

# A Comparative Study of Psychiatric Inpatients in a General Hospital and a Psychiatric Hospital in Israel: Demographics, Psychopathological Aspects and Drug Abuse Patterns

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**ABSTRACT:** **Background:** Some specialists and policy makers advocate progression of the mental health reform in Israel by transferring beds from psychiatric to general hospitals.

**Objectives:** To compare the demographic, diagnostic and psychopathological profiles of psychiatric inpatients hospitalized in psychiatric and general hospitals, as well as their patterns of drug abuse, and to estimate the preparedness of general hospitals for the possible expansion of their psychiatric services.

**Methods:** Between 2002 and 2006 a total of 250 patients were consecutively admitted to the Jerusalem Mental Health Center-Kfar Shaul Hospital and 220 to the psychiatric department of Sheba Medical Center, a general hospital in central Israel; the patients' ages ranged from 18 to 65. The two groups were compared for demographic features, psychiatric diagnoses and severity of psychopathology (utilizing PANSS, HAD-21, YMRS rating scales). Drug abuse was diagnosed by urine analyses and self-report.

**Results:** The patients in the psychiatric hospital were significantly younger, predominantly male, and more dependent on social security payments. In the general hospital, diagnoses of affective and anxiety disorders prevailed, while in the psychiatric hospital schizophrenic and other psychotic patients constituted the majority. The patients in the general hospital were decidedly more depressed; in the psychiatric hospital, notably higher rates of manic symptoms as well as positive, negative and general schizophrenic symptoms were reported. For the most abused substances (opiates, cannabis and methamphetamines) the rates in the psychiatric hospital were significantly higher.

**Conclusions:** The differences between the two groups of inpatients were very pronounced, and therefore, the transferring of psychiatric beds to general hospitals could not be done without serious and profound organizational, educational and financial changes in the psychiatric services of general hospitals. Since each of the two inpatient systems

has particular specializations and experience with the different subgroups of patients, they could coexist for a long time.

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**KEY WORDS:** psychiatric inpatients, psychiatric hospitals, general hospitals

Over the past 30 years there has been a significant shift in the structure of psychiatric services. The expansion of outpatient services, the massive decrease in the number of mental hospital beds and the increase in psychiatric beds in general hospitals were some of the reforms undertaken in the psychiatric system in Europe and the United States [1,2]. Apart from the obvious advantages and achievements – such as the de-stigmatization of psychiatric patients, a multidisciplinary treatment and research approach, and the reduced danger of violation of human rights – the reallocation of psychiatric beds from mental to general hospitals revealed some problems. In the U.S., reimbursement and operating margins for hospital and physician psychiatric services lag behind those of other medical services [3], and hospital ownership may play a role in their accessibility because psychiatric services are relatively unprofitable services [4]. The number of general hospitals providing psychiatric services declined from 1707 in 1998 to 1285 in 2002 [2]. The seriously mentally ill patients are especially vulnerable in this situation, and hospitals in competitive markets were less likely to admit SMI patients [5] as compared to their counterparts in non-competitive markets. In Italy, where profound reform of psychiatric services had been undertaken, many facilities suffered from major logistic and architectural

SMI = seriously mentally ill

limitations: 3% of general hospital psychiatric units were located in basements, 42% of them had no single bedrooms, and many facilities had a considerable proportion of rooms with three or four beds [6].

In Israel, in the last decade, a great effort has been made to complete the complex reform of the mental health system. The number of psychiatric hospital beds has been reduced drastically from 0.88/1000 to 0.45/1000 [7] with no substantial increase in the total number of psychiatric beds in the general hospitals. The psychiatric departments in general hospitals in Israel, with total numbers of beds less than 10% of the total number of psychiatric beds [8], provide inpatient services for mental patients suffering from physical problems as well as "regular" psychiatric patients, many of whom have no need for compulsory hospitalization. Some specialists and policy makers advocate further progression of the reform by transferring the beds from psychiatric to general hospitals [8]. Their opponents urge for a more balanced approach, especially in relation to the SMI patients and those in need of continuous and devoted treatment [9]. It is still unclear whether the Israeli general hospitals, in their present administrative, financial and professional status, are capable of making the profound changes needed to provide psychiatric inpatient services.

The objectives of the present study were to compare the demographic, diagnostic and psychopathological profiles of psychiatric inpatients hospitalized in psychiatric and general hospitals, as well as their patterns of drug abuse. This comparison could enable the estimation of preparedness of general hospitals for the possible expansion of their psychiatric services.

## PATIENTS AND METHODS

The sample consisted of 250 patients consecutively admitted to the Jerusalem Mental Health Center-Kfar Shaul Hospital and 220 to the psychiatric department of Sheba Medical Center, a general hospital in central Israel, during the period 2003 to 2006. The patients, whose ages ranged from 18 to 65, were examined within 48 hours of their admission. The psychiatric diagnoses were made according to the criteria of the DSM-IV. For the differential measurement of psychopathological severity the following scales were used: Hamilton Depression Rating Scale (HAM-D-21), PANSS (Positive and Negative Syndrome Scale) and YMRS (Young Mania Rating Scale). Urine tests for THC cocaine, opiates, amphetamines and methamphetamine were performed using the Sure Step™ kits (Applied Biotech Inc., San Diego, CA, USA). The SCID-IV criteria for drug abuse were applied using self-reports and results of the urine analysis. Informed consent was obtained according to the Helsinki Declaration regulations.

THC = tetrahydrocannabinol

## STATISTICAL ANALYSIS

Chi-square was used to analyze statistically significant relationships in the distribution of categorical values. Student's *t*-test on the contingency tables was used to compare rates of PANSS, YMRS, HAM -D-21, HAM-A – scales defining inpatient groups in the general hospital and the psychiatric hospital. *P* value less than 0.05 was considered statistically significant.

## RESULTS

The results concerning rate and patterns of drug abuse in the combined sample of the two centers were published previously [10,11].

## DEMOGRAPHIC DATA

There were more males in the psychiatric hospital than in the general hospital (68.8% vs. 54.1%,  $P < 0.005$ ); they were significantly younger ( $35.011 \pm 11.063$  vs.  $41.879 \pm 12.018$ ,  $P < 0.0001$ ) and more often unmarried (58.6% vs. 41.4%,  $P < 0.001$ ). The employment status in the two groups was also different: in the general hospital 68.2% of the patients held jobs compared to only 31.8% in the psychiatric hospital ( $P < 0.0001$ ); the percent of patients receiving disability payments from social security was 34.8 in the general hospital versus 65.2 in the psychiatric hospital ( $P < 0.0001$ ).

## DIAGNOSTIC AND PSYCHOPATHOLOGICAL RESULTS

The diagnostic profile of the two groups was significantly different: in the general hospital the diagnoses of affective and anxiety disorders prevailed, while in the psychiatric hospital schizophrenic and other psychotic patients constituted the majority [Table 1]. Surprisingly, in the category of "other diagnoses," which included organic disorders, the proportion was also higher for the psychiatric hospital. No difference was observed in the number of patients suffering from personality disorders as the primary diagnosis in the two hospitals.

The differences in the two groups were even more obvious for severity of psychopathology, measured by different rating scales [Table 2]. The patients in the general hospital were sig-

**Table 1.** Psychiatric diagnosis: general hospital vs. psychiatric hospital

	General hospital	Psychiatric hospital	<i>P</i> value
Schizophrenia, schizoaffective disorder, delusional disorder, psychosis NOS	95 (43.2%)	142 (56.8%)	< 0.005
Affective disorders	74 (33.6%)	52 (20.8%)	< 0.005
Anxiety disorders	34 (15.5%)	14 (5.6%)	< 0.001
Personality disorders	9 (4.1%)	14 (5.6%)	NS
Other diagnosis (including organic disorders)	8 (3.7%)	28 (11.2%)	< 0.005

NOS = not otherwise specified, NS = not significant

**Table 2.** Psychopathology severity: general hospital vs. psychiatric hospital

	General hospital	Psychiatric hospital	P value
PANSS-Positive	13.089 ± 5.333	17.897 ± 7.099	< 0.0001
PANSS-Negative	23.648 ± 6.908	30.007 ± 7.401	< 0.0001
PANSS-General	13.099 ± 5.890	14.901 ± 6.002	< 0.005
YMRS	9.943 ± 9.965	13.288 ± 9.414	< 0.0005
HAM-D-21	25.726 ± 8.112	8.716 ± 8.648	< 0.0001

**Table 3.** Active drug abuse (last month): general hospital vs. psychiatric hospital

	General hospital	Psychiatric hospital	P value
Opiates	4 (1.6%)	19 (7.6%)	< 0.005
Cannabis	15 (6.8%)	39 (15.6%)	< 0.005
Amphetamine	1 (0.5%)	4 (1.6%)	NS
Methamphetamine	5 (2.3%)	13 (5.8%)	NS
Cocaine	3 (1.4%)	4 (1.6%)	NS

nificantly more depressed; in the psychiatric hospital notably higher rates of manic symptoms, as well as positive, negative and general schizophrenic symptoms, were reported.

**DRUG ABUSE**

The rate of abuse of the five abovementioned drugs in the past (more than one month previously), which was obtained through self-report, was similar in both centers: 20 patients (9.1%) in the general hospital and 15 patients (6%) in the psychiatric hospital.

As for active abuse, as seen in Table 3, for the most abused substances (opiates, cannabis and methamphetamines) the rates in the psychiatric hospital were significantly higher. Cocaine and amphetamine abuse was rather infrequent, with no difference between the hospitals. As mentioned above, the diagnoses of active abuse were made by self-report and/or based on urine tests.

**DISCUSSION**

The results of the study revealed that the differences between the two groups of inpatients were even more pronounced than had been hypothesized. Some diagnostic differences could be attributed to the gender profile of the two populations, but it is still far from a comprehensive explanation. In fact, the profound differences in profiles of the two populations indicated that patients with a good prognosis tend to be hospitalized more frequently in general hospitals. Although public opinion [12] and some professionals [13] prefer general hospitals for treating psychiatric inpatients, the special-

ized psychiatric hospitals in Israel still play a core role in the treatment of severe mentally ill inpatients. Despite the great progress that has been achieved in recent decades in the treatment of psychiatric patients, the outcome of severe mental disorders has not substantially changed [14]. The results of prior research underline the need for more specialized mental health services for the SMI [15,16].

In a recently published article, Liptzin et al. [3] summarize the U.S. experience with psychiatric services in general hospitals with some worrisome commentaries about the future of the system. The authors state that "patients with psychiatric problems are frequently cared for in the emergency rooms of general hospitals and can tie up staff and beds if they cannot be evaluated appropriately"... "The cost of providing emergency and consultation services has historically been subsidized by the margins from inpatient psychiatric services. As margins erode, hospitals may curtail these essential services, leaving psychiatric patients in medical-surgical beds without appropriate and humane treatment and burdening medical staff inexperienced in caring for psychiatric patients."

While psychiatric services in general hospitals in the USA have become vulnerable to downsizing, closure, or movement off campus for various reasons, the number of admissions nationwide in the state psychiatric hospitals between 2002 and 2005 increased by 21.1% (admissions with schizophrenia increased by 23.2%, with affective disorders increasing by 16.3%), and the number of residents increased by 1.0%. The most likely explanations for this trend are an increase in the number of forensic admissions and residents, and a decline in the availability of housing and community-based care providers [17].

The high rate of comorbidity of substance abuse and mental disorders in general [18] and among hospitalized patients [19] is a widely known fact. The comorbid patients are usually more psychotic [20] and more violent [21]. Although there are examples of successful incorporation of the services for dual diagnostic patients in general hospitals [22], these patients are hospitalized more often in psychiatric hospitals than in psychiatric departments of general hospitals.

In conclusion, the transferring of psychiatric beds to general hospitals cannot be undertaken without serious and profound organizational, educational and financial changes in the psychiatric services of general hospitals. In the light of proposed reform in the Israeli mental health system, the two inpatient systems have their expertise and experience with different subgroups of patients and therefore could coexist for a prolonged period.

**LIMITATIONS**

The study was cross-sectional with no follow-up of the hospitalized patients. Though the number of patients was relatively high, only two centers participated in the survey. No statistical information was obtained on comparisons between the two

populations in terms of disease duration, number of previous episodes, number of previous hospitalizations, number of compulsory hospitalizations, comorbid medical conditions, length of current hospitalization, and medications. Due to the differences between the mental health systems around the world it is difficult to compare the changes that they have undergone in recent years.

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