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Prevalence of Cigarette Smoking in Schizophrenic Patients Compared to Other Hospital Admitted Psychiatric Patients

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Abstract

Background: This study aimed to estimate the prevalence of cigarette smoking and some of the related factors among schizophrenic and other hospitalized psychiatric patients.

Methods: This was a cross-sectional study on 120 patients hospitalized in Shahid Beheshti hospital in Kerman in 2005. Patients were equally devided in two groups of schizophrenia and other psychiatric disorders. Sampling was based on statistical census and data were collected using a questionnaire including 27 questions on demographic data, psychiatric disorder, smoking cigarettes and other substances, and Fagerstrom test. Data were analyzed by Chi-square and ANOVA tests using SPSS software.

Findings: Prevalence and severity of cigarette smoking was 71.6% and 6.47% among schizophrenic and 51.6% and 6.40% among other psychiatric patients, respectively and the difference was not significant. History of withdrawal was 25.6% and 58.1% in the schizophrenia and other disorders respectively and the difference was significant ($P < 0.05$). Addiction to other substances was 51.6% in schizophrenic and 45% in the other patients and the most prevalent substances in both groups were opium and alcohol. The severity of smoking cigarettes was 6.9 along with other drug abuses and 5.1 in cases with just smoking based on Fagerstrom test and the difference was significant ($P < 0.05$).

Conclusion: The prevalence of cigarette smoking in both schizophrenia and other psychiatric patients is higher than normal population, but there is no significant difference between these two groups. Schizophrenic patients need persistent supportive and supervising programs for cigarette smoking abuse treatment because of their cognitive, motivate and social problems.

Key words: **Cigarettes, Schizophrenia, Psychiatric disorders**

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Introduction

High prevalence of nicotine dependency have made it the most common psychiatric disorder.[1] Mortality due to tobacco usage alone is higher than mortalities due to suicide, homicide, and accidents.[2] According to the report of WHO, cigarette smoking in the developed countries is the cause of 20% of preventable death.[3] Studies show that smoking cigarettes in psychiatric patients especially severe cases is significantly high[4-7] and patients with worse clinical conditions have higher degree of cigarette smoke.[8] 1.7% of population in the US have psychiatric disorders, but 34.2% of cigarettes are smoked by these group.[9] Also, some studies reported a higher rate of cigarette smoking in schizophrenic patients compared to patients with other psychiatric disorders.[6] Some other studies found no significant difference between cigarette smoking among schizophrenia and other psychiatric disorders.[5] In a study by Leon et al, male schizophrenic patients reported to have the highest rate of smoking.[10] Prevalence and severity of smoking determines the severity of psychosis symptoms not only in schizophrenia but in other psychotic patients such as bipolar psychotic patients.[11] The amount of smoking in schizophrenic patients is reported to be three times more than normal population in the US.[12] In a quantitative study of 42 studies in 20 countries, the mean rate of smoking prevalence in schizophrenic patients found to be 62%, which was significantly higher than normal population.[6] This study showed that schizophrenia and cigarette smoking are related and there are various ideas explaining this relation. One of these hypotheses is that schizophrenia leads to smoking because nicotine decreases the disease symptoms and most patients use cigarettes for self-treatment. Nicotine of the cigarettes affects the brain nicotine receivers and reduces perception of environmental stimulations especially voices and this factor leads to relatively decrease of positive symptoms of schizophrenia such as hallucinations.

Also, by reducing the plasma level of antipsychotic drugs, cigarettes nicotine decreases the drug side-effects especially that of extrapyramidal.[13] Another reason for schizophrenic patients' smoking is the increase of the level of substances such as norepinephrine, vazopresin, beta-endorphin, adrenocorticotropic hormone and cortisol in blood. These hormones are the agents that create the stimulating effects of nicotine on brain; and this is why most schizophrenics say that smoking makes them happy and reduce their depression. Smoking affects their ability to control inhibition.[14]

Opposite to these hypotheses, there are other groups of hypothesis suggesting that schizophrenia happens after smoking. Results of the studies in this field are different. Weiser et al study[15] showed that smoker patients have a higher risk of schizophrenia, while study of Zammit et al[16] reported the effects of smoking to be supportive.

The results of studies on the relationship between smoking and the severity of schizophrenia are also controversial. A study showed smoking to be associated with both positive and negative symptoms of schizophrenia[17] and other studies found relationship just with one of these symptoms;[18,19] some other studies found no relationship with any of positive and negative symptoms of schizophrenia.[20,21] The relationship of smoking and depression in schizophrenic patients is also determined by retrospective[22] and prospective studies.[23] Schizophrenia can not only increase the possibility of smoking but increases the risk of severe smoking as well.[10,24]

In addition to smoking, dependency to other drugs is also prevalent among schizophrenic patients. In the US, about 30-50% of schizophrenic patients are alcoholic and the next prevalence is cannabis abuse and cocaine. Association of schizophrenia with drug abuse worsens the disease signs.[12]

It should be mentioned that smoking withdrawal in schizophrenic patients especially chronic cases is very difficult due to cognitive and social deficits and treatment acceptance also is very difficult and even impossible in these patients and it can cause a significant increase of disabilities and death among them.[12] Therefore, considering the importance of cigarette abuse in health of schizophrenic patients and mentioned problems; this study aimed to investigate the prevalence and severity of smoking among schizophrenic patients hospitalized in psychiatric hospitals.

Methods

This was a descriptive cross-sectional study. The study population included patients hospitalized in Shahid Beheshti psychiatric hospital of in

Kerman, Iran in 2005 who were interviewed in two groups, schizophrenia and other psychiatric disorders. Diagnoses were approved by two psychiatrists and patients who did not have schizophrenia in both their clinical and differential diagnosis were included in the second group.

A total of 120 patients, 80 males and 40 females were studied. Sampling was census method and data were collected using a questionnaire with 27 items, completed by interviewing patients. The questionnaire included demographic data, psychiatric disorder related questions (disorder type, hospitalized times), smoking related data (started age, amount of smoking, withdrawal attempts), and Fagerstrom test and dependency to other drugs. Patients received explanation on the purpose of the study, secrecy of data and the importance of their honest replies in advance.

Patients whose score was 1-6 in Fagerstrom test were ranked as mild to moderate smokers and those with 7-11 scores were ranked as heavy smokers.[25] Data were analyzed using $SPSS_{10}$ software by statistical tests of chi-square and ANOVA.

Results

In each group, 40 patients (66.6%) were male and 20 patients (33.3%) were female. The mean age of patients was 30.5 year in schizophrenic and 29 year in the other group. Psychiatric disorders in the other group included bipolar disorder (53.3%, 32 patients), depression (20%, 12 patients), schizo-effective (11.7%, 7 patients), personality disorders (13.3%, 8 patients), and anxiety disorder (1.7%, 1 patient).

Prevalence of smoking was 71.6% (43 patients) in schizophrenic and 51.6% (31 patients) in the other group. These patients were smoking sometimes or continuously. There was no significant difference between prevalence of smoking in the two groups ($P > 0.05$). One patient (1.7%) in the schizophrenia and 3 patients (5%) in the other group smoked only one time. None of the patients succeeded to withdraw smoking completely. The mean age of starting smoking was 19.1 in schizophrenia and 20.2 in the other group.

In schizophrenia group the lowest age of smoking was 10 and the highest was 31 years of age. However, in the other group the youngest age of starting to smoke was 9 years of age and the oldest was 47 years of age (Table 1).

Thirty two schizophrenic patients (74.4%) never tried withdrawal and 11 patients (25.6%) had a history of withdrawal. In the other group, 13 patients (41.9%) never tried withdrawal and 18 patients (58.1%) had a history of withdrawal. Among the schizophrenic patients who had a history of withdrawal, 5 patients tried 2 to 5 times and 6 patients tried 6-10 times. In the other group, 6 patients tried withdrawal once, 7 patients tried 2-5 times and 4 patients tried 6-10 times.

The patients in both groups mentioned that their main reason for withdrawal was because of its damage to physical health and after that because it is socially unacceptable. To determine the severity of smoking, Fagerstrom test was used and the results are presented in table 2. The mean score of Fagerstrom test was 6.47 in schizophrenia (6.8 in male and 5.3 in female) and 6.40 in the other group (6.8 in male and 5.2 in female).

In schizophrenia group, 31 patients (51.6%) were addicted to other substances, 23 of these patients were smokers along with other addictions, but 4 of them did not smoke cigarettes. The commonest drug abused in schizophrenia group was opium, opium residue, and alcohol and in the other group was opium and alcohol. The mean period of addiction to these substances was 8.8 years in schizophrenia and 10.3 years in the other group. The mean scores of Fagerstrom test was 5.1 for patients without any associated addiction and it was 6.9 for those who had associated addiction. This difference was highly significant ($P < 0.01$). The mean score of Fagerstrom in schizophrenic patients who had associated addiction was 6.8 while it was 7 for the other group. But the difference was not significant ($P > 0.05$).

Table 1. Age of starting smoking among studied psychiatric patients hospitalized

	Age of starting smoking				
	10-15	16-20	21-25	26-30	31-35
Groups	Number (%)	Number (%)	Number (%)	Number (%)	Number (%)
Schizophrenic patients	13 (30.2)	14 (32.5)	12 (27.9)	3 (6.9)	1 (2.3)
Other patients	10 (32)	13 (41.9)	1 (3.2)	3 (9.6)	1 (3.2)

Table 2. Fagerstrom test results in smoking psychiatric studied patients

		Schizophrenic patients	Other patients
Cigarette dependency based on the Fagerstrom test scores	Very low (score = 2)	16.20%	12.90%
	Low (score = 3&4)	23.20%	29.00%
	Average (score = 5)	13.90%	16.10%
	High (score = 6&7)	13.90%	23.20%
	Very high (score = 8)	23.50%	9.60%

Discussion

Our findings about of the amount of smoking cigarettes among schizophrenic patients was similar to the results of studies in other parts of the world.[5-7,10] Also, this amount was significantly higher than the rate in normal population of Iran. In the health assessment project conducted in 1990 in Iran, the rate of smoking in the society was 14.6% and in a study by Ministry of Health on the Iranian over 20 years of age population, 21.04% were smoking cigarettes.[26] The prevalence of cigarette smokers in schizophrenic patients in the US is reported to be three times normal population.[12] Also, in this study the rate of cigarette smoke abuse in schizophrenic patients showed no significant difference from other psychiatric patients, which is reported by other studies as well.[5]

Withdrawal attempt among non-schizophrenic patients was significantly higher than schizophrenic patients and it can be related to lack of insight and reality assessment ability, will, attitude problems, and cognitive and social problems of schizophrenics, which make it difficult for them to follow withdrawal treatments. The severity of smoking based on Fagerstrom test showed no significant difference between the two groups, even though the scores of schizophrenic patients was a little higher.

Addiction to other substances showed no significant difference in the two groups and the severity of smoking also showed no significant difference between the drug addicts in the two groups. However, the severity of smoking in the patients who were both smoking and addicted other substances in both groups was higher than those who were just smokers. This finding shows that severity of smoking is directly related to addiction to other substances.

In brief, cigarette smoke abuse in psychiatric patients is significantly higher than normal population. Along with smoking problems in these patients, it is important to pay attention to addiction to other substances in these patients, because addiction to other substances increases the severity of smoking and its related complications. Due to cognitive, motivative, and social problems in schizophrenic patients, treating their smoking problems is difficult and constant supervision, support and motivating programs are necessary to reduce the risks of cigarette smoke abuse in these patients.

References

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington DC: American Psychiatric Publishing; 2000. p. 264-9.
2. Hughes JR. Nicotine- Related Disorders. In: Sadock BJ, Sadock VA, Ruiz P, Editors. Kaplan and Sadock's Comprehensive Textbook of Psychiatry. Philadelphia: Lippincott Williams & Wilkins; 2004. p. 1257-65.
3. World Health Organization. Sports and the arts without tobacco: play it tobacco free. Tobacco alert, 1996 World No-Tobacco Day advisory kit. Geneva, Switzerland: World Health Organization; 1996. p. 1-8.
4. Waxmonsky JA, Thomas MR, Miklowitz DJ, Allen MH, Wisniewski SR, Zhang H, et al. Prevalence and correlates of tobacco use in bipolar disorder: data from the first 2000 participants in the Systematic Treatment Enhancement Program. Gen Hosp Psychiatry 2005; 27(5): 321-8.
5. Kotov R, Guey LT, Bromet EJ, Schwartz JE. Smoking in Schizophrenia: Diagnostic Specificity, Symptom Correlates, and Illness Severity [online]. Schizophr Bull 2008. [Cited 2008 June 17]. Available from URL: http://schizophreniabulletin.oxfordjournals.org/cgi/reprint/sbn066v1

6. De Leon J, Diaz FJ. A meta-analysis of worldwide studies demonstrates an association between schizophrenia and tobacco smoking behaviors. Schizophr Res 2005; 76(2-3): 135-57.

7. Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJ. Global and regional burden of disease and risk factors, 2001: systematic analysis of population health data. Lancet 2006; 367(9524): 1747-57.

8. De Leon J, Becona E, Gurpegui M, Gonzalez-Pinto A, Diaz FJ. The association between high nicotine dependence and severe mental illness may be consistent across countries. J Clin Psychiatry 2002; 63(9): 812-6.

9. Grant BF, Hasin DS, Chou SP, Stinson FS, Dawson DA. Nicotine dependence and psychiatric disorders in the United States: results from the national epidemiologic survey on alcohol and related conditions. Arch Gen Psychiatry 2004; 61(11): 1107-15.

10. De Leon J, Dadvand M, Canuso C, White AO, Stanilla JK, Simpson GM. Schizophrenia and smoking: an epidemiological survey in a state hospital. Am J Psychiatry 1995; 152(3): 453-5.

11. Corvin A, O'Mahony E, O'Regan M, Comerford C, O'Connell R, Craddock N et al. Cigarette smoking and psychotic symptoms in bipolar affective disorder. Br J Psychiatry 2001; 179: 35-8.

12. Esterberg ML, Compton MT. Smoking behavior in persons with a schizophrenia-spectrum disorder: a qualitative investigation of the transtheoretical model. Soc Sci Med 2005; 61(2): 293-303.

13. Glassman AH. Cigarette smoking: implications for psychiatric illness. Am J Psychiatry 1993; 150(4): 546-53.

14. Dervaux A, Bayle FJ, Laqueille X, Bourdel MC, Le Borgne MH, Olie JP, et al. Nicotine use in schizophrenia and disinhibition. Psychiatry Res 2004; 128(3): 229-34.

15. Weiser M, Reichenberg A, Grotto I, Yasvitzky R, Rabinowitz J, Lubin G, et al. Higher rates of cigarette smoking in male adolescents before the onset of schizophrenia: a historical-prospective cohort study. Am J Psychiatry 2004; 161(7): 1219-23.

16. Zammit S, Allebeck P, Dalman C, Lundberg I, Hemmingsson T, Lewis G. Investigating the association between cigarette smoking and schizophrenia in a cohort study. Am J Psychiatry 2003; 160(12): 2216-21.

17. Goff DC, Henderson DC, Amico E. Cigarette smoking in schizophrenia: relationship to psychopathology and medication side effects. Am J Psychiatry 1992; 149(9): 1189-94.

18. Ucok A, Polat A, Bozkurt O, Meteris H. Cigarette smoking among patients with schizophrenia and bipolar disorders. Psychiatry Clin Neurosci 2004; 58(4): 434-7.

19. Patkar AA, Gopalakrishnan R, Lundy A, Leone FT, Certa KM, Weinstein SP. Relationship between tobacco smoking and positive and negative symptoms in schizophrenia. J Nerv Ment Dis 2002; 190(9): 604-10.

20. Barnes M, Lawford BR, Burton SC, Heslop KR, Noble EP, Hausdorf K, et al. Smoking and schizophrenia: is symptom profile related to smoking and which antipsychotic medication is of benefit in reducing cigarette use? Aust N Z J Psychiatry 2006; 40(6-7): 575-80.

21. Tang YL, George TP, Mao PX, Cai ZJ, Chen Q. Cigarette smoking in Chinese male in patients with schizophrenia: a cross-sectional analysis. J Psychiatr Res 2007; 41(1-2): 43-8.

22. Paperwalla KN, Levin TT, Weiner J, Saravay SM. Smoking and depression. Med Clin North Am 2004; 88(6): 1483-xi.

23. Klungsoyr O, Nygard JF, Sorensen T, Sandanger I. Cigarette smoking and incidence of first depressive episode: an 11-year, population-based follow-up study. Am J Epidemiol 2006; 163(5): 421-32.

24. Fenton Ws. Schizophrenia: Integrative treatment and functional outcomes. In: Sadock BJ, Sadock VA, editors. Kaplan and Sadock's Comprehensive Textbook of Psychiatry. Philadelphia: Lippincott Williams & Wilkins; 2009. p. 1499-500.

25. Tesson M, Degenhardt, Hall W. Addictions. Hove: Psychology Press; 2002. p: 71.

26. Ziaaddini H, Ziaaddini MR. The prevalence of tobacco use and dependency and its relation to some demographic factors in people aged 12 and over in rural sample. Journal of Fundamental of Mental Health 2006; 8(29-30): 17-22.

مقاله پژوهشی

اعتیاد و سلامت

سال اول/شماره ۱/تابستان ۱۳۸۸

شیوع مصرف سیگار در بیماران اسکیزوفرنی در مقایسه با دیگر بیماران روان‌پزشکی بستری شده در بیمارستان

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چکیده

مقدمه: مصرف سیگار در بیماران مبتلا به بیماری روان‌پزشکی نسبت به جمعیت عمومی بالاتر است. هدف این مطالعه برآورد شیوع مصرف سیگار و برخی عوامل مرتبط در بین افراد مبتلا به اسکیزوفرنی و دیگر بیماری‌های روان‌پزشکی بستری در بیمارستان بود.

روش‌ها: در این پژوهش مقطعی، ۱۲۰ بیمار بستری در بیمارستان شهید بهشتی کرمان در سال ۱۳۸۴ در دو گروه ۶۰ نفری مبتلا به اسکیزوفرنی و مبتلا به سایر بیماری‌های روان‌پزشکی مورد بررسی قرار گرفتند. نمونه‌گیری به صورت سرشماری آماری بود و اطلاعات از طریق یک پرسشنامه ۲۷ سؤالی حاوی اطلاعات دموگرافیک، مربوط به بیماری روان‌پزشکی، مربوط به سیگار کشیدن و مربوط به مصرف سایر مواد و تست فاجر استروم جمع‌آوری و تحلیل داده‌ها با کمک نرم‌افزار $SPSS_{10}$ و آزمون‌های آماری مجذور کای و ANOVA انجام شد.

یافته‌ها: شیوع مصرف سیگار در بیماران اسکیزوفرنی معادل ۷۱/۶٪ و در گروه دوم ۵۱/۶٪ بود که اختلاف معنی‌داری در بین دو گروه به دست نیامد. میانگین سنی شروع به مصرف سیگار در بیماران اسکیزوفرنی ۱۹/۱ و در گروه دوم ۲۰/۲سال بود. سابقه اقدام به ترک به سیگار در بیماران اسکیزوفرنی ۲۵/۶٪ و در بیماران گروه دوم ۵۸/۱٪ و اختلاف معنی‌دار بود ($P < ۰/۰۵$). شدت مصرف سیگار بر اساس نمره فاجر استروم در بیماران اسکیزوفرنی ۶/۴۷ و در گروه دوم ۶/۴۰ بود که از لحاظ آماری اختلاف معنی‌داری وجود نداشت ($P > ۰/۰۵$). در گروه بیماران اسکیزوفرنی ۵۱/۶٪ و در گروه دوم ۴۵٪ به سایر مواد نیز اعتیاد داشتند که شایعترین این مواد در هر دو گروه تریاک و الکل بود. شدت مصرف سیگار بر اساس نمره فاجر استروم در موارد همراهی سوء مصرف مواد دیگر ۶/۹ و در موارد مصرف سیگار به تنهایی ۵/۱ بود که اختلاف معنی‌دار بود.

نتیجه‌گیری: شیوع سوء مصرف سیگار هم در بیماران اسکیزوفرنی و هم در بیماران دیگر روان‌پزشکی نسبت به جمعیت عمومی به طور چشمگیری بالاتر است اما بین این دو گروه اختلاف قابل توجهی وجود ندارد. در کنار مصرف سیگار باید به سوء مصرف و اعتیاد به مواد دیگر از جمله مواد مخدر توجه داشت. به خاطر مشکلات شناختی و انگیزشی و اجتماعی در بیماران مبتلا به اسکیزوفرنی، درمان سوء مصرف سیگار مشکل‌تر و نیاز به برنامه‌های حمایتی، انگیزشی و نظارت شده مستمر دارد.

واژگان کلیدی: **سیگار، اسکیزوفرنی، بیماری‌های روان‌پزشکی**

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