a trusting relationship in an environment that is viewed as safe by the patient. This increases the likelihood that the patient will share the information with therapist. Fostering trust also means that therapist should be non-judgmental and non-critical towards the patients. The patients often need to be assured that they are not “bad people” because of what they experience. The therapist has to use terminology that is understandable to the patient while identifying the specific dysfunctions that result from the hallucinations.

Occupational therapy intervention depends on how the symptom directly or indirectly affects the patient's ability to engage in daily life tasks. Specific interventions used to reduce hallucinations are variable because they are based on the needs and interests of the individual patient. The maintenance of function in the presence of hallucinations is partially due to the development of coping mechanisms. Therapist can help patient practice using mechanisms to cope with their hallucinations; such as self-instruction, e.g. affirmations, routines; decreased stimulation, e.g. quiet room, reading, solitary walk; or increased stimulation e.g. conversation, social contact. These mechanisms can help manage symptoms but only if patient can clearly identify personal and cultural meaning or purpose in the activity.<sup>13</sup> The involvement in purposeful activities does not necessarily diminish the hallucinations; but rather allows the individual to function despite them. However, finding activities that are therapeutic and meaningful is a challenge in a population that typically experiences fear of failure, anhedonia, and poor initiation. The technique used with a particular patient must be simple that is easy to remember and implement. The strategies need to be incorporated into daily living outside the clinic by providing home program.

The members of patient's support system, e.g. family, employer, caregiver, have to be educated in the purpose and structure of the intervention. They need to support the patient and provide assistance in modifying the environment, such as implementing changes in living, work and social environment to alter stimuli. Finally the therapist monitors the results of the chosen techniques and modifies the program as needed. The success of intervention is more likely to depend upon how much of the program is self-directed and self-controlled by patient.<sup>12</sup> Hence, the biggest task before the therapist is to motivate the patient and the caregivers to take active interest in all the stages of the program, which is not an easy objective to achieve in the cases suffering from chronic illness.

## **APPLICATION OF THE MODEL IN CLINICAL SETTING**

Although many psychotic patients may experience Class II hallucinations, occupational therapy intervention is most likely going to occur with the presence of Class III, IV and V hallucinations because of the degree of associated functional deficits. To highlight use of Model of Functional Deficits, I will illustrate two case studies in which this model has been used in the occupational therapy department at L.T.M.M.C. and General Hospital. Case Study (1) is an example of Class III, where the individual's functioning level is most affected by the content of his hallucinations. Case Study (2) describes an individual experiencing Class V content and intrusive type of hallucinations with resulting functional deficits. In both cases, the treatment modalities attempted and the outcome of treatment are discussed.

### **CASE STUDY 1**

A 40 years old Gujarati speaking male patient 'A' was admitted to the psychiatric unit of Lokmanya Tilak Municipal General Hospital, with a diagnosis of chronic schizophrenia (paranoid type).

Patient was educated upto 12th standard and belonged to the middle class socioeconomic background. Patient had worked as an accountant in a private firm prior to the onset of psychiatric illness. Currently he was unemployed, and had been residing at a 'Home for Destitute' for the last five years. Patient was disowned by his family and relatives. His initial hospitalization occurred eight years ago. 'A' had been receiving antipsychotic medications for the last five years from a psychiatrist who was visiting the institute where patient resided.

Presenting symptoms of the patient were suicidal ideas, anhedonia, restricted affect and asocial behavior. 'A' had been suffering from persistent auditory hallucinations for the last seven years. The hallucinations were always derogatory and patient recognized that they negatively affected his self-esteem and increased his fear of failure. Patient reported the unknown voices telling him that he was no good, stupid, lazy person and that he should die. Patient had attempted suicide in past on several occasions. He was frustrated as he suffered from these hallucinations all the time and was unable to do anything. He lay on his bed and listened to them. Sometimes he felt like going to sleep and get the hallucinations out of his head because it was so tough not being able to do anything. He said that he did not hear voices when asleep. He also felt vibrations in his body and could hear some vibrating sounds and felt that his internal organs were shaking because of these.

The evaluation of patient showed several functional deficits in the occupational performance areas. Interestingly, it was noted that 'A' possessed necessary skills and cognitive awareness to perform ADL, but he was erratic in health and hygiene, involvement in work and leisure activities was non-existent. The assessment of occupational performance components showed that patient was lethargic and said that he had no energy to do anything physical. His cognitive functions were affected in terms of poor initiation and concentration, concepts were concrete, and problem solving was affected. Patient had difficulty in learning new activities.

On assessment of psychosocial skills and psychological components it was observed that 'A' did not have his own set of values and standards to operate by. He had low self-esteem and did not feel confident about himself. Socially he kept himself isolated and could not communicate easily with other patients. As far as self-management was concerned he could not cope with the stress. His daily structure was poor and he could not balance self-care, work, leisure and rest.

This patient was classified in Class III of the 'Model of Dysfunction' i.e. functional deficits were related to the content of the hallucinations. Most importantly patient recognized that hallucinations negatively affected his self-esteem.

The primary goal of initial treatment was to provide a success experienced both by engaging 'A' in short-term structured activities with minimal frustration and by completing a session in occupational therapy. Activities which were both enjoyable and rewarding for him such as making greeting cards, writing records, playing simple games were provided to him. Care was taken to include those activities which had some personal meaning to him.

Patient was also instructed to make a conscious effort to make positive statements about himself on a daily basis and rehearsed this technique with the therapist.

In addition, it was suggested that 'A' engage in one of his planned activities as soon as the voices began, such as helping other inmates and running errands for ward nurse. During the occupational therapy sessions the therapist evaluated his progress with chosen tasks as well as modified and explored additional activities. Patient felt that his hallucinations were not as bothersome if he kept himself busy and occupied with activities which he enjoyed and valued. For this patient's attempts to use sleep (decreased stimulation) to escape the hallucinations were only partially successful. On the contrary he benefited from increasing his activity level through goal directed tasks. At the time of discharge, the caregivers at his residential facility were educated to be supportive and provide him with opportunities to practice these skills.

## CASE STUDY 2

'B' is a Marathi speaking 17-year-old male diagnosed as paranoid schizophrenia. Patient had been studying in junior college in class eleven when he suffered from an episode of schizophrenia. Currently he was not attending his college. Patient came from a middle class background. He had been receiving medications for the last seven months but was still showing symptoms. These were emotional blunting, withdrawal, apathy, and abnormal behavior in the form of gesturing, vigorous shaking of head and muttering to self. He was very reluctant to talk.

Through repeated interviews and observation, it was determined that 'B' experienced visual and auditory hallucinations. Initially, he did not have an understanding of the nature of his hallucinations and thought they were either spiritual visitations or his imaginations. The content of hallucinations usually involved the presence of image of God and also involved sexual activity. The visual hallucinations were characterized as frightening and guilt producing. He said that he heard voices of people saying he was a bad boy and that he did not understand anything. He was preoccupied with sexual ideas which disturbed him. Patient said that when he heard those voices he would close his ears tightly to get rid of them, or he would try to shoo-off the hallucinatory images with his hands.

The evaluation of occupational performance areas showed that he was not able to study. 'B' had fluctuating daily-living habits, some times he would attend to hygiene and at other times he would not. His medications were always given to him by his relatives. Patient used to keep himself away from others and preferred to be alone all the time.

The deficits in the performance components were seen in the form of stooping posture, and involvement of cognitive functions such as memory, attention span, concentration, initiation and problem solving. This patient had several problems in psychosocial skills. Poor motivation, low self-esteem, withdrawn behavior, unable to cope with stressful situations and poor time management were the prominent ones.

'B' was categorized in the Class V because he showed functional deficits related to both content and intrusiveness of hallucinations. Deficits related to content were in the form of poor self-esteem, such as frequent self-deprecating remarks, poor posture, lack of social interaction, and poor motivation. Observation and self-report confirmed that the intrusive nature of hallucinations did interfere with his functional performance. The patient showed inappropriate behavior while apparently responding to internal stimuli, such as gesticulating and muttering to self, not related to the outside environment; inappropriate affect & poor attention to tasks.

Initially, on giving activities 'B' refused to do them saying he was not capable of doing anything. The therapist encouraged and supported him and gradually he started participating in some of the activities but could not complete even simple tasks that he should have been able to do. After a week or so, patient reported that his hallucinations decreased while he was participating in certain activities such as playing simple table games with therapist, and his hallucinations increased if people were moving around him or while he was performing tasks which didn't have value for him such as, envelop making.

With patient's cooperation, the therapist attempted to decrease the intrusiveness of the hallucinations by instituting a program using a variety of coping strategies. These included participating in those activities with which he identified such as playing scrabble and carom board, and increasing reality awareness. The patient was also instructed to make positive statements about himself when he succeeded in any of the activities. In addition it was suggested that 'B' engage in deep breathing exercises as soon as the hallucinations began since these reduced the hallucinations.

The combination of techniques met with some success in that therapist observed a reduction in the behaviors related with intrusiveness of the hallucinations and an increase in patient's ability to attend to tasks given. However, 'B' did not initiate the techniques independently. He appeared to need a highly structured environment and verbal cueing for the techniques to be effective. This may be a manifestation of his dependent personality or attributed to his evident cognitive deficits, rather than any specific quality of the hallucinations. Consequently, part of treatment was to educate his relatives about the intervention. His home program included activities such as reading, doing daily chores which could be carried out when not too many people were around him. During the follow up sessions the therapist evaluated his progress with the chosen tasks as well as modified and explored additional activities.

## LIMITATIONS

Although this model can be used in clinical setup to classify patients experiencing hallucination, a finer definition of what is adequate symptom management is needed. In my opinion having a continuum would be more helpful in identifying the actual stability and functional levels of persons who experience hallucinations. On one end of this continuum if we had "the complete elimination of hallucinatory symptoms" and the other end "no change in acute hallucinatory symptoms" or "a decompensation to acute

hallucinatory symptoms”, it would be more objective. In addition, an outcome measure of related interventions is needed. At present there is no standardized method for measuring these results. A valid measure of functional improvements may include a rating scale within each class to record subtle changes in function, even though the patient’s hallucinations may remain in the same class.

## CONCLUSIONS

Psychotic illness is a complex phenomenon with different symptoms and functional deficits. Hence, it is often difficult to determine the effectiveness of any intervention strategy. By focusing on a specific type of symptom, such as hallucinations, and determining the associated functional deficits, the therapist may better determine the type of intervention required. When the hallucinations are problematic, the occupational therapist may introduce specific tasks for the purpose of minimizing the influence of the hallucinations or providing distractions from them. There is no set of prescribed activities that intrinsically have this capability. It is the therapist’s responsibility to explore with the patient which types of tasks might produce the desired results. Whatever activities the patient chooses, they will only be effective if there is personal significance, an opportunity for enjoyment or satisfaction, and the hope of successful completion.

In summary, the use of Model of functional deficits Associated with hallucinations provides insight into the kind of psychopathology experienced by patients and the resulting dysfunctional behaviors. It can be used to categorize and classify a patient’s symptom, it is also helpful in identifying specific types of occupational therapy interventions to meet the patient’s needs. With adaptation, the model can be the basis for further research into phenomenon of hallucinations and the efficacy of occupational therapy intervention.

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## REFERENCES

1. **Kaplan H., Saddock B., & Grebb J.** In: *Kaplan and Saddock’s synopsis of psychiatry: 7th edn, Baltimore: Williams & Wilkins, 1994.*
2. **MacRae A.** *Coping With hallucinations: A phenomenological study of the everyday lived experience of people with hallucinatory psychosis. (Doctoral dissertation, Saybrook Institute, San Francisco., Ann Arbor, MI: University Microfilms, 1993.*
3. **Falloon I. & Talbot R.** *Persistent auditory hallucinations: coping mechanisms and implications of management. Psychological Medicine 1992;198( 11):329-339.*
4. **Hogatory G., Goldberg S., Schooler N., & Ulrich R.** *Drugs and sociotherapy in the aftercare of schizophrenic patients. Archives of General Psychiatry 1974;3:603-608.*
5. **Wallace C., Nelson C., Liberman R., Lukoff D., Elder J., & Ferris C.** *A review and critique of social skill training with schizophrenic patients. Schizophrenia Bulletin 1980; 6 (1):42-63.*
6. **Arana G., & Hyman S.** *Handbook of psychiatric drug therapy : 2nd edn, Little, Brown, 1991.*
7. **Green M.F., & Kinsbourne M.** *Auditory hallucinations in schizophrenia: does humming help? Biological Psychiatry, 1989;25:630-633.*
8. **Birchwood M.** *Control of auditory hallucinations through occlusion of monaural auditory input. British journal of psychiatry:1986; 149:104-107.*
9. **James D.** *The experimental treatment of two cases of auditory hallucinations. British Journal of Psychiatry 1983; 143:515-516.*
10. **Hemsley A.M. & Slade P. D.** *The effects of varying auditory input on schizophrenic hallucination. British Journal of Psychiatry1981;139:122-127.*
11. **Feder R.** *Auditory hallucinations treated by radio headphones. American Journal of Psychiatry1982; 139 (9):1188-1190.*
12. **Breier V. & Strauss J.** *Self control in psychotic disorders. Archives of General Psychiatry 1983; 40:1141-1145.*
13. **Fisher E.B. & Winkler R.** *Self control over intrusive experiences. Journal of Consulting and Clinical Psychology 1975; 6:11-916.*
14. **Rogers J.** *Order and disorder in medicine and occupational therapy. American Journal of Occupational therapy 1982;36:29-35.*
15. **MacRae A.** *The model of functional deficits associated with hallucinations. American Journal of Occupational Therapy 1997; 51:57-63.*
16. **MacRae A.** *An Overview of theory and research on hallucinations: Implications for occupational therapy intervention. Occupational Therapy in Mental Health 1991;11(4):41-60.*

