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Relationship of Opioid Dependence and Positive and Negative Symptoms in Schizophrenic Patients

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Abstract

Background: Many schizophrenic patients are engaged in self-medication drug abuse, including narcotics. It is assumed that many of these patients have a greater number of psychotic symptoms, and show noncompliance with treatment. In this study, we investigated relationship of positive and negative symptoms and opioid dependence in these patients.

Methods: This was a descriptive cross-sectional study on 100 patients with schizophrenia. The diagnoses were made based on DSM-IV criteria. After evaluating demographic data, the patients were assessed with positive and negative symptom scale (PANSS) test. Data were analyzed using $SPSS_{10}$ software.

Findings: Fifty percent of patients were identified to be opioid dependent based on DSM–IV criteria. Seventy five percent of patients were male and the rest were female. The mean (SD) scores of positive symptoms were 39.58 (23.374) and 54.34 (21.025) in non-dependent and dependent patients, respectively (P = 0.01). Other statistical measurements were unremarkable.

Conclusion: High prevalence of opioid dependence in our sample can be due to availability of these substances in the community. Opioid may be used as self medication, can reduce the severity of positive symptoms, and may also make positive symptoms more tolerable for patients.

Key words: **Schizophrenia, Positive symptoms, Negative symptoms, Opioid.**

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Introduction

Most epidemiological studies have shown that in most psychological disorders, the rate of narcotic consumption is higher than general population.[1] However, the increase of drug abuse is not the same in all types of narcotics. Schizophrenia among other psychological disorders is more significant and is known as one of the disorders that make patients prone to drug abuse. Because of the various diagnosis criteria used in researches and differences for various populations, it is not well known how many schizophrenic patients abuse drugs or are drug dependent. Alcohol and mental stimulants used by schizophrenic patients of the Western countries more than other narcotics.[1]

Self introducing reports by schizophrenic patients helps understanding their motivations for using drugs and smoking and reviewing self-medication theory by them. In addition, it should be considered that the effects of addiction on medication strategies and policies are possible and specific symptoms in schizophrenic patients direct them towards opiate abuse. In self medication theory, it is mentioned about drug abuse in psychiatric patients that there might be specific substances that can reduce special symptoms of schizophrenia in patients.[2] Therefore, these patients may use special illegal drugs or narcotics based on their symptoms. In this study, it is shown that schizophrenic patients with positive symptoms more than those have negative symptoms take opiates.[1] This should be taken cautiously, because it can be concluded that opiates can decrease positive symptoms in schizophrenic patients; and also it can be concluded that these substances can make patients to continuously withstand positive signs, such as types of delirious and fantasies and increase their suffering from these symptoms, some of which are very painful. In this study, we tried to investigate if it is possible that these substances affect some specific kinds of positive symptoms more than others? It was not found, even though the small size sample of the study was considered as limitation.[2] Many explanations about schizophrenic patients' drug abuse is available.[3] For some of these explanations, there are several scientific supports. One of them is self-medication and it is believed that using some substances such as cigarettes can reduce positive symptoms or the side effects of anti-psychotic drugs which reason is the effect of nicotine on glothamnirgic system.[4] In Iran, especially in south and eastern provinces, many patients with mental disorders abuse opioid substances. Many of schizophrenics abuse opioid but are not dependent. They claim that they feel better using opium or other opioid drugs. These substances are not too expensive and are easily available to patients. Moreover, many patients are encouraged to use opioid by their relatives and friends. In our psychiatric hospital, it was observed that many patients with dual diagnosis of schizophrenia were opioid dependent.

As far as we know, there is no valuable research concerning influence of opioid on positive and negative symptoms of schizophrenia. This research aimed to evaluate relationship of symptoms change and opioid usage in schizophrenic patients.

Methods

This was a descriptive, cross-sectional research conducted as a case-control study and 100 patients with diagnosis of schizophrenia were enrolled in it. These patients were divided equally in case and control groups according to opioid dependency.

All diagnosis was made by a semi-structured interview and based on DSM–IV criteria for opioid dependence. The study was conducted over a 9–month period in 2006 in Beheshti psychiatric hospital, Kerman, Iran. Patients' diagnoses were confirmed by two psychiatrists.

First, patients' demographic data were assessed. Then, positive and negative symptoms were assessed by means of positive and negative symptom scale (PANSS).

Standardized clinical interview was performed using the PANSS, developed for typological and dimensional assessment of schizophrenic phenomena. It is a 30 item, 7 point rating instrument conceived as a carefully defined and operational method to evaluate positive, negative, and other symptom dimensions.

There supplemental items are also included on the PANSS to assess aggression risk. Thus the 33 items were scored as 1, Positive, 2, Negative, 3, Composite (positive minus negative), 4, General psychopathology, and 5, Supplemental aggression risk scales.

Additional scores are available for clusters of symptoms including aneroid, thought disturbance, activation, paranoid/belligerence, and depression. Theoretically the PANSS serves the

need for focused evaluation of positive and negative dimensions of schizophrenic disorder, as conceptualized by Crow,[5] and Andersen and Olsen.[6] In this scale, seven of the 30 items are grouped to form a positive scale, measuring symptoms that are superadded to a normal mental status, and other 7 items constitute a negative scale, assessing features absent from a normal mental status. Based on the differences between these scales, a bipolar composite scale specifies the degree of preponderance of one syndrome over the other. Finally, a "general psychopathology scale that gauges the overall severity of schizophrenic disorder" is developed by summation of the remaining 16 items.[7] Depression was also assesses by PANSS scale. This method did not assess the severity of depression. We had used this test in our previous study in schizophrenic patients, too.[8] Each interview took an average of 60 minutes to complete. Data were analyzed by $SPSS_{10}$ software.

Results

From 100 schizophrenic patients enrolled in this study, 75% were male (mean age of 35.2 ± 8.9 years) and the rest were female (mean age of 30.8 ± 8.7 years). Thirty five percent were married and others were single, divorced or separated. 83% of the patients were unemployed and the rest were employed. The mean duration of illness was 8.45 ± 6.9 years.

Fifty percent of samples were opioid dependent based on DSM–IV criteria. In schizophrenics with opioid dependence, 24 were positive, 7 were negative, and 11 were mixed type; 8 of them could not be categorized in any of these groups. In non-dependent patients, 10 were mixed and 24 were grouped in neither type. Scores of different items of PANSS in the two groups of schizophrenic patients (opioid dependent and non-pendent) are presented in table 1.

There were significant differences between the two groups in positive symptoms and depression. Another analysis compared the two groups of positive symptoms and negative symptoms, separately and found no statistically significant difference.

Discussion

One of the significant problems in effective treatment of schizophrenic patients is their drug abuse along with medications. In studies published so far, there is no precise statistics of drug addiction in schizophrenic patients. In several studies, the rate is reported to be 10 to 70 percent.[9] In the Western countries; alcohol is the most used due to its availability. In Iran, because alcohol is not available and is socially forbidden to consume, it is not used for self

Table 1. Scores of different scales of PANSS in opioid dependent and non-opioid dependent patients.

Score	Opioid	N	Mean	Std. Deviation	Sig. (2-Tailed)
Positive	Dependent	50	54.34	21.025	0.001
	non-dependent	50	39.58	23.374	0.001
Negative	Dependent	50	38.30	34.192	0.323
	non-dependent	50	32.54	22.697	0.324
Composite	Dependent	50	62.28	33.915	0.375
	non-dependent	50	56.98	24.798	0.375
General	Dependent	50	29.52	22.753	0.177
	non-dependent	50	35.36	20.141	0.177
Anergia	Dependent	50	43.02	32.415	0.503
	non-dependent	50	46.84	23.815	0.504
Thought	Dependent	50	30.66	21.901	0.037
	non-dependent	50	21.28	22.495	0.037
Activation	Dependent	50	24.56	18.407	0.429
	non-dependent	50	21. 46	20.548	0.429
Paranoid	Dependent	50	57.46	21.283	0.144
	non-dependent	50	51.32	20.413	0.144
Depression	Dependent	50	30.28	24.466	0.030
	non-dependent	50	41.40	25.932	0.030

medication. However, due to the easy access and low cost of opiates, a wide range of psychiatric patients or those with chronic physical diseases take them for self medication. Diversity and abundance of these substances, especially in South East areas of Iran, has led them to be one of the most used substances by psychiatric patients in clinical observations. There is no exact statistics of patients using these substances and Western studies cannot provide such information, since they are not available and they are so expensive that make it practically impossible for patients in those countries to take them.

In current study, it was shown that half of the patients had DSM-IV criteria for opiate dependence, which is a relatively high rate.

Demographic findings in past years have shown a particular image of those who have tendency to drug abuse and drug dependence. This image is that young male patients compared to older men and women have more tendencies to drug abuse. These young men mostly have little education and are from lower social classes. This clinical image of those who are prone to addiction in women and psychiatric patients is a new finding which shows everyone can have drug abuse and drug addiction disorders.[10]

Other explanations about schizophrenic patients' tendency to narcotic abuse are the abundance of a specific narcotic in the society. This point is especially important in Iranian society, but cannot be considered as the only factor. Another image is a neurobiological tendency in schizophrenic patients to take drugs.[11]

Drug addiction in schizophrenics reduces treatment disclosure and leads to worse and severer return of the disorder. In addition, schizophrenic patients who take drugs cause more tension in the family and creates secondary stress which make the severity of the disease double.

Finally, it should be emphasized that studies on drug abuse and addiction in schizophrenic patients in Iranian society are very important, and further studies hopefully can help preparation of a complete treatment program for these patients.

Conflict of interest: The Authors have no conflict of interest.

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مقاله پژوهشی

اعتیاد و سلامت

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ارتباط بین علائم مثبت و منفی اسکیزوفرنی با وابستگی به مواد مخدر

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چکیده

مقدمه: بسیاری از بیماران مبتلا به اسکیزوفرنیا، به عنوان خود درمانی از داروهای متعددی که شامل مواد مخدر نیز می‌شود، استفاده می‌کنند. تصور می‌شود بسیاری از این بیماران، تعداد بیشتری از علائم روان‌پریشی دارند و پذیرش دارویی کمتری به درمان از خود نشان می‌دهند. در این مطالعه ما به بررسی ارتباط بین علائم مثبت و منفی در بیماران مبتلا به اسکیزوفرنیا و وابستگی به مواد مخدر پرداختیم.

روش‌ها: در این مطالعه توصیفی- مقطعی، ۱۰۰ نفر بیمار مبتلا به اسکیزوفرینا مورد مطالعه قرار گرفتند. تشخیص بیماری بر اساس ضوابط تشخیصی DSM-IV برای اختلالات روانی گذاشته شد. بعد از بررسی مختصات جمعیت شناختی، بیماران با استفاده از آزمون PANSS مورد بررسی قرار گرفتند. یافته‌ها با استفاده از بسته نرم‌افزاری $SPSS_{۱۰}$ مورد تجزیه و تحلیل قرار گرفت.

یافته‌ها: پنجاه درصد از بیماران مورد بررسی، بر اساس ضوابط تشخیصی DSM-IV، وابسته به مواد مخدر افیونی تشخیص داده شدند. هفتاد و پنج درصد از بیماران را مردان و بقیه را زنان تشکیل می‌دادند. متوسط نمره برای علائم مثبت در بیماران غیر وابسته به مواد مخدر افیونی ۲۳/۳۷۴ ± ۳۹/۵۸ و در بیماران وابسته ۲۱/۰۲۵ ± ۵۴/۳۴ بود (P = ۰/۰۱). بقیه مقایسه‌ها از نظر آماری معنی‌دار نبود.

نتیجه‌گیری: شیوع بالای وابستگی به مواد مخدر افیونی در گروه مورد مطالعه می‌تواند به علت در دسترس بودن این مواد در جامعه باشد؛ ضمن این که بیماران به عنوان موادی برای خود درمانی نیز از آن استفاده می‌کنند. مواد مخدر افیونی ممکن است باعث کاهش شدت علائم مثبت در بیماران مبتلا به اسکیزوفرنیا شود و همچنین ممکن است توان تحمل علائم مثبت را برای بیماران افزایش دهد.

واژگان کلیدی: **اسکیزوفرنیا، علائم مثبت، علائم منفی، مواد مخدر افیونی.**

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