Command Hallucinations Among Asian Patients With Schizophrenia

Theresa MY Lee, MBBS, MMed[1], Siow Ann Chong, MBBS, MMed[2], Yiong Huat Chan, PhD[3], Gangaharan Sathyadevan, MBBS, MRCPsych[4]

Objectives: The impact of command hallucinations on patients and the determinants of patients' compliance with them are still poorly understood. The extant literature is also divided on their association with violence. This study aimed to establish the prevalence of command hallucinations and to identify the factors that affect compliance with the commands, together with patients' coping methods.

Methods: We recruited 50 consecutive male and 50 consecutive female schizophrenia inpatients who reported hearing voices in the 6 months prior to admission. We interviewed these patients, using a semistructured questionnaire. We collected information on the contents of their auditory hallucinations and their coping methods.

Results: Of the patients, 53 (53%) reported command hallucinations. Of these 53 patients, 58% were women and 48% were men; 62% reported complying with the commands. They were also more likely to comply with nonviolent commands. A history of self-harm predicted compliance. Those patients who did not comply with the commands adopted various methods of coping, of which praying was the most common.

Conclusion: Command hallucinations are common in patients with schizophrenia. Patients with a history of self-harm need closer monitoring because they may be more likely to comply with these hallucinations. Assessment should also include the patient's own coping strategies, which can be incorporated into the treatment.

(Can J Psychiatry 2004;49:838–842)

Information on funding and support and author affiliations appears at the end of the article.

Clinical Implications

- A high rate of command hallucinations exists, together with a relatively high rate of compliance with the hallucinations.
- Clinicians should be aware that a history of self-harm may predict compliance.
- Culturally influenced coping strategies can be incorporated into the management of patients with auditory hallucinations.

Limitations

- This retrospective study is subject to recall bias.
- The sample size was relatively small.
- We recruited only inpatients with schizophrenia; as such, we may not be able to generalize our findings to patients in the community or in a forensic setting.
- We did not correlate compliance with severity of psychopathology, which may be a risk factor.
- We did not collect data on the coping strategies of those who complied with the command hallucinations.

Key Words: *command hallucinations, schizophrenia, violence, coping*

Psychiatrists are often called upon to predict the propensity of a mentally ill individual for violence, although there are scant data in the published literature to provide any definite guide (1). Various factors have been studied, including command hallucinations.

Auditory hallucinations are a common feature of schizophrenia. It has been reported that about one-third of hallucinating inpatients experience hallucinatory commands during their current episode (2). The extant literature lacks consensus on the clinical significance of command hallucinations. Yesavage reported that the presence of command hallucinations is associated with "danger-related events" (3). There are anecdotal reports of self-mutilation (4,5) and even death (6) resulting from command hallucinations. Rogers and others found that 5.8% of individuals evaluated for "insanity" had committed their criminal offences in response to command hallucinations (6). While this figure appears modest, it represents nearly one-half (43.0%) of all forensically referred individuals with auditory hallucinations. Conversely, other studies found that patients generally ignored their command hallucinations (2,7–9), that command hallucinations had minimal influence on the outcome of schizophrenia (8), and that patients with command hallucinations did not differ significantly from patients without command hallucinations on demographic and behavioural variables, including suicidal ideation or behaviour and assaultiveness (7). In part, these contrasting findings may be owing to the different settings in which the studies were carried out. Patients charged with criminal offences often attribute their acts to auditory hallucinations (1,10), whereas command hallucinations may be underreported among nonforensic patients (8).

Compliance with commands has been reported to be associated with several factors. Junginger reported that patients were more likely to comply with nonviolent commands (11), but Kasper and others reported that most patients had complied with violent hallucinations (12). Another factor is the perceived source of the voice. In Rudnick's review, there is a direct relation between compliance with commands and both the benevolence and the familiarity of the commanding voice (13).

Although various factors have been examined in the context of violent command hallucinations, data on such mediating factors as coping attitudes and behaviours are limited (13).

In this study, we established the prevalence of command hallucination among patients with schizophrenia and auditory hallucinations. We also attempted to identify some determinants of compliance with these commands and to examine the coping strategies of patients who successfully resisted them. We hypothesized that patients who had no definite coping strategy and whose command hallucinations were nonviolent were more likely to comply with these commands.

Methods

Our sample was drawn from the inpatient population of Woodbridge Hospital, the largest psychiatric hospital in Singapore. We recruited the first 50 consecutive male and the first 50 consecutive female patients admitted to hospital who fulfilled DSM-IV criteria for schizophrenia and who reported hearing voices at least once over the past 6 months. We excluded patients with concurrent diagnoses of substance abuse or dependence and those with significant neurological conditions. The consensus of 2 psychiatrists determined whether a patient met the DSM-IV criteria for a diagnosis of schizophrenia. The hospital's Ethics Committee approved the study, and we obtained informed consent from all the patients.

We used a semistructured questionnaire to interview patients within the first week of admission. We recorded demographic data, psychiatric history, lifetime history of self-harm, and history of violent acts. Acts of self-harm were defined as acts of self-inflicted injury and included overdose and physical injury. Violent acts were defined as any assaultive act against another or threat of violence to another. To minimize recall bias, those who reported experiencing auditory hallucinations in the past 6 months were asked whether the voice(s) instructed or commanded them to behave in a specific manner; if so, they were categorized as having experienced command hallucinations. Those without command hallucinations were defined as those without such a hallucination in the past 6 months. The patient's account was further corroborated with information obtained from case records and interviews with a caregiver, if available.

We asked the patients who experienced command hallucinations to describe verbatim the contents of the command hallucination; we also asked whether they could attribute these voices to any particular person(s) or being(s). We categorized the command as violent or nonviolent, identifying a violent command as one with an element of danger (for example, a command asking the subject to inflict physical harm on self or others). We considered a patient to have complied if the action was carried out or if the patient intended to carry out the specific act but was prevented by external circumstances. When a patient was able to ignore the command, we asked about the coping method used.

Statistical Analysis

We used the Mann–Whitney *U* test and chi-square tests to evaluate the association between patients with and without command hallucinations. We used multivariate logistic regression analysis to determine the factors associated with compliance; covariates were age, ethnicity, duration of

Table 1 Demographic and clinical characteristics of patients with and without command hallucinations

	With command hallucinations (n = 53)	Without command hallucinations (n = 47)
Sex		
Men	24	26
Women	29	21
Ethnicity		
Chinese	37	35
Malay	11	9
Indian	4	2
Others	1	1
Age in years, mean (SD)	37.6 (9.3)	40.6 (9.9)
Duration of illness in years, mean (SD)	10.0 (7.7)	11.5 (9.2)
Age of first hospitalization in years, mean (SD)	28.5 (7.3)	30.1 (11.4)
Total number of admissions, mean (SD)	5.7 (4.5)	7.87 (7.6)

illness, total number of hospitalizations, attribution of the source of the hallucinations, and violent commands. Statistical significance was set at $P < 0.05$. The data were analyzed with SPSS version 10.5 software (14).

Results

Of the 100 patients (50 men and 50 women), 72 were Chinese, 20 were Malaysian, 6 were Indian, and 2 were from other ethnic groups. Their mean (SD) age was 39.1 (9.7) years, mean (SD) duration of illness was 10.7 (8.5) years, and mean (SD) age at first hospitalization was 29.3 (9.5) years. The mean (SD) number of hospitalizations was 6.7 (6.2).

Of 53 patients reporting command hallucinations, 29 (55%) were women, and 24 (45%) were men; 33 (62%) had complied with the commands, while 29 (55%) reported having violent commands. Those with and without command hallucinations did not differ significantly in duration of illness, mean onset-age of schizophrenia, mean age of first hospitalization, and mean number of hospitalizations (Table 1).

Although a higher percentage of women had command hallucinations, the difference in the number of men and women having violent commands was not significant (n = 13 [54.2%] and n = 16 [55.2%], respectively). Contrary to our expectation, men were not more likely to comply with violent commands (P = 0.88, 95%CI, 0.17 to 7.74).

Of the patients, 35 (66%) attributed the command hallucinations to human voices, while 15 (28%) attributed them to a supernatural being (7 believed they were hearing God's voice, while 8 believed they were hearing the Devil's voice).

Of the 33 patients who complied with their command hallucinations, 11 (33%) committed a violent act in response to the voices, 6 (18%) of which were self-injurious acts, and 5 (15%) of which were violent acts toward others. After logistic regression analysis, the significant predictors for compliance were nonviolent commands and a history of self-harm. Patients experiencing violent command hallucinations were less likely to comply, compared with those having nonviolent command hallucinations ($P < 0.001$; odds ratio 17.9; 95%CI, 3.5 to 90.9). Of the patients who experienced command hallucinations, 19 had a history of self-harm that was associated with compliance with command hallucinations (P = 0.014; odds ratio 28.5; 95%CI, 1.9 to 347.9). The 20 subjects who were able to ignore the command hallucinations adopted various methods of coping, the most common of which was praying (25%) (Table 2).

Discussion

We found a relatively high prevalence rate of command hallucination (53%) among patients with auditory hallucinations, as well as a relatively high rate of compliance (62%) with these command hallucinations. Rates of compliance from other studies ranged from 39% to 84% (12,15,16).

Our study showed that patients are more likely to comply with nonviolent commands, which is consistent to Junginger's findings (11) but contrasts with Kasper and others' findings that most inpatients (67%) had complied with violent command hallucinations toward others and 92% had complied with violent command hallucinations toward self (12). More recently, McNiel and others reported a positive association

Table 2 Strategies for coping with command hallucinations

Coping method	*n*	%
Prayer	5	25
Medication	2	10
Listen to music	2	10
Think about something else	2	10
Talk to someone	2	10
Sleep	2	10
Do housework	2	10
Use cotton wool or fingers to plug ears	2	10
Go to the beach	1	5

between command hallucinations and violence (1). They reported that, of 103 patients, 22% complied with commands to harm others; those who experienced violent command hallucinations were more than twice as likely to be violent, even after a history of substance abuse was controlled for. This percentage is higher than our findings that 15% of our patients reported complying with commands to hurt others. Comparing rates across different studies is fraught with difficulties, and interpretation is limited, owing to the different characteristics of the patients (for example, differing diagnoses and histories of substance use), the different settings in which these studies were undertaken (such as forensic vs civil settings), the differences in study methodologies, and perhaps, cultural differences in sanctioned behaviour.

Another factor influencing compliance may be the perceived source of the commands. Although we found no association between compliance and the attribution of commands to any particular being (human or otherwise), Juninger found that subjects with hallucinatory voices they could identify were more likely to comply with the commands, regardless of the danger (15). Beck-Sander and others observed that the beliefs individuals hold about the voices is important in determining compliance with the command hallucinations: if the voice is perceived as benevolent, the patient is more likely to comply with the command, whether it is innocuous or severe (for example, to kill) (17). In a review of 41 studies, Rudnick found a direct relation between compliance with commands and both the benevolence and the familiarity of the commanding voice (13).

We found an association between a history of self-harm and compliance with command hallucinations. Individuals who carry out repeated acts of self-harm are more impulsive, which may be attributable in part to an abnormal biological substrate (18). This lack of self-restraint may increase their vulnerability to compliance with command hallucinations. However, we did not elicit the strategies of patients who did not resist command hallucinations, which limits the generalizability of our findings.

Among those who successfully resisted command hallucinations, the most commonly used coping strategy was prayer (25%), which would seemingly be the appropriate response in those who attributed the voice to God (13.5%) or the Devil (15.4%). This finding concurs with the study by Tepper and others, who reported that more than 80% of their subjects used religious beliefs or activities to cope with their mental illness, with prayer being the most frequent activity reported (19). The role of religious beliefs is well established in cases of depression (20), where greater religiousness is associated with fewer depressive symptoms. The role of religious beliefs is unclear in cases of schizophrenia. Although antipsychotic medication is the mainstay of treatment for the positive symptoms of schizophrenia, some patients will either refuse medication or prove resistant to these drugs. In such instances, a cognitive approach may be effective (17). Although none of the patients in our study received any formal psychotherapy, they had on their own accord used distraction techniques (for example, listening to music, talking with someone, or thinking about something else). In recent years, an increasing body of literature has suggested that cognitive-behavioural treatment benefits patients with chronic delusions and hallucinations—even those with early psychosis (17,21,22). Each patient's coping methods should be explored and enhanced. Tarrier and others compared coping strategy enhancement technique that enhances and maximizes the effect of the individual's own naturalistic coping strategies with problem solving and found it to be superior. In Eastern societies, the attribution of psychiatric symptoms differs from that in Western societies, with supernatural and social attributions being more commonly found in the former (23). Clinicians in such societies should therefore be cognizant of these factors: the potential for incorporating them into therapy merits further investigation.

Funding and Support

This study was supported in part by a grant from the National Medical Research Council of Singapore.

Acknowledgements

We thank Dr Tan MY for his assistance in gathering some of the data for this study.

References

1. McNeil DE, Eisner JP, Binder RL. The relationship between command hallucinations and violence. Psychiatr Serv 2000;51:1288 –92.

2. Goodwin DW, Alderson P, Rosenthal R. Clinical significance of hallucinations in psychiatric disorders. Arch Gen Psychiatry 1971;24:76–80.
3. Yesavage JA. Inpatient violence and the schizophrenic patient. Acta Psychiatr Scand 1983;67:353–7.
4. Hall DC, Lawson BZ, Wilson LJ. Command hallucinations and self-amputation of the penis and hand during a first psychotic break. J Clin Psychiatry 1981;42:322–4.
5. Shore D, Anderson DJ, Cutler NR. Prediction of self-mutilation in hospitalized schizophrenics. Am J Psychiatry 1978;135:1406–7.
6. Rogers R, Nussbaum D, Gillis R. Command hallucinations and criminality: a clinical quandary. Bull Am Acad Psychiatry Law 1988;16:251–8.
7. Hellerstein D, Frosch W, Koenigsberg HW. The clinical significance of command hallucinations. Am J Psychiatry 1987;144:219–21.
8. Zisook S, Byrd D, Kuck J, Jeste DV. Command hallucinations in outpatients with schizophrenia. J Clin Psychiatry 1995;56:462–5.
9. Cheung P, Schweitzer I, Crowley K, Tuckwell V. Violence in schizophrenia: role of hallucinations an delusions. Schizophr Res 1997;26:181–90.
10. Thomson JS, Stuart GL, Holden CE. Command hallucinations and legal insanity. Forensic Reports 1992;5:462–5.
11. Junginger J. Command hallucinations and the prediction of dangerousness. Psychiatr Serv 1995;46:911–4.
12. Kasper ME, Rogers R, Adam PA. Dangerousness and command hallucinations: an investigation of psychotic inpatients. Bull Am Acad Psychiatry Law 1996;24:219–24.
13. Rudnick A. Relation between command hallucinations and dangerous behaviour. J Am Acad Psychiatry Law 1999;27:253–7.
14. SPSS Inc. Statistical package for social sciences. Version 10.5. Chicago (IL): SPSS Inc; 2001.
15. Junginger J. Predicting compliance with command hallucinations. Am J Psychiatry 1990;47:245–7.
16. Rogers R, Gillis JR, Turner RE, Frise-Smith T. The clinical presentation of command hallucinations in a forensic population. Am J Psychiatry 1990;147:1304–7.
17. Beck-Sander A, Birchwood M, Chadwick P. Acting on command hallucinations: a cognitive approach. Br J Clin Psychol 1997;36:139–48.
18. Roy A, Linnoila M. Suicidal behavior, impulsiveness and serotonin. Acta Psychiatr Scand 1988;78:529–35.
19. Tepper L, Rogers SA, Coleman EM, Malony HN. The prevalence of religious coping among persons with persistent mental illness. Psychiatr Serv 2001;52:660–5.
20. Smith T, Poll J, McCullough M. Religiousness and depression: evidence for a main effect and the moderating influence of stressful life events. Psychol Bull 2003;129:614–36.
21. Haddock G, Bentall RP, Slade PD. Focusing versus distraction approaches in the treatment of persistent auditory hallucinations. In: Haddock G, Slade PD, editors. Cognitive-behavioural interventions with psychiatric disorders; London (UK): Routledge; 1996.
22. Haddock G, Morrison A, Hopkins R, Lewis S, Tarrier N. Individual cognitive-behavioural interventions in early psychosis. Br J Psychiatry 1998;172(Suppl 33):101–6.
23. Landrine H, Klonoff EA. Cultural diversity in causal attribution for illness; the role of the supernatural. J Behav Med 1994;17:181–93.

Manuscript received July 2003, revised, and accepted January 2004.
[1]Associate Consultant, Woodbridge Hospital–Institute of Mental Health, Republic of Singapore.
[2]Senior Consultant, Woodbridge Hospital–Institute of Mental Health, Republic of Singapore.
[3]Head of Biostatistics, Clinical Trials and Epidemiology Research Unit, Ministry of Health, Republic of Singapore.
[4]Senior Consultant, Woodbridge Hospital–Institute of Mental Health, Republic of Singapore.
Address for correspondence: Dr T Lee, Woodbridge Hospital–Institute of Mental Health, 10 Buangkok View, Singapore 539747
e-mail: Theresa_LEE@imh.com.sg

Résumé : Hallucinations commandées chez des patients asiatiques souffrant de schizophrénie

Objectifs : L'effet des hallucinations commandées sur les patients et les déterminants de l'observance des patients à leur égard est encore mal compris. La documentation existante est aussi partagée en ce qui concerne leur association à la violence. Cette étude visait à établir la prévalence des hallucinations commandées et à déterminer les facteurs qui influent sur l'observance des commandes, ainsi que les méthodes d'adaptation des patients.

Méthodes : Nous avons recruté 50 patients hospitalisés consécutifs masculins et 50 patientes hospitalisées consécutives féminines qui déclaraient avoir entendu des voix dans les 6 mois précédant l'hospitalisation. Nous les avons interviewés à l'aide d'un questionnaire semi-structuré. Nous avons recueilli de l'information sur le contenu de leurs hallucinations auditives et leurs méthodes d'adaptation.

Résultats : Sur les patients, 53 (53 %) ont déclaré avoir des hallucinations commandées. Sur ces 53 patients, 58 % étaient des femmes et 48 %, des hommes; 62 % disaient observer les commandes. Ils étaient également plus enclins à observer les commandes non violentes. Des antécédents d'actes autodestructeurs prédisaient l'observance. Les patients qui n'observaient pas les commandes adoptaient diverses méthodes d'adaptation, dont la prière était la plus répandue.

Conclusion : Les hallucinations commandées sont fréquentes chez les patients souffrant de schizophrénie. Les patients ayant des antécédents d'actes autodestructeurs nécessitent une surveillance plus étroite parce qu'ils sont plus susceptibles d'obéir à ces hallucinations. L'évaluation devait inclure les méthodes d'adaptation propres aux patients, qui peuvent être incorporées dans le traitement.