

The Impact of Socioeconomic and Sociodemographic Factors on the Criminal Behavior of Patients with a Psychotic Disorder

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Abstract

Introduction: The impact of socioeconomic and demographic factors on the criminal behavior of patients with a psychotic disorder was evaluated.

Method: The study included 70 psychotic men hospitalized in the forensic psychiatry unit of the Bakırköy State Hospital for Psychiatric and Neurological Diseases for compulsory treatment who were compared to 70 psychotic disorder cases with no criminal history hospitalized in the acute wards in the same hospital. Socioeconomic and sociodemographic data were collected and statistical evaluations were made.

Results: The vast majority of all the patients (90.7%) in both groups were diagnosed with schizophrenia. The forensic group was significantly less educated than the control group (7.99 ± 3.81 years vs. 9.37 ± 3.62 years, $P < 0.05$). More than 50% of the cases in both groups were never married; when considering divorced and widowed patients together with these unmarried patients, the percentage rose to 83%. Fewer forensic cases lived in urban areas than did control cases (50% vs. 84.3%). Logistic regression analysis highlighted a relationship between unemployment and the lack of social insurance to the criminal behaviour of the forensic group. Of those in the forensic group, 48.6% had no social insurance, whereas only 15.7% of the control group had none.

Conclusion: The data suggested that unemployment and the lack of social insurance are 2 independent variables that may contribute to the probability that patients with a psychotic disorder will engage in criminal behavior.

Key Words: Psychotic disorder, crime, demographic factors, socioeconomic factors

INTRODUCTION

Throughout history, criminal behavior and mental disorders were thought to be directly related (Marzuk, 1996). During the Middle Ages and the Renaissance, families were responsible from the care of psychiatric patients and only dangerous patients were taken care of by community institutions (Monahan, 1992; Taşcıoğlu, 1996).

In various studies of the frequency of criminal behavior among psychiatric patients, it was suggested that the mentally ill are not more dangerous than the general population and that arrest rates have lowered since 1945; however, the rate of criminal behavior among discharged psychiatric patients was equivalent to or higher than the crime rate in the general population during the next 20 years after 1959. This was related to the health policies enabling the psychiatric patients being treated within

the society (Cancro and Lehmann, 2000; Brennan et al., 2000; Erb, 2000; Estroff et al., 1994; Eronen, 1996; Torrey, 1994; Marzuk, 1996; Zitrin et al., 1976).

The risk of committing criminal behavior is not the same for all psychiatric disorders, yet it was suggested that the rate of criminal behavior increased in the psychiatric population in relation to the increased criminal rate in the general population (Erb, 2001; Menninger, 2000; Mulvey, 1994). Swanson et al. (1990) reported that criminal behavior is 5 times higher among psychiatric patients who have serious mental disorders (schizophrenia, mood disorders) and is 12-16 times higher among alcohol and substance abusing patients.

In studies evaluating the factors affecting the tendency to violence and criminal behavior among schizophrenic patients, the relationship of these behaviors with sociodemographic factors was also stressed. There

are numerous publications that show factors such as being male, employment status (unemployment), low education level, and low socioeconomic status increase the risk of criminal behavior (Lymburner and Roesch, 1999; Marzuk, 1996; Erb, 2001; Turkish Statistical Institute, 2006; Ministry of Justice Republic of Turkey, 2005; Swanson et al., 1990; Monahan, 1992; Menzies and Webster 1995; Estroff et al., 1994; Mulvey, 1994; Tardiff, 2000; Lamb et al., 1999). However, as Marzuk (1996) also stated, although there is a significant statistical relationship between violence and psychiatric disorders, studies on the relationship between crime and psychiatric disease have not reached a consensus about the effects of age, gender, level of education, and socioeconomic status.

Economic imbalance is not only related to poverty, but also to other problems, such as relationship problems, alcohol and substance abuse, low education level, unemployment, and lack of social control. Although a direct relationship between poverty and violence has not been proven, it is known that poverty is related to violent crimes (Tardiff, 2000; Marzuk, 1996). In some studies, it was observed that social problems related to poverty, such as homelessness and unemployment, have a role in the relationship between criminal behavior and mental disorders.

The sociodemographic characteristics of mental patients that did not engage in criminal behavior were similar in the USA, Canada, and Japan. In general, these individuals were between 20 and 29 years old, male, single, unemployed, had low education level, had a history of violent crime, had a serious psychiatric disorder, and had a past forensic and psychiatric history (Lymburner and Roesch, 1999).

Öncü et al. (2002a) evaluated the post-treatment conditions of 90 schizophrenic patients who had not engaged in criminal behavior and found that 62% were single, and this rate increased to 86.6% when the divorced patients were included. According to Öncü et al.'s (2002a) findings, only 16.7% of these patients lived alone, the majority were unemployed, both before they committed crime and after treatment, and patients with low social functionality more often repeatedly committed crime. In another retrospective study conducted in Turkey with 469 patients, it was reported that only 5% of the psychiatric patients had social security (Kayatekin et al., 1991).

As a result of the deinstitutionalization movement,

which started in 1960's, the number of psychiatric beds was decreased and certain arrangements were made for patient treatment and care within the community; however, it was observed that chronic patients could not use these systems by themselves and required special support (Honkonen et al., 1999; Menninger, 2000; Elpers, 2000; Colp, 2000; Benson, 1994).

The criminal behaviors of psychotic patients have wide-ranging effects. At first harming others and society, followed by committing psychotic patients involuntarily to a ward and finally stigmatization towards them are increased. Over the long term, precautions taken by determining the related risk factors may decrease the prevalence of criminal behavior among psychotic patients.

The aim of this research was to evaluate the effects of sociodemographic and socioeconomic factors on the risk of criminal behavior among psychotic patients.

METHOD

The study was conducted in Bakırköy State Hospital for Psychiatric and Neurological Diseases, Istanbul Turkey, which provides psychiatric treatment service to 17 provinces and to nearly 25 million individuals. All criminal psychiatric patients in the Marmara district of Turkey are treated in this hospital. On the other hand, only severe psychotic patients coming from the 17 provinces who cannot be treated at local facilities are sent to our hospital and are hospitalized in our inpatient services.

The Dr. Zati Dokuz ward in the Forensic Psychiatry Unit of our hospital has 114 beds, where criminal patients sent by the criminal court are treated. The study included 70 male psychotic patients (excluding delusional disorder and shared psychotic disorder) that were hospitalized in the forensic psychiatry unit for compulsory treatment who were compared to 70 male patients (also treated at the acute clinics of the same hospital) with a psychotic disorder, but without a criminal history. The 2 groups were matched according to diagnosis, age, and duration of illness.

In order to collect the sociodemographic and socioeconomic data from both groups, a 152-item questionnaire was administered. Marital status, education level, living conditions, professional status, income level, and social security status of the 2 patient groups were compared and the effects of sociodemographic and socioeconomic factors on the criminal behavior of the psychotic patients was investigated. The diagnoses were made according to DSM-IV criteria. The validity of the data was

Table I. Comparison of the Cases According to Marital Status, Place of Residence, and who the Patients Live with.

	Forensic group		Control group		Total		X ²	SD	P
	S	%	S	%	S	%			
Marital Status							2.261	1	P > 0.5
Single	39	55.7	49	70.0	88	62.9			
Married	14	20.0	10	14.3	24	17.1			
Widowed	4	5.7	1	1.4	5	3.6			
Divorced	13	18.6	10	14.3	23	16.4			
Living conditions							5.704	5	P > 0.5
Homeless	2	2.9	2	2.9	4	2.9			
Alone	11	15.7	16	22.9	27	19.3			
Spouse	3	4.3	-	-	3	2.1			
Spouse and children	14	20.0	10	14.3	24	17.1			
Children	1	1.4	-	-	1	0.7			
First-degree relative	39	55.7	42	60.0	81	57.9			
Current place of residence							20.588	2	P < 0.001
Village	16	22.9	2	2.9	18	12.9			
County	19	27.1	9	12.9	28	20.0			
City	35	50.0	59	84.3	94	60.1			

P > 0.5: not significant, P < 0.001: highly significant.

ensured by both interviewing the patients and examining their current and past medical records. In the statistical analyses of the data, Student's t-test was applied for the numeric variables and Chi-square test was used for the categorical variables. In addition, a logistic regression analysis was carried out for variables that were related to criminal behavior.

FINDINGS

The vast majority of all the patients (n=127, 90.7%) in both groups were diagnosed with schizophrenia, followed by psychotic disorder, not otherwise specified (n=10, 7.1%). In addition, there was one patient presenting with each of the following diagnoses in the forensic psychiatry group; substance induced psychotic disorder, schizoaffective disorder, and brief psychotic disorder. There was no statistical difference in terms of the psychiatric diagnoses between the 2 groups (P > 0.05). As all of the cases were male, there was no data regarding gender. In addition, as there were no significant findings related to DSM-IV Axes II and III, this information was not included in this study.

There was no difference in terms of the mean ages of the 2 groups (38.10 ± 9.34 years by the forensic group

vs. 40.01 ± 8.35 years by the control group) (P > 0.05). The forensic psychiatry group was significantly less educated (7.99 ± 3.81 years) than the control group (9.37 ± 3.62 years) (P < 0.05). In the forensic psychiatry group, the mean age of illness onset was 25.26 ± 6.59 years and mean duration of illness was 13.14 ± 8.55 years, whereas in the control group, the mean age of onset was 24.80 ± 5.80 years and mean duration of illness was 15.04 ± 7.71; the difference between the 2 groups in terms of these 2 variables was not significant.

When marital status was considered, the rate of never married, divorced, and widowed subjects was high in both groups, and although the percentage of married individuals in the forensic psychiatry group was higher than in the control group, the difference was not significant (Table I).

As majority of the cases in both groups lived with their first-degree relatives, the percentage of patients living with spouses and with children was higher in the forensic psychiatry group (24.3%), but the difference between the 2 groups was not significant. By both of the two groups, 2.9% of the cases were homeless and 22.9% of the control group lived alone compared to 15.7% of the forensic cases. On the other hand, the rate of cases

Table II. Current Residential Locations of the Patients in the Forensic Group.

Forensic group	Patients who live in Istanbul		Patients who live outside Istanbul		Total		X ²	SD	P
	S	%	S	%	S	%			
Village	2	10.5	14	27.5	16	22.9	16.940	2	P < 0.001
County	-	-	19	37.3	19	27.1			
City	17	89.5	18	35.3	35	50.0			
Total	19	100.0	51	100.0	70	100.0			

P < 0.001: highly significant.

that lived with their families in the forensic psychiatry group was higher than the control group (81.4% vs. 74.3%) Although the difference between the 2 groups was not significant, it was observed that nearly 60% of all the patients in both groups lived with their families, although they are not married (Table I).

The number of the patients in the forensic group that lived in urban areas was clearly less than in the control group (50% vs. 84.3%, $P < 0.001$). Among the control group 30% ($n = 21$) of the patients lived outside Istanbul, whereas 72.9% ($n = 51$) of the forensic psychiatry group did ($P < 0.001$). While the rate of cases living in rural areas was approximately 3% in the control group, this rate was approximately 23% in the forensic psychiatry group (Table I). On the other hand in the forensic group the prevalence of patients living in rural areas was 10,5% in Istanbul provincy and , 27.5% in the other provinces ($P < 0.001$) (Table II).

When the occupation levels of the cases in the 2 groups were compared, more of the forensic cases had an occupation than did control cases (48.6% vs. 20.0%) ($P < 0.001$); however, in both groups there were more unemployed than employed cases. Although the number of cases with a profession was higher in the forensic group than in the control group (92.9% vs. 85.7%), the difference was not significant.

When professional status was considered, the number of unemployed cases was significantly higher in the forensic psychiatry group (85.7% vs. 14.3% ($P < 0.001$).

While the rate of not having a personal income was 56.2% in the forensic psychiatry group, this rate was 43.8% in the control group. As the outpatient treatment expenses of the patients who had green social security cards, or another type of social security were not fully

reimbursed at the time of the study (according to law no. 2022), a third group was formed assuming that these patients had partial security (which are a certain type of social security covering only hospitalization costs and supported by the government). When the comparison was made according to this situation, nearly 70% of the cases in the forensic psychiatry group had no social security outside the hospital compared to nearly 53% of the control group ($P < 0.001$) (Table III).

In the logistic regression analysis, history of immigration, having a personal income, having a job, having social security, and age were entered as explanatory variables, and the model was highly significant ($X^2 = 40.81$, $P < 0.001$). It was concluded that both not having a job and no social security increased the risk of committing a crime, independently, as 2 separate and independent variables (Table IV).

DISCUSSION

The finding regarding shorter duration of education in the forensic group is similar to the findings of other studies conducted in Turkey; it was also reported in the international psychiatry literature that the duration of education is shorter in individuals who repeatedly commit crimes and that low level of education increases the risk of criminality (Özdemir, 1992; Kayatekin et al., 1991; Taşcıoğlu, 1996; Şeker, 1996; Kravitz and Kelly, 1999; Öncü et al., 2002a, b; Draine, 2002).

When the marital status of the patients in both groups was considered, it was found that more than half of the sample was never married and percentage of non married (never married, widowed and divorced) cases escalated up to 83%. In a study, which compared the criminal inpatients hospitalized in a highly secure hospital and inpatients in a state hospital, it was found that 51%-

Table III. Comparison of the Cases in Terms of Professional Life and Social Security.

	Forensic group		Control group		Total		X ²	SD	p
	S	%	S	%	S	%			
Working condition							12.210	2	P < 0.01
Unemployed	60	85.7	42	60.0	102	72.9			
Working irregularly	7	10.0	23	32.8	30	21.4			
Working regularly	3	4.3	5	7.2	8	5.7			
Current employment							1.195	1	P > 0.5
No	65	92.9	60	85.7	125	89.3			
Yes	5	7.1	10	14.3	15	10.7			
Profession							11.445	1	P < 0.001
No	36	51.4	56	80.0	92	65.7			
Yes	34	48.6	14	20.0	48	34.3			
Income							3.084	1	P > 0.5
No	50	56.2	39	43.8	89	100.0			
Yes	20	39.2	31	60.8	51	100.0			
Social security							17.875	2	P < 0.001
No	34	48.6	11	15.7	45	32.1			
Partial (2022-green card)	13	18.6	26	37.1	39	27.9			
Yes	23	32.9	33	47.1	56	40.0			

P > 0.5: not significant; P < 0.01: very significant; P < 0.001: highly significant.

87% of the cases were non married. Almost all studies on the subject reported that single subjects commit more crimes and repeatedly committed crimes than married subjects (Lymburner and Roesch, 1999; Marzuk, 1996; Erb, 2001; Özdemir, 1992; Kayatekin et al., 1991; Nicholson et al., 1991; Taşcıoğlu, 1996; Şeker, 1996; Kravitz and Kelly, 1999; Torrey, 1994; Türkcan et al., 2000; Honkonen et al., 1999; Estroff, 1994; Thomson, 2000; Swanson et al., 2002; Harris et al., 2002; Öncü et al., 2002a). In our study there was no significant difference between the forensic psychiatry group and the control group in terms of marital status and living alone. We found that marital status and living alone did not affect criminal behavior in our sample.

Öncü et al (2002a) reported that half of the discharged forensic cases lived with their parents, approximately 26% lived with their spouses and/or lived with their children, 14.7% lived alone, and 0.7% were homeless. In Şeker's (1996) study, nearly all of forensic cases committing recurrent criminal acts lived with their spouses or children. Although the methodologies used in the studies are different, the findings are similar. In the studies conducted in America and Europe, homelessness (1%-30%) and living alone (17%-45%) rates differed according to country. The differences in these

findings can be attributed to the developmental level and sociocultural structure in these countries (Nicholson et al., 1991; Estroff et al., 1994; Honkonen et al., 1999; Kravitz and Kelly, 1999).

We think that the difference between the findings of American and European studies, and our study takes root in social and cultural differences. While in America and other developed European countries, unmarried individuals generally live alone, in Turkey these individuals continue to live with their families. Of note, the probability of a psychotic individual living with their family is high and it is thought that this balanced the effect of living alone and being single on criminality risk. However, it should be remembered that living alone might result in interruptions in treatment, which in turn increases the risk of criminal behavior due to psychosis.

Generally, it was reported that crime rates in big cities are higher and that dense populations increase the risk of violence (Tardiff, 2000; Erb, 2001; Marzuk, 1996). According to the data of the Ministry of Justice Republic of Turkey, when the total number of convicted patients in the 17 provinces remanded to our hospital is considered, 33.5% lived in Istanbul before committing their crimes (Turkish Statistical Institute, 2006). 35% of the general

Table IV. The Effects of Immigration (Yes/No), Duration of Education (Yes/No), Job (Yes/No), Personal Income (Yes/No), Social Security (Yes/No), and Age as Explanatory Variables on Criminal Behavior in Regression Analysis.

	B	S.E.	Wald	DF	P	OR	95% confidence rate	
							Lowest	Highest
Immigration (yes/no)	-0.255	0.206	1.529	1	P > 0.5	0.775	0.518	1.161
Duration of education	-0.079	0.054	2.164	1	P > 0.5	0.924	0.832	1.027
Job (yes/no)	-0.701	0.231	9.187	1	P < 0.01	0.496	0.315	0.780
Personal income (yes/no)	0.026	0.233	0.012	1	P > 0.5	1.026	0.650	1.620
Social security (yes/no)	-0.837	0.236	12.604	1	P < 0.001	0.433	0.273	0.687
Age	-0.013	0.024	0.265	1	P > 0.5	0.988	0.941	1.036
Constant	1.139	1.083	1.107	1	P > 0.5	3.124		

P > 0.5: not significant. P < 0.01: very significant. P < 0.001: highly significant.
Logistic regression model: $X^2 = 40.81$ P < 0.001.

population live in villages in Turkey and the village population in the 17 counties in the Marmara district is 21% (State Institute of Statistics, 2004). Öncü et al (2002a) found that 40% of criminal schizophrenic patients live in metropolises of the same district of Turkey.

In our study the percentage living in urban areas was significantly lower in the forensic psychiatry group. In our study the rate of patients from outside Istanbul was 30%, while cases that are not in the forensic process and come from outside Istanbul constitute 25%-30% of all inpatients in the acute wards of our hospital. Forensic cases are sent to our hospital from all parts of the Marmara district without making any discrimination according to the severity of the illness. Cases from outside Istanbul in the forensic psychiatry group accounted for nearly 73% of all cases. In addition, the rate of living in a village or county seat among cases from outside Istanbul was 64.8%. The number of the patients living in villages and county seats was higher in the forensic group in comparison to the control group. We have hypothesized that this finding is based on the fact that patients living in Istanbul had more opportunities to receive psychiatric help and medical service.

When evaluated in terms of profession and working conditions, the percentage of unemployment in both groups was between 86%-93%, while it was 10% in the general population. This finding was regarded as a natural result of a chronic psychiatric disorder (Turkish Statistics Institution, 2004).

In a study conducted by Öncü (2002b) investigating

patients under mandatory treatment between 1995 and 1997, it was found that 18% of the cases without criminal responsibility did not have any profession, 78%-79% were not working both before the crime and during the study, 7.5% were working before the crime and 13% were working during the study.

Other studies conducted in Turkey showed that 32%-56% of the psychotic cases that committed a crime were not employed, 22%-34% did not have a profession and 22%-45% had a permanent job. These studies were conducted only with male patients having reduced or no criminal responsibility (Özdemir, 1992; Şeker, 1996; Özdemir, 2001). In addition, in low functioning cases that did engage in criminal activity, repetitive crimes were more frequent after conditional discharge (Kravitz and Kelly, 1999). It was reported that unemployment is more prevalent among psychiatric patients in comparison to the general population; however, there is no difference between criminal and non-criminal patients in terms of professional consistency and they cannot maintain jobs that require specialization and/or working alone (Özdemir 1992; Kayatekin et al., 1991; Uygur et al., 1992; Şeker, 1996). However, the regression analysis in our study pointed to a significant relationship between criminal behavior and unemployment in psychotic patients. On the other hand, although the percentage of individuals with a profession was higher in the forensic psychiatry group, the percentage of non-working individuals before hospitalization was higher in comparison to the control group. This finding indicated unemployment to be an independent factor in the crime-

unemployment relationship. However, the relationship between unemployment and severity of illness should be evaluated in greater detail in further studies.

Working in a job is a multifactorial process. According to the findings regarding the professional lives of the patients having severe illness, the percentage of individuals working as blue collars is high and there is a strong relationship between the education level and the order and permanence of the professional life (Draine et al., 2002). There are several factors affecting employment status of the individuals; at first factors related to society, such as the rate of unemployment, qualifications for the available jobs and secondly personal factors, such as qualified working performance, ability to work systematically and capacity of congruence.

As well as the direct effects of psychosis, such as loss of functionality, attitude of accepting a psychotic person for a job is also affected by the prejudices in society (stigmatization). We found that the variables related to illness and hospitalization in the forensic psychiatry group pointed to a more severe course of illness. The unemployment rate in this group was higher, although they had a profession, and this fact may be related that the forensic patients were more affected by the conditions related to treatment, illness, and the forensic process. Findings at regression analysis indicating a relationship between unemployment and crime may be explained by this situation.

In the examination of income and social security, nearly half of the forensic psychiatry group (48.6%) did not have any social security, while 15.7% of the control group did not. According to the logistic regression analysis, there was a strong relationship between criminal behavior and not having social security. Having a personal income did not affect criminal behavior. As having social security is directly related to the provision of regular treatment, not having social security stands out as an important factor in the illness-crime relationship, and our findings showed that individuals with social security were protected from crime, although they do not have a personal income.

In other studies, it was shown that 62% of cases who committed a crime did not have any social security, cases without income were more regular in their follow-ups, and 30% did not have any social security. In addition, most of the cases that committed repetitive crimes also did not have any social security (Öncü et al., 2002b; Türkcan et al., 1997).

Low level of education, unemployment, not having social security and income, and continuation of family sup-

port, as found in our study, were observed to accumulate on a common denominator-poverty. Draine et al., (2002) suggested that poverty did not have a simple explanation and had a complex structure, including insufficient education, job-related problems, substance abuse, and insufficient social relations. In studies conducted most recently, authors report that the prevalence of crime, homelessness, and unemployment has increased among psychiatric patients. According to the authors, unemployment is closely related to the course of illness and it was reported that job stress, poor social relationships, and deficiencies in cognitive functions have negative effects on adjustment to the job.

Our findings point out that independent from having a job, having social security that provides treatment opportunity, whether it is related with the patients' work and paying the premium, using their parents' social security, or getting paid by the government, protects the patient from committing crime. According our findings having social security that provides treatment is an independent protective factor against committing a crime. This fact is currently especially important as the social security system is being updated in Turkey.

CONCLUSION

It is known that committing a crime is related to multiple sociological, psychological, and economic factors. In psychotic patients, factors related to psychosis and the treatment processes are added to these factors.

In this study we found that psychotic patients who committed a crime had significantly lower levels of education, and lower percentage of them lived in urban areas, were unemployed, despite having a profession, and did not have social security. Our findings show that unemployment and not having social security can increase the crime risk as 2 independent and separate factors.

These findings point out that there is a need for certain social organizations and legal regulations for rehabilitation programs that aim to prevent disability and increase the ability to work, define the contingents regarding employed patients, and for a social security system that would lead to continuous treatment. These programs would give psychotic patients the opportunity to live better lives, improve community health by decreasing the psychological and economic burden on the patients' families, and would decrease the crime rate related to psychiatric illness. Further studies with larger populations would increase the validity of these findings.

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