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RESEARCH ARTICLE

SELF MANAGEMENT STRATEGIES TO CONTROL AUDITORY HALLUCINATIONS AMONG PATIENTS WITH SCHIZOPHRENIA

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ABSTRACT

The aim of this study was to assess self management strategies to control auditory hallucinations among patients with schizophrenia. An exploratory descriptive research design was used for the current study. The study subjects consisted of 60 patients from psychiatric inpatients units of El Abassia mental health hospital. Three tools were used to collect data for this study, TOOL (I): A Structured Interview sheet for the Socio- demographic and clinical data of Psychiatric Inpatients units. TOOL (II): frequency and distribution of auditory Hallucinations by Phenomenology Scale "Modified Version": TOOL (III): Structured interview sheet of self management strategies to control auditory hallucinations: The study results revealed that, there was statistically significant difference between behavioral strategies and both cognitive and physiological strategies. The effectiveness of cognitive and behavioral strategies of self management to control auditory hallucinations in male patients is more than in female patients. Based on the results of the present study, it can be concluded that patients can utilize self management strategies to reduce the characteristics and severity of auditory hallucinations and to experience a significant decrease in these symptoms. In the light of results of the present study, the following recommendations are suggested: Psychiatric health care provider (psychiatric nurse and/or psychiatrist) should provide accurate information to patients with schizophrenia, who have auditory hallucinations, about different self management strategies used by other hallucinating patients, to encourage further self effective self management strategies.

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INTRODUCTION

Schizophrenia is characterized by a profound disruptive psychopathology which involves thought, perception, emotion, and behavior. Schizophrenia is a common and serious neurobiological illness that affects 1% of people globally (Mohr, 2009). But the National Survey of Prevalence of Mental Disorders in Egypt reported that Psychotic disorders were estimated at 0.19% (Ghanem *et al*., 2009) (Badli *et al.*, 2008). The symptoms of schizophrenia are conventionally divided into positive (new symptoms or signs) and negative (loss of a previous function): positive characteristics include delusions and hallucinations. Negative characteristics are ones that are lacking such as lack of speech (Alogia), lack of Goal- directed behavior (Avolition), lack of feelings (affective flattening or blunting) and lack of happiness or pleasure (Anhedonia) (Boyd, 2002; Semple *et al*., 2005 and Gaber, 2013). Since the introduction by Esquirol in 1832 of the term hallucination into medical vocabulary, perception disorders in which the subject seemingly perceives an event, or a series of events, in the absence of an appropriate stimulus, have been considered among the most mysterious and serious examples of psychological disorder (Perona, 2004). Varcarolis *et al.* (2006), defined hallucination as "a sensory perception that has a compelling sense of reality of a true perception, but occurs without external stimulation of the relevant sensory organ. According to diagnostic and statistical manual (DSM-IV-TR) hallucinations are one of the most salient positive symptoms in schizophrenia. It's estimated that 90% of people with schizophrenia experience hallucination at some time during their illness. Hallucinations in schizophrenia are typically auditory hallucinations but visual, olfactory, gustatory and tactile hallucinations occur as well (Nicolson *et al*., 2006; Hugdahl *et al*., 2008; Tomppo, 2010).

Self management can be defined as the individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and life style changes inherent in living with a chronic condition. The efficacy self-management strategies encompasses, the ability to monitor one's condition and to

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achieve the cognitive, behavioral and emotional responses necessary to maintain a satisfactory quality of life (Barlow *et al*., 2002). Self management in terms of people's ability to improve and maintain their health as well as to cope independently with their health problems is a central challenge in society and in health care especially among people with mental illness supporting self management is considered one essential way to promote well-being and decrease the burden of illness (Hätönen, 2010).

It had been shown that approximately 60% to 90% of patients with schizophrenia who are having hallucination can specify the use of distinct coping strategies. Self care management strategies can decrease or relieve the disturbance of auditory hallucinations among patients (Singh *et al*., 2002; Tsai and Chen, 2006). Another descriptive study categorized strategies into three groups: physiological, cognitive, and behavioral. Most people used more than one type of strategy to cope with their auditory hallucinations (Tsai and Chen, 2006).

Significance of the Study

Auditory hallucinations are real to patient who is experiencing them and its self management strategies is considered an important factor in how individual responds to stressful life events as a result of hallucination. Self management strategies empower individuals to cope with disease and live better quality lives by developing self efficacy, which is the level of confidence that an individual has in his or her ability to succeed in dealing with their own chronic disease. Self management strategies can decrease or relieve the disturbance of auditory hallucinations among patients with strategies as attention switching (distraction), thought stopping, increasing or decreasing activity, increasing external stimulation, or practicing relaxation techniques. The nurse needs to understand what the voices are saying or telling the person to do, to prevent harmfulness that may occur to the patient and instruct patient practice self management strategies.

Aim of the study

The aim of this study was to assess self management strategies to control auditory hallucinations among patients with schizophrenia at El Abassia mental health hospital.

Research Question

What are effective self management strategies used by patients to control auditory hallucinations?

Subject and Methods

The methodology used in carrying out the study is described under four designs, namely technical, operational, administrative, and statistical designs.

Technical Design

The technical design includes the research design, study setting, sample, and tools of data collection.

Research design

An exploratory descriptive research design was utilized to fulfill the purpose of the study.

Study setting

The present study was carried out at inpatient psychiatric units of El Abassia mental health hospital.

Subjects

A convenient sample of 60 patients with schizophrenia, from inpatient psychiatric units of El Abassia mental health hospital, suffering from auditory hallucinations.

Tools of data collection

Three tools were used to collect data for this study.

TOOL (I)

A Structured Interview sheet for the Socio-demographic and clinical data of patients with schizophrenia suffering from auditory hallucinations, this tool was comprised two parts:

Part (I)

This part included six items that elicit socio-demographic characteristics of patients under study, such as age, sex, religion, occupation, level of education and marital status.

Part (2)

This part included three items that elicit clinical data of psychiatric inpatients such as patient's age at onset of disease, number of admission and length of hospital stay.

TOOL (II): frequency and distribution of auditory hallucinations by Phenomenology Scale *"Modified Version":*

This scale was developed by Lowe (1973) and modified by miller *et al.* (1993). The scale measures various parameters of hallucination. It consists of 9 items, each of which is scored from 1 to 3. Mainly, "frequency", "duration", "location", "reality" (current and past),"sensory intensity", "overt behavior" (what did the hallucination make the patient do), "causality" and "content". The hallucination severity score therefore ranged from 9 to 27.

Scoring System

TOOL (II)

Phenomenology scale of auditory hallucinations, consisted of nine items, each of which is a score from one to three; one is the lowest severity while three indicates the highest severity.

TOOL (III)

Structured interviewing sheet of self management strategies to control auditory hallucinations:

This structured interviewing sheet was developed by *Abd El-Hay (2008)* in Gaber, (2013), to elicit information in relation to self management strategies for auditory hallucinations. It was categorized into:

A) Physiological category which includes strategies to reduce patient's arousal such as sleeping, taking extra medication,

lying down, rest, and strategies to increase patient's arousal such as, listening to music, doing exercise, smoking cigarettes….etc (7 Items).

B) Cognitive category which includes acceptance of voices such as, arguing with voices, accepting and staying with voices peacefully, doing as the voices say, talking to voices, asking self to calm down, and reduced attention to voices such as, ignoring them, verifying voices….etc (11 Items).

C) Behavioral category which includes blocking ears, watching television, seeking help from nurse and doctor, talking to others, praying, singing, going to crowded place, , isolating self, eating, crying, leaving the place …..etc (17 Items).

Attached to these tools a question to assess reactions of the studied schizophrenic patients toward auditory hallucinations, which includes pleasant, happy, enjoyed, neutral, discomfort, pain……..etc (6 Items). These questions were formulated by Abd El-Hay (2008).

Scoring System

Tool III Structured interview schedule of self management strategies to control auditory hallucinations:

It was categorized into: (Physiological category, cognitive category and behavioral category). The answer of this tool was either used or not used (which scored with 0), and if used the answer was " if it didn't help (scored 1), helped to some extent (scored 2), or helped a lot (scored 3).

Operational design

Content Validity Reliability of the Tool

Tool II and III were tested for their content validity and reliability by Abd El- Hay (2008). The tools were tested for their content validity by a jury of five experts in the psychiatric Nursing and Medical field ascertained their validity and relevance. The required modifications were carried out accordingly. Then test-retest reliability was applied on the tools and the questions that assess reaction of the studied patients toward auditory hallucinations after a period two weeks, that the patients were re-interviewed two weeks after their initial interview to ascertain the reliability of the tools. Spearman's rank correlation coefficient (Spearman's rho) was used to measure the reliability of the tools. The tool II proved to be strongly reliable (r=0.972).Categories of tool (III) proved to be strongly reliable, physiological strategy (r=0.983), cognitive strategy (r= 0.997), and behavioral strategy (r=1.000), proved to be completely reliable. And lastly the question about reaction of the patient toward auditory hallucinations (r=0.890).

Pilot Study

A pilot study was carried out before starting data collection phase. It was carried out on ten patients. Based on the findings of the pilot study, certain modifications of the tools were done.

Field Work

The director of El Abassia mental health hospital and subjects were informed about the purpose of the study, then the subjects oral consent was taken, they were informed about their right to not participate in the study and that their answers will not be taken against them, it will be used just for the purpose of the study. Also they were told that there is no right or wrong answers, it is just their perceptions. The study was conducted using the interviewing technique that was conducted on an individual basis. Each patient was interviewed individually for 2-3 sessions according to patient's conditions to establish rapport and trust relationship. Each interview lasted for 25-40 minutes, depending on the response of the interviewee. The researcher asks the patient about the needed information then fills in the questionnaire. For more validation of patients' information, patients' files were revised to help in completion of the needed information about patients' socio-demographic and clinical data. The process of data collection took a period of four months from September 2013 to January 2014.

Administrative design

An official letter was addressed from the dean of faculty of nursing to the director of the hospital, requesting her cooperation and permission to conduct the study. After explanation of the study objectives, the researcher obtained her written permission. Complete confidentiality of any obtained information was ensured.

Statistical design: Data Analysis

Data entry and statistical analysis were done using SPSS 18.0 statistical software package. Quantitative continuous data were compared using the non-parametric Mann-Whitney test as normal distribution of the data could not be assumed. Qualitative categorical variables were compared using chi-square test. Statistical significance was considered at P-value <0.05.

RESULTS

Table (1) Reveals frequency and distribution of auditory hallucinations among patients under study by Phenomenology scale. As shown, more than two third of the studied sample (65.0%) had a frequency of auditory hallucinations once / day or more. Regarding location of voices, (53.3%) of the studied patients had voices coming from outside the patient's body. It also illustrates that half of the studied patients (50.0%) had specified clear cause toward voices. As regards patient's content of voices, 85.0%, of the studied patients had person, gin, angels, mythological but with human qualities content of voices, while 50.0% of the studied patients reported that voices always made threats and accused patient with horrible things.

Table (2) shows the reaction towards auditory hallucinations among the studied patients. It appears that 23.4% of the studied patients react with anger toward auditory hallucinations voices.

Table (3) reveals the effectiveness of physiologic strategies of self management to control auditory hallucinations among

patients. It appears that more than one third of the studied patients (38.3%) used "sleep" as a way for managing voices, and 10.0% of them reported that it is effective and helped them a lot. As shown, less than one quarter of the studied patients (23.4%) used "smoking cigarettes" as a way for managing voices, and 1.7% of them reported that it is effective and helping them a lot. Only Compared to 5% of the patients used "asking doctor for extra medication" and were "doing sport exercises". The table reflects that, 35% of the studied patients used "walk and return" as a way for managing voices, and 5.0% of them reported that it is effective and helped them a lot.

Table (4) presents the effectiveness of cognitive strategies of self management to control auditory hallucinations among patients. The table reflects that half of the studied patients (50.0%) used react / talk to voices as a way for managing voices. The result also reveals that more than half of the studied patients (58.3%) used Listen to voices as a way for managing voices, and 1.7% of them reported that it is effective and helps them a lot.

Table 1. Frequency and distribution of auditory hallucinations among patients under study by Phenomenology scale

Frequency and distribution of Auditory Hallucinations by Phenomenology Scale		Studied Patients (n=60)	
		No.	%
Frequency of hallucinations	More than once a week Once/ day or more	21	35.0
		39	65.0
Duration of hallucinations	Less than 5 minutes	17	28.3
	5-30 minutes	33	55.0
	30 or more minutes	10	16.7
Location of voices	Inside the patient's body	7	11.7
	Outside the patient's body	32	53.3
	Far distance, beyond patient's ordinary sensory range.	21	35.0
Reality of current voices	Vague and not real	2	3.3
	Voice, imagination, as dream	8	13.3
	Real thing or Just like the real thing	50	83.4
Reality of past voices	Vague and not real	2	3.3
	Voice, imagination, as dream	13	21.7
	Real thing or Just like the real thing	45	75.0
Voices intensity	They cannot be distinguished / hardly listened	15	25.0
	The voices interfere with the patient's ordinary conversations	30	50.0
	When the voices start, no possibility of hearing another voices	15	25.0
Overt behaviors	Not affect behavior	16	26.7
	Verbal and nonverbal activity Extensive physical activity as irritable	359	58.3
	movement		15.0
Causality of voices	Unspecified cause	219	35.0
	Specified cause, not obvious	30	15.0
	Specified clear cause		50.0
Content of voices (Interpretation)	Person, gin, angels, mythological but with	51	85.0
	human qualities	5	8.3
	Tangible object, intangible e.g. gas, light ray	4	6.7
	Patient's self / part of patient's self		
Content of voices (Action of voices)	Want to protect the patient	12	20.0
	Just passing	18	30.0
	Threats and accuses patient with horrible things	30	50.0
	Score		14-27 (21.8±2.8)

Table 2. Reaction towards auditory hallucinations among the studied patients

Reaction toward Auditory Hallucinations	Studied patients (n=60)	
	No.	%
	8	13.3
	8	13.3
Pleasant, happy, enjoyed	12	20.0
Neutral Discomfort, pain Anxiety, fear Sadness Anger	9	15.0
	9	15.0
	14	23.4

Table 3. Effectiveness of physiologic strategies of self management to control auditory hallucinations among patients

Physiological Techniques	Effectiveness of studied techniques among patients (n=60)									
	No		Yes		Didn't Help		Help to some extent		Help completely	
	No	%	No	%	No	%	No	%	N	%
Sleep	37	61.7	23	38.3	9	15.0	8	13.3	6	10.0
Ask doctor for extra medication	57	95.0	3	5.0	1	1.7	2	3.3	0	0.0
Listen to soft music	48	80.0	12	20.0	6	10.0	4	6.7	2	3.3
Lay down/ rest	52	86.7	8	13.3	4	6.7	2	3.3	2	3.3
Smoke cigarettes	46	76.6	14	23.3	7	11.7	6	10.0	1	1.7
Do sport exercises	57	95.0	3	5.0	1	1.7	0	0.0	2	3.3
Walk and return	39	65.0	21	35.0	12	20.0	6	10.0	3	5.0
Score (%)	0.0-76.2 (11.4±14.9)									

Table 4. Effectiveness of cognitive strategies of self management to control auditory hallucinations among patients

Cognitive Techniques	Effectiveness of studied techniques among patients (n=60)									
	No		Yes		Didn't Help		Help to some extent		Help completely	
	No	%	No	%	No	%	No	%	No	%
React / talk to voices	30	50.0	30	50.0	24	40.0	6	10.0	0	0.0
Selective listening to voices	54	90.0	6	10.0	4	6.7	2	3.3	0	0.0
Listen to voices	25	41.7	35	58.3	31	51.7	3	5.0	1	1.7
Ask oneself to calm down	47	78.3	13	21.7	9	15.0	3	5.0	1	1.7
Ignore heard voices	33	55.0	27	45.0	3	5.0	14	23.3	10	16.7
Clarify voices and say to oneself it isn't true	52	86.7	8	13.3	2	3.3	5	8.3	1	1.7
Shoot and scream at the voices	35	58.3	25	41.7	8	13.3	10	16.7	7	11.7
Say go away and stop to the voices	42	70.0	18	30.0	6	10.0	4	6.7	8	13.3
Read at loud voice	52	86.7	8	13.3	3	5.0	3	5.0	2	3.3
Think in another thing except the voices	46	76.7	14	23.3	6	10.0	6	10.0	2	3.3
Repeat short sentences and or count numbers sub vocally	45	75.0	15	25.0	8	13.3	5	8.4	2	3.3
Score (%)	0.0-42.4 (16.6±9.8)									

Table 5. Effectiveness of behavioral strategies of self management to control auditory hallucinations among patients

Behavioral Techniques	Effectiveness of studied techniques among patients (n=60)									
	No		Yes		Didn't Help		Help to some extent		Help completely	
	No	%	No	%	No	%	No	%	No	%
Cover one's ear/ place cotton in one's ear	52	86.6	8	13.3	6	10.0	1	1.7	1	1.7
Watch television with loud voice	49	81.7	11	18.3	3	5.0	5	8.3	3	5.0
Seek help from doctor/ nurse	51	85.0	9	15.0	6	10.0	3	5.0	0	0.0
Isolate oneself	48	80.0	12	20.0	10	16.7	2	3.3	0	0.0
Pray	46	76.7	14	23.3	9	15.0	3	5.0	2	3.3
Sing	53	88.3	7	11.7	1	1.7	2	3.3	4	6.7
Go to crowded places	51	85.0	9	15.0	6	10.0	3	5.0	0	0.0
Paint	57	95.0	3	5.0	1	1.7	1	1.7	1	1.7
Eat	55	91.7	5	8.3	2	3.3	1	1.7	2	3.3
Cry	48	80.0	12	20.0	9	15.0	2	3.3	1	1.7
Hurt oneself	55	91.6	5	8.3	4	6.7	1	1.7	0	0.0
Play cards	60	100.0	0	0.0	0	0.0	0	0.0	0	0.0
Talk to someone/ friend	49	81.7	11	18.3	4	6.7	4	6.7	3	5.0
Perform tasks	52	86.6	8	13.3	3	5.0	4	6.7	1	1.7
Leave the place	37	61.6	23	38.3	12	20.0	7	11.7	4	6.7
Chang one's posture	50	83.3	10	16.7	6	10.0	3	5.0	1	1.7
Do as the voices say	40	66.6	20	33.3	12	20.0	4	6.7	4	6.7
Score (%)	0.0-27.5 (8.7±6.8)									

While only 10.0% of the studied patients used "Selective listening" to voices as a way for managing voices. As shown, more than one third of the studied patients (45.0%) used "Ignore" heard voices as a way for managing voices, and 16.7% of them reported that it is effective and helps them a lot. Table (5) shows the effectiveness of behavioral strategies of self management to control auditory hallucinations among patients.

The results revealed that less than one quarter of the studied patients used "Isolate oneself and cry" as a ways for managing voices which constituted the same percentage (20.0% for each). As shown, 23.3% of the studied patients used "Pray" as a way for managing voices, and 3.3% of them reported that it is effective and helping them a lot. On the other hand, no one of the studied patients used "Play cards" as a way for managing voices.

Table 6. Correlation between scores of Phenomenology scale of auditory hallucinations, Effectiveness of strategies of self management to control auditory hallucinations with personal and clinical characteristics of patients

Personal and Clinical Characteristics	Phenomenology scale of hallucinations		Physiological techniques		Cognitive techniques		Behavioral Techniques	
	r	P	R	P	r	P	r	P
Personal characteristics								
Age (years)	0.054	0.683	-0.04	0.761	-0.005	0.97	-0.109	0.408
Clinical characteristics								
Patient age at onset of disease (years)	0.074	0.573	-0.069	0.602	0.127	0.335	-0.064	0.629
Number of hospital admissions	-0.079	0.547	0.245	0.059	0.042	0.748	-0.101	0.442
Duration of hospital stay (months)	-0.045	0.733	0.02	0.877	-0.126	0.338	-0.166	0.206
Scales								
Phenomenology scale of hallucinations	--	--	-0.075	0.571	0.135	0.305	0.033	0.801
Physiological techniques	-0.075	0.571	--	--	0.195	0.136	0.456	<0.0001*
Cognitive techniques	0.135	0.305	0.195	0.136	--	--	0.359	0.005*
Behavioral techniques	0.033	0.801	0.456	<0.0001*	0.359	0.005*	--	--

r:Correlationcoefficient *significant at P≤0.05

It was found that more than one-third of the studied patients (38.4%) used "Leave the place" as a way for managing voices, and 6.7% of them reported that it is effective and helping them a lot. About one-third of the studied patients (33.4%) used "Do as the voices say" as a way for managing voices, and 6.7% of them reported that it is effective and helping them a lot. Table (6) illustrates the correlation coefficient between scores of Phenomenology scale of auditory hallucinations, Effectiveness of strategies of self management to control auditory hallucinations with personal and clinical characteristics of patients. The results revealed that there was a statistically significant difference found between behavioral techniques and physiologic techniques (p= <0.0001*) (r= 0.456), which means that when studied patients increase using behavioral techniques it is accompanied by increased using of physiologic techniques and vice versa . As shown, there was a statistically significant difference between behavioral techniques and cognitive techniques (p= 0.005*) (r= 0.359) , which means that when studied patients increase using of behavioral techniques it is accompanied by increased using cognitive techniques and vice versa.

DISCUSSION

Auditory hallucinations have traditionally been associated with a diagnosis of schizophrenia and are one of the most debilitating symptoms of schizophrenia. Despite the development of new psychotropic medications, a significant number of people with schizophrenia continue to suffer from auditory hallucinations. Auditory hallucinations experienced in psychotic illness contribute significantly to distress and disability. People with schizophrenia cannot only have the ability to make decisions about taking medicine, but also have a great capacity to manage psychotic symptoms. (Frederick, 2000; Marks *et al*., 2005; Tsai and Chen, 2006; Gejman *et al*., 2010; Shepherd *et al*., 2010; Ratcliff *et al*., 2011). Given the importance of this issue, the present study was conducted to identify self management strategies to control auditory hallucinations among patients with schizophrenia.

The finding of the present study denotes that, more than half of the studied patients had a frequency of auditory hallucinations "Once/ day or more". A patient complained that the existing hallucinations throughout the day affected his daily life. This was supported by Kelkar (2002) who noted that hallucinations are directly responsible for profound dysfunction in all aspects of daily life. In addition, Brown (2008) indicated that a large majority of individuals experiencing auditory hallucinations reported the frequency as several times per day.

Concerning the location of voices, the present study results revealed that more than half of the studied patients had voices coming from outside the patient's body. In this study, patients believed that another person is present and is talking with them; this might be due to patient's conviction of the reality of heard voices. This is in agreement with Fenekou and Georgaca (2010); Laroi (2012), who concluded that patients with schizophrenia often perceive hallucinated voices/sounds as being located in the external auditory space.
On the other hand, Wykes (2005) suggested that approximately one-third of patients with auditory hallucinations reported them as located inside the head. From the present study, it is noticed that more than half of the subjects had verbal and nonverbal activity effects related to voices. In the present study, some patients reported that when voices start they take specific posture and speak with voices. This is may probably be due to, all voices were perceived to be omnipotent by the hearer (Duffy, 2006). On the other hand, Abd El-Hay (2008) reported that the majority of studied patient had extensive physical activity related to voices. Regarding interpretation of voices, the present study showed that the majority of the studied patients hear voices that mainly contain person, gin, angels, and mythological but with human qualities content of voices. Some patients reported that they hear voice of God and it's real to them. This result is congruent with Cottam *et al*. (2011) and Gaber (2013), who found that of patients hearing voices from God. Concerning the content of auditory hallucinations as action of voices, the present study results concluded that half of the studied patients reported that

voices always made threats and accused the patient with horrible things. In this study, patients reported that auditory hallucinations are so frequently abusive and critical. This result was in line with Okulate and Jones (2003); Badcock (2010) who illustrated that patients with schizophrenia report that content of their hallucinations are critical. In the present study, it appears that a large number of the studied patients react with anger, and a feeling of discomfort and pain toward auditory hallucinations voices. This is may probably be due to that the majority of the studied patients reported that the voices always made threats and accused patient with horrible things which evoked negative interpretations and negative affect. In the same line, Fenekou and Georgaca (2010) point out, the hearer's reaction towards the voices depends on the function of the voices, and those who hear negative and unpleasant voices tend to react with negative emotion.

This result is in agreement with De Sousa (2007) who illustrated that patients reacted to auditory hallucinations with anger. In contrast, the study of Sanjuan *et al*. (2004) clarified that a number of people experience these voices as pleasurable. The schizophrenic patient in the present study used different forms of self management strategies (e.g. physiological, cognitive, and/or behavioral) to deal with auditory hallucinations. Concerning, physiological self management strategies of the studied patients in the present study. It is noticed that more than one-third of the studied patients used "sleep" as a way for managing voices. The patients reported that they use "sleep" as a way to escape from voices. One patient justified "his voices would get worse in the late afternoon of each day and he scheduled a nap at that time". This is in agreement with Hayashi *et al*. (2007); So and Wong (2008), who indicated that a large number of subjects use "Falling asleep" as a way for managing voices and they reported that it is completely successful technique.

The present study results showed that less than one-quarter of the studied patients used "smoking cigarettes" as a way for managing voices. In the present study the patient reported that when "smoke cigarettes" the voices intensity decreased. This finding may be due to that nicotine which present in cigarettes regulate a dysfunctional mesolimbic dopamine system and it may increase dopamine release in the pre-frontal cortex and alleviate positive and negative symptoms (Kelly and McCreadie, 2000). This finding was explained by Abd El-Hay (2008) who illustrated that patients tend to use "smoke cigarettes" as way to manage auditory hallucinations and around two third of them reported it is effective and helping them a lot. In contrast to that Tsai and Chen (2006) who found that a little number of participants used "smoking cigarettes" for managing auditory hallucinations. Concerning "walk and return" in the present study, it appears that about one- third of the studied patients used "walk and return" as a way for managing voices. In this study, some patients used this method as they concentrate on physical activity such as walk to specific room and return. This results was supported by Abd El-Hay (2008) who stated that the majority of participants used " walk" as way to manage auditory hallucinations, and more than two thirds of them reported that it is effective and helping them a lot. This finding was contradicted by, Tsai and Chen (2006) who mentioned that a little number of the studied patients used "walk and return" as a way for managing voices. While cognitive self management strategies of the studied patients, the present study results reflect that half of the studied patients used "React / talk to voices" as a way for managing voices. The patients in the present study preferred to talk with voices other than people. This might be due to the fact that social isolation is prevalent in clients with schizophrenia, partly as a result of positive signs such as delusions, hallucinations, and loss of ego boundaries. Clients also have problems with trust and intimacy, which interferes with the ability to establish satisfactory relationships with others and the environment (Videbeck, 2011). This finding was in accordance with Abd El-Hay (2008) who illustrated that most of the studied schizophrenic patients" react and talk to voices" to manage the auditory hallucinations voices, and more than half of patients reported it is effective and helping them a lot. Furthermore, So and Wong (2008) reported that participant used "Yell or talk back to auditory hallucinations" as a way for managing voices.

The result of present study also revealed that the majority of patients used "listen to voices" as a way for managing voices. This might be due to the fact that individuals with schizophrenia were often thought to be passive victims of auditory hallucinations (Ng *et al*., 2012). In the same line, Sadock and Sadock (2007) stated that often unconsciously the patient has developed the habit of listening for the voices. This finding is confirmed by Abd El-Hay (2008) who reported that the majority of patients used "listen to voices" as a way for managing voices. This result disagreed with; Laroi (2012) who clarified that indulging in the content of hallucinations does not generate more control over the experiences. In the present study, more than one-third of the studied patients used "Ignore heard voices" as a way for managing voices, and they reported that it is effective and helping them a lot. One patient stated that" voices don't affect me, because I do not pay any attention to them". This is may be due to, health care professionals who may not offer patients sufficient management strategies to deal with their intrusive symptoms. Consequently, these patients were not aware of effective strategies for relieving their symptoms and used "ignore them" as a common response (Tsai and Chen, 2006). Another explanation is that the voices were so frightening, and the experience was so unfamiliar (Ng *et al*., 2012).

This explanation was supported by Jessop *et al*. (2008); Ng *et al*. (2012) who reported that the majority of subjects with schizophrenia used "ignoring" to cope with hallucinations. According to Zou *et al*. (2013) the most commonly used strategy to deal with persistent symptoms by Chinese patients was ignoring them. This finding is contradicted by Beck and Rector (2003) who mentioned that roughly two-thirds of people who experience voices are not successful in their efforts to escape or ignore the voices. The results of the present study showed that the studied patients used "Say go away and stop" to the voices as a way for managing voices, and they reported that it is effective and helping them a lot. In the present study, some patients reported that using this method increased the patient's sense of control over their hallucinations. This result was in line with Ng *et al*. (2012) who found that patients used "Say go away and stop to the

voices" as a way for managing voices. In contrast to Hoffman and Satel (1993) who clarified that the least helpful strategy was 'saying stop' or 'go away'. Owing to behavioral strategies of self management to control auditory hallucinations among patients, the present study revealed that some patients tend to use "Watch television with loud voice" as a way to control auditory hallucinations. This finding may be due that any loud noise ought to be able to drown out hallucinations paradoxically (Lakeman, 2001). With the same view, Place (2003) suggested that concentrating on something other than the voices will often help to obscure them, The focus can be on whatever is convenient or appropriate.

This findings goes in the same line with the study of So and Wong (2008) who showed that patients used "Watching Television" as a way to manage their voices. This finding differs with Nayani and David (1996) who found that the use of watching television and listening to the radio as coping strategies was often cited as making hallucinations worse. In the present study, it seems that studied patients used "Pray" as a way for managing voices. It would seemingly be the appropriate response in those who attributed the voice to God in the present study. A second interpretation is that Egyptian people believe that their voice hearing was related to religion and thought that praying can purify their minds, give them peace and cure the illness. This result is confirmed by the study done by Lee *et al*. (2004) who stated that the most commonly used coping strategy was "prayer". In this regard, So and Wong (2008) supported this results which indicated that that less than half of the participants used "Prayer/meditation" for managing auditory hallucinations. Regarding "Leave the place" as a way for managing voices, from the present study, it was found that more than one-third of the studied patients used "Leave the place" as a way for managing voices. Patients in the present study reported that when the voices start they leave the place to them and go away. This finding may be due to that the majority of patients had voices coming from outside the patient's body so they leave the place where voices are present in. This result is consistent with Hacker *et al*. (2008) who clarified that patients left home because the voices said they were coming.

As derived from the present results, about one-third of the studied patients used "Do as the voices say" as a way for managing voices. This is may be due to that the majority of the studied patients reported that voices always made threats and accused patient with horrible things. e.g., some patients stated that ("If I hadn't followed the command, God would have killed me") and ('My voice will harm or kill me if I disobey").This was supported by Mawson *et al*. (2010) who noted that cognitive appraisals are a key determinant in complying with voice commands; voices appraised as more powerful than the individual are more likely to be complied with than voices appraised as less powerful. This finding goes in the same line with, Tsai and Chen (2006) who clarified that some patients used "Do as the voices say" as a way for managing voices. They reported that patients using these strategies may frighten their family and friends, damaging their personal relationships. So health care providers have a responsibility to remind their patients about the dangers of these management strategies and help them develop effective and safe strategies for coping with their auditory hallucinations.

This result disagreed with Fenekou and Georgaca (2010) who clarified that patients commented that they resist them and refuse to do what the voices say. In addition, Zou *et al*. (2013) indicated that a small number of patients use dangerous strategies, such as, "doing as the voices say". In the present study, the findings revealed that, there was statistically significant difference between behavioral self management strategies and physiologic self management strategies, which means that when studied patients increase using of behavioral self management strategies it is accompanied by increased using of physiologic self management strategies and vice versa. Also there was statistically significant difference between behavioral self management strategies and a cognitive self management strategies, which means that when studied patients increase behavioral self management strategies, it is accompanied by increased using of cognitive self management strategies and vice versa.

Conclusion

Based on the results of the present study, it can be concluded that hallucination is a fundamental symptom in psychiatry. A detailed understanding of individuals' voice hearing experience yields more accurate judgments of the degree to which the voices affect their level of distress, impairment, and risk of harm to self or others. In addition, hearing voices is a complex experience, which voice hearers deal with in a variety of ways. This study demonstrated that in-patients diagnosed with schizophrenia are not passive victims of the disease. Instead, they can utilize self management strategies to reduce the characteristics and severity of auditory hallucinations and to experience a significant decrease in these symptoms. This finding highlights the importance of exploring and developing effective auditory hallucinations symptom, self management strategies for patients with schizophrenia in Egypt.

Recommendations

In the light of the results of the present study, the following recommendations were suggested:

- Encourage nurses to understand, from the perspective of patients with schizophrenia, the strategies of symptom management of auditory hallucinations, as building greater awareness and knowledge of symptom management strategies is an essential task for all health care providers.
- More attention should be paid to accurate and specific assessment of heard voices, which includes the patient's own coping strategies (physiological, cognitive, and behavioral), which can be incorporated into the treatment, and facilitate engagement with voice hearers and improve the selection of strategies to help them manage the voices that upset them.
- Psychiatric health care provider (psychiatric nurse and/or psychiatrist) should provide accurate information to schizophrenic patients who have auditory hallucinations about different self management techniques used by other hallucinating patients, and they reported efficacy, to encourage further self discovery of personality effective self management techniques.

- It is recommended to study the use of coping skills training in psychosocial rehabilitation of patients with schizophrenia who continue to hallucinate despite adequate treatment.

REFERENCES

Abd El-Hay, E. 2008. Self Management of Auditory Hallucinations among Schizophrenic In- patients, Unpublished Master Thesis, Faculty of Nursing, University of Alexandria, Egypt.

Badcock, J. 2010. The Cognitive Neuropsychology of Auditory Hallucinations: A Parallel Auditory Pathways Framework. Schizophrenia Bulletin, 36 (3): 576–584.

Badli, M., Osman, C., Omar A. 2008. Coping Styles and Clinical Factors in Relation to Quality of Life among Patients with Schizophrenia. Medicine and Health, 3(1): 14-21.

Barlow, J., Wright, C., Sheasb,y J., Turner, A., Hainswoth, J. 2002. Self-management approaches for people with chronic conditions: a review Patient Education and Counseling, 48(2): 177-187.

Beck, A., Rector, N. 2003. Cognitive Model of Hallucinations. Cognitive Therapy and Research, 27(1): 19–52.

Boyd, M. 2002. Psychiatric nursing: contemporary practice, 2nd ed., Lippincott Williams and Wilkins. Philadelphia. United States of America; P. 334.

Brown S. 2008. Emotional Reactions to Simulations of Auditory Hallucinations. *Journal of Psychopathology and Behavioral Assessment,* 30 (4): 307-314.

Cottam , S., Paul S., Doughty O., Carpenter L., Al-Mousawi A., Karvounis S., Done D. 2011. Does religious belief enable positive interpretation of auditory hallucinations? A comparison of religious voice hearers with and without psychosis. Cognitive Neuropsychiatry, 16 (5): 403-421.

De Sousa, A. 2007. Types and contents of hallucinations in schizophrenia. Journal of Pakistan Psychiatric Society, 4(1): 29.

Duffy, K. 2006. Beliefs about voices, insight, symptom severity, and treatment compliance in an acute inpatient sample. Unpublished Doctoral Dissertation, Hofstra University, the United States of America.

Fenekou, V., Georgaca, E. 2010 Exploring the experience of hearing voices: Aqualitative study'. Psychosis, 2(2): 134-143.

Frederick J. 2000. Development of an instrument for Assessment of auditory hallucinations in schizophrenia. Unpublished Doctoral Dissertation, Faculty of the school of graduate studies of medical college of Georgia, the United States of America.

Gaber, H. 2013. Assessment of Self Management of Auditory Hallucinations among Schizophrenic Patients at Mental Health Patients at Mental Health Hospital in Port-Said City. Thesis, Faculty of Nursing, Port Said University

Gejman, P., Sanders, A., Duan, J. 2010. The Role of Genetics in the Etiology of Schizophrenia. *The Psychiatric Clinics of North America*, 33(1): 35–66.

Ghanem, M., Gadallah, M., Meky, F., Mourad, S., El-Kholy, G. 2009. National Survey of Prevalence of Mental Disorders in Egypt: preliminary survey. Eastern Mediterranean Health Journal, 15(1): 65-75.

Hacker, D., Birchwood, M., Tudway, J., Meaden, A., Amphlett, C. 2008. Acting on voices: Omnipotence, sources of threat, and safety-seeking behaviors. *British Journal of Clinical Psychology*, 47: 201–213.

Hätönen, H 2010. Patient Education to Support the Self-Management of Patients with Mental Illness. *Turun Yliopisto University Of Turku*, 1-85.

Hayashi, N., Igarashi, Y., Suda, K., Nakagawa, S. 2007. Auditory hallucination coping techniques and their relationship to psychotic symptomatology. Psychiatry and Clinical Neurosciences, 61(6):640–645.

Hoffman, R., Satel, L. 1993. Language therapy for schizophrenic patients with 'voices'. *The British Journal of Psychiatry*, 162: 755-758.

Hugdahl, K., Loberg, E., Specht, K., Steen, V., Wageningen, H., Jorgensen, H. 2008. Auditory hallucinations in schizophrenia: the role of cognitive, brain structural and genetic disturbances in the left temporal lobe. *Frontiers in Human Science*, 1(6): 1-10.

Jessop, M., Scott, J., Nurcombe, B. 2008. Hallucinations in adolescent in patients with post-traumatic stress disorder and schizophrenia: similarities and Kelkar R. (2002): Occupational Therapy Intervention in Hallucinations. *The Indian Journal of Occupational Therapy*, 13 (2): 1-6.

Kelkar, R. 2002. Occupational Therapy Intervention in Hallucinations. The Indian Journal of Occupational Therapy, 13 (2): 1-6.

Kelly, C., McCreadie, R. 2000. Cigarette smoking and schizophrenia. Advances in Psychiatric Treatment, 6: 327-331.

Lakeman, R. 2001. Making sense of the voices. International Journal of Nursing Studies, 38(5): 523–531.

Laroi F. 2012. How do auditory verbal hallucinations in patients differ from those in non- patients? Frontiers in Human Neuroscience, 6(25): 1-9.

Lee, T., Chong, S., Chan, Y., Sathyadevan, G. 2004. Command Hallucinations among Asian Patients with Schizophrenia. The Canadian Journal of Psychiatry. 49(12): 838-842.

Lowe, G. 1973. The phenomenology of hallucinations as an aid to differential diagnosis. British Journal of Psychiatry, 123(577): 621-633.

Marks, R., Allegrante, J., Lorig, K. 2005. A review and synthesis of research evidence for self-efficacy enhancing interventions for reducing chronic disability: Implications for health education practice (part I). *Health Promotion Practice*, 6(1): 37–43.

Mawson, A., Cohen, K., Berry, k. 2010. Reviewing evidence for the cognitive model of auditory hallucinations: The relationship between cognitive voice appraisals and distress during psychosis. *Clinical Psychology Review*, 30(2): 248–258.

Miller, L., O'Connor, E., DiPasquale, T. 1993. Patients' Attitudes Toward Hallucinations. *American Journal of Psychiatry*, 150(4):584-588.

Mohr, W. 2009. Psychiatric-Mental Health Nursing Evidence Based Concepts, Skills and Practices, 7th ed., Lippincott Williams and Wilkins. Philadelphia. New York. London; P. 574.

Nayani, T., David A. 1996. The auditory hallucination: a phenomenological survey. *Psychological Medicine*, 26(1): 177-189.

Ng, P., Chun, R., Tsun, A. 2012. Recovering from Hallucinations: A Qualitative Study of Coping with Voices Hearing of People with Schizophrenia in Hong Kong. *The scientific world Journal*, 1-8. Available at: www.ncbi.nlm.nih.gov/pubmed/23304082 Retrieved at: May, 2013.

Nicolson, S., Mayberg, H., Pennell, P., Nemeroff, C. 2006. Persistent Auditory Hallucinations. That Are Unresponsive to Antipsychotic Drugs. American Journal Psychiatry, 163(7): 1153-1159.

Okulate, G., Jones, O. 2003. Auditory Hallucinations in Schizophrenic and Affective Disorder Nigerian Patients: Phenomenological Comparison. Transcultural Psychiatry, 40(4): 531-541.

Perona, 2004. A Psychological Model for Verbal Auditory Hallucinations. *International Journal of Psychology and Psychological Therapy*., Vol. 4, N؛ 1, pp. 129-153.

Place, C. 2003. Simple coping strategies for people who hear voices. Nursing Times, 99 (47): 38-40.

Ratcliff, K., Farhall, J., Shawyer, F. 2011. Auditory Hallucinations: A Review of Assessment Tools. *Clinical Psychology and Psychotherapy*, 18(6): 524–534.

Sadock, B., Sadock, V. 2007. Kaplan and Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry, 10th ed., Lippincott Williams and Wilkins. Philadelphia. New York. Pp. 482-487.

Sanjuan, J., Gonzalez, J., Aguilar, E., Leal, C., Van Os, J. 2004. Pleasurable auditory hallucinations. *Acta Psychiatrica Scandinavica*, 110(4): 273–8.

Semple, D., Smyth, R., Burns, J., Darjee, R., McIntosh, A. 2005. Oxford Handbook of Psychiatry, 1st ed., Oxford University Press Inc. New York; p. 93,176.

Shepherd, S., Depp, C., Harris, G., Halpain, M., Palinkas, L., Jeste, D. 2010. Perspectives on schizophrenia over the lifespan: A qualitative study. Schizophrenia Bulletin, 38(2):295-303.

Singh, G., Sharan, P., Kulhara, P. 2002. Attitude towards Hallucinations in Schizophrenia. *Hong Kong Journal Psychiatry*, 12(1): 2-5.

So, S., Wong, C. 2008. Experience and coping with auditory hallucinations in first- episode psychosis: relationship with stress coping. *Hong Kong Journal of Psychiatry*, 18(3): 115-21.

Tomppo, L. 2010. The DISC1 Pathway in the Genetic Etiology of Schizophrenia National Institute for Health and Welfare (THL), Research 37, University of Helsinki. Finland.

Tsai Y., Chen C. 2006. Self-care symptom management strategies for auditory hallucinations among patients with schizophrenia in Taiwan. *Applied Nursing Research*, 19 (4): 191-196.

Varcarolis, E., Carson, V., Shoemaker, N. 2006. Foundations of Psychiatric Mental Health Nursing. A Clinical Approach, 5th ed., Elsevier Sunders Company. Philadelphia. The United States of America; P.p. 384-400.

Vide beck, S. 2011. Psychiatric Mental Health Nursing, 5th ed., Lippincott Williams and Wilkins. Philadelphia. New York.

Wykes, T., Hayward, P., Thomas, N., Green, N., Surguladze, S., Fannon , D., Landau, S. 2005. What are the effects of group cognitive behavior therapy for voices? A randomized control trial. *Schizophrenia Research,* 77(2-3): 201-10.

Zou, H., Li, Z., Nolan, M., Wang, H., Hu, L. 2013. Self-Management among Chinese People With Schizophrenia and Their Caregivers: A Qualitative Study. *Archives of Psychiatric Nursing*, 27(1): 42–53.

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