

A STUDY OF INTERFERENCE WITH THE ACTIVITIES OF SCHIZOPHRENICS BY AUDITORY HALLUCINATIONS

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SUMMLRY

Interference with self-care, occupation, social activities and leisure time activities by auditory hallucination was examined in 30 schizophrenics. 9 Patients did not experience interference with their activities. Psychoticism scores, neuroticism scores, presence of advising voices and presence of known living 'speakers' were related to interference with activities by the voices.

Auditory hallucinations can interfere with the activities of schizophrenics. Not all hallucinating schizophrenics suffer from this interference. Also not all kinds of activities are interfered with. The degree of interference varies from patient to patient. In order to have a better understanding of the patient's experiences the variables related to interference with the activities of schizophrenics by auditory hallucinations should be sorted out.

The experienced reality of auditory hallucinations was found to be associated with interference with self-care and social activities of schizophrenics (Ramanathan, 1983a). Schizophrenics with inner voices did not seem to differ from those with externally placed voices in interference with their activities (Ramanathan, 1983b).

The present study was aimed at examining the pattern of interference with the activities of schizophrenics by auditory hallucinations and the relation of certain variables to such interference. The variables analysed in the previous reports were included in the present study.

MATERIAL AND METHOD

30 schizophrenics attending the out-patient department of the Institute of Mental Health, Madras were chosen

for the study using the following criteria:

1. Patient should be 'definitely schizophrenic as per the criteria of Feighner et al. (1972).
2. He/she should be currently having auditory hallucinations i.e. the last episode should have occurred within 24 hours prior to the interview.
3. He/she should be having verbal auditory hallucination with or without non-verbal auditory hallucination and /or hallucination in other sensory modalities.
4. He/she should not have undergone psycho-surgery.
5. He/she should not have been treated with electro-convulsive therapy in the month prior to the interview.
6. He/she should be co-operative for interview and psychological testing.
7. He/she should be an urban resident.

The mean age of the sample was 35.2 years and standard deviation 9.71. The mean duration of illness was 7.5 years and standard deviation 6.3 years.

An interview schedule was constructed and each patient was interviewed along with one or more family members in order to elicit reliable information.

Interference by auditory hallucination was measured in 4 areas of activities viz. self-care, occupation (not ne-

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cessarily remunerative), social activities and leisure-time activities using 4 point scales i.e. 0-3 scores. Score 0 indicated absence of interference but not absence of voice during activities. Score 1 indicated distraction during activity without grossly hampering with it. Score 2 was given for distraction leading to delay in completing the act. Score 3 was given if the activity was not completed. Total interference scores were calculated for each patient. Specific activities were questioned about but quantification was done for the area of activity only for the following reasons. The activities of patients were varied and a broad grouping was necessary. The interference with a specific activity was not consistent in some patients. Some patients were not consistent in some of their specific activities. The sample was small and the study was only exploratory. Emotional disturbance related to but outside the hallucinatory episode and avoidance of activities in situations that provoked the voices were not taken as forms of interference but were included in the list of variables whose relation to interference by voices was analysed.

Age, sex, religion, mother-tongue, personality dimensions, reality-testing ability, family history of schizophrenia, presence of delusions related to hallucinations insight, duration of schizophrenic illness, duration of hallucination, the interval between the onset of illness and onset of hallucination, duration of each episode of hallucination, number of episodes per day, number of hallucinating days per month, number of languages of the voice, position of voice (within the body, outside the body within sensory range and outside the body outside sensory range), time -sense during the voice (fast, slow or usual movement), total number of 'speakers', number of 'speakers' per episode, sex of the 'speaker' social status of the 'speaker' (above,

equal to or below the status of the patient), knowledge of the 'speakers' (known living person, known dead person, unknown person or God), content of the voice (audible thoughts, voices speaking to or about the patient, abusing, threatening, advising, praising etc.), provoking agents (objects, persons or situations), loudness, pitch and clarity of the voice, noise-level of the environment during the voice, experienced reality of the voice, level of anxiety prior to the voice, interval between increase in anxiety level prior to the voice and (appearance of the voice, effect of physical illness (e.g. Fever) on the voice (alteration of frequency etc.), administration of electro-convulsive therapy, number, variety and dosage of drugs prescribed, effects of physical methods of treatment on the voice, presence of non-verbal auditory hallucination and hallucinations in other sensory modalities and coping behaviour (covert and overt activities and emotions during, outside and immediately prior to the hallucinatory episodes) were recorded. Anticipation of voice, diverting attention and manipulation immediately prior to the voice, variety and intensity of emotions during and outside the hallucinatory episodes, active and passive listening during the voice, talking or shouting back during the voice, searching for the 'speakers' during the voice, manipulative behaviour like closing the ears, reaction to content of voice differentiated from reaction to the phenomenon of voice, presence of suicidal ideas, increasing leisure-time activities, regular intake of prescribed drugs, taking overdose of prescribed drugs, for suppressing the voice, alcohol intake, prayers, seeking advice from others for coping with the voice, avoidance of situations provoking the voice and physical exercises were the variables recorded under 'coping behaviour'.

Loudness of voice was recorded us-

ing a—3 point scale i.e. 1-3 scores (whisper-1; loudness of ordinary conversation-2; shouting-3). Clarity of the voice was measured using 3 point scale i.e. 1-3 scores (incomprehensible-1; very clear-3; in between-2). Pitch of the voice and environmental noise-level were quantified using 3 point scale i.e. 1-3 scores (low-1; average-2; high-3). Intensity of emotions during and outside the voice but concerning the voice and level of anxiety immediately prior to the voice were measured using 4 point scale i.e. 0-3 scores (nil-0; low-1; high-3; in between-2). Effect of treatment on the voices was scored on 4 point scale i.e. 0-3 scores. Score 0 indicated no effect. Score 1 indicated reduction in one of the 3 variables viz. frequency, duration of each episode and unpleasantness of the content of voice and score 2 indicated reduction in 2 of the 3 variables. Score 3 indicated total suppression of voice. To assess the reality of the voice, the 8 qualities of experienced reality described by Aggernaes et al. (1976) were used. Reality-testing ability was measured by $F + \%$ in Rorschach test as it is the best single indicator or reality-testing ability (Carr, 1975). For the assessment of personality dimensions, Eysenck's Personality Questionnaire (1976) was used. Socio-economic status was scored with the help of the scale devised by Gupta & Sethi (1978). Insight was assessed with the help of the Present State Examination Schedule (Wing et al., 1974). Psychological testing was done following the interview and each patient was engaged for more than 2 hours.

The distribution of patients according to the interference in individual areas and combination of areas of activities and the correlation between interference scores in different areas were examined in order to determine the pattern of interference with activities by

the voices. The sample was classified on the basis of total interference scores and the resultant groups were compared for all the variables mentioned above, using Chi-square test and 't' test. The variables that were statistically significantly associated with total interference scores were isolated. In order to find out the linear relation between such isolated variables and interference scores, step-wise multiple regression analysis was done using IBM 370/155 computer. The isolated variables were regressed on the total interference scores and also on interference scores for the four areas of activities. In other words, there were 5 dependent variables and one set of explanatory variables.

RESULTS

The voices interfered with self-care in 11 patients, with occupation in 16 patients, with social activities in 16 patients and leisure-time activities in 11 patients. Activities in all areas were interfered within 4 patients. There was no interference in 9 patients. The combination of interference with occupation and interference with social activities was found in 12 patients and this combination had the highest number of patients. The combination of interference with self-care and interference with leisure-time activities was found in 6 patients and this combination had the least number of patients. The mean interference scores and standard deviations in parenthesis for self-care, occupation, social activities and leisure-time activities were 0.6333 (0.9643), 0.8667 (0.9732), 0.9333 (1.0148) and 0.6333 (0.9643) respectively. The mean total interference score was 3.0667 and standard deviation was 2.8154. The correlations between interference scores in the areas of activities and with total scores are given in Table-I. Interference in leisure-time ac

TABLE I. *Correlations between interference scores in the areas of activities and with total scores.*

Interferences scores in	Occupation	Social activities	Leisure-time activities	Total scores
Self-care	*0.42378	**0.60842	0.18418	**0.77139
Occupation		*0.44458	0.16657	**0.70813
Social activities			0.29129	**0.82230
Leisure-time activities				**0.56817

* $p < 0.02$; ** $p < 0.01$.

tivities correlated poorly with interference scores in other areas of activities.

The sample was divided into 3 groups based on the total interference scores. 9 patients had 0 scores. 10 patients had 1-3 scores. 11 patients had 4-9 scores. There was no reverse distribution of scores for individual areas of activities in these groups i.e. the group with 1-3 scores did not have more interference scores on any area of activity in comparison to the group with 4-9 scores. The groups differed in 8 variables on tests of significance. The groups with 4-9 scores had low psychoticism scores, high neuroticism scores, less known living 'speakers', more advising voices, more real auditory hallucinations, higher intensity of anger during the voice, more talking or shouting back during the voice and higher emotional intensity outside the hallucinatory episode but concerning the voice. These variables were the independent for the purpose of multiple regression analysis. Since lie scores on Eysenck's Personality Questionnaire might influence psychoticism and neuroticism scores, it was also added to the list of independent variables making the total 9 i.e. 8 variables mentioned above and lie

scores. The results of step-wise multiple regression analysis are presented in Table -II. Psychoticism scores, neuroticism scores, lie scores, known living 'speakers and' advising voices were statistically significantly related to interference with the activities of patients by the voices. Variables related to interference with one area of activity were not the same as those related to interference in another area. The highest R square value for an area of activity interfered with was not more than 0.50981 i.e. not more than 51% of variations in interference scores in any area of activity could be explained.

Since psychoticism scores, neuroticism scores and lie scores influenced the interference scores in the same direction i.e. positive direction, correlations between these scores and interference scores were worked out and the values are presented in Table-III. It was found that neuroticism scores were positively correlated with interference scores in the areas of activities and total scores but the correlation with interference scores in leisure-time activities was not statistically significant. Psychoticism scores and lie scores correlated in different directions with interference scores in different areas

TABLE II. *Multiple regression analysis: certain variables on interference scores*

Dependent variable	Independent variables	Regression co-efficient	Standard error	't' value	Level of significance	R square value	F value and level of significance
Interference with selfcare	Intensity of anger during the voice.	0.14687	0.11798	1.2449	n.s.	0.50981	4.99216 p<.01
	Advising voice	0.73525	0.29965	2.4537	p<.05		
	Psychoticism	0.14759	0.06062	2.4347	p<.05		
	Known living 'speaker'	-0.68894	0.34447	2.0000	n.s.		
	Neuroticism (constant)	0.05981 -1.19643	0.03275	1.8263	n.s.		
Interference with occupation.	Neuroticism	0.07545	0.02966	2.5438	p<.02	0.41003	6.02335 p<.01
	Lie score	0.10015	0.04231	2.3671	p<.05		
	Intensity of anger during the voice. (Constant)	0.19898 -2.06953	0.11794	1.6871	n.s.		
Interference with social activities.	Intensity of anger during the voice.	0.14929	0.13437	1.1110	n.s.	0.38284	3.87701 p<.05
	Neuroticism	0.06075	0.03242	1.8738	n.s.		
	Experienced reality of voice.	0.25317	0.17932	1.4118	n.s.		
	Known living 'speaker' (Constant)	-0.36625 -1.63728	0.33176	1.1040	n.s.		
Interference in leisure-time activities	Known living 'speaker'	-1.08918	0.30235	3.6024	p<.01	0.42522	4.62375 p<.01
	Advising voice	0.44016	0.31451	1.3996	n.s.		
	Talking/shouting back during the voice	0.38332	0.30178	1.2702	n.s.		
	Lie score	0.04159	0.04193	0.9919	n.s.		
	(Constant)	0.32213					
Total interference scores	Intensity of anger during the voice.	0.62087	0.31121	1.9950	n.s.	0.64007	6.81689 p<.01
	Advising voice	1.82552	0.81161	2.2493	p<5.0		
	Known living 'speaker'	-2.45480	0.88059	2.7877	p<.01		
	Neuroticism	0.17733	0.08507	2.0845	p<.05		
	Lie score	0.13119	0.11275	1.1635	n.s.		
	Psychoticism	0.16792	0.15867	1.0583	n.s.		
	(Constant)	-2.67369					

TABLE III. *Correlations of scores on personality dimensions and lie scores with interference scores in the areas of activities.*

Scores on personality questionnaire	Areas of Activities				
	Selfcare	Occupation	Social activities	Leisure-time activities	Total scores
Psychoticism	0.11781	-0.29707	-0.19265	-0.29316	-0.23219
Neuroticism	*0.39069	***0.50623	**0.44449	0.11629	***0.50885
Lie-score	-0.18506	0.23710	0.02686	0.24882	0.09412

*p<.05; **p<.02; ***p<.01

and the correlations were not statistically significant.

DISCUSSION

Some of the negative findings were interesting. Interference with the activities of patients was not related to the duration of hallucination, duration of individual episode of voice, frequency of episodes, loudness and pitch of the voice and the number of 'speakers'. In other words the phenomenon of interference was not "Physical". This was in contrast to the interference that might be expected of a real auditory stimulus. Also the phenomenon of interference with activities was not based on too simple logic. Abusing and threatening voices were not related to interference but advising voices were.

Interference with leisure-time activities poorly correlated with interference with activities in other areas. Neuroticism scores poorly correlated with interference scores for leisure-time activities. Psychoticism scores correlated in different directions with interference scores in different areas of activities. The variables related to interference in one area of activity were different from those related to interference in another area of activity. Such findings might have been artefacts due to the methodological compromises made in the quantification of interference with activities. Or the phenomenon of interference with activities by voices has more than one sphere.

Variables that were associated with interference with activities were related to both the patient (personality dimensions) and the voice (known living 'speakers and advising voices). The complexity of the phenomenon was suggested by such findings.

Not more than 51% of variations in interference with activities in different areas could be explained by the varia-

bles chosen. More number of variables should be analysed in future studies. The direction in which one should contemplate for additional variables was suggested by the profile of variables selected for the present study. Variables related to the voices were many and those related to the syndromes were very few. The phenomenon of interference with activities of patients should be studied taking into account other schizophrenic symptoms also. Probably the relation between time of day and interference with activities is an important variable.

Further studies especially follow up studies are indicated.

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