

MORTALITY RATES AMONG PSYCHIATRIC PATIENTS, DURING AND AFTER THE "PSYCHIATRIC REFORM", IN THE AREA OF ROME (ITALY)

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Summary. - *The issue of supposedly high mortality rates among psychiatric patients discharged from mental hospitals after the implementation in Italy of Law 180 is controversial. We have studied a cohort of 1858 long-term psychiatric inpatients of Public Mental Hospitals in the area of Rome (Italy), followed up for 9 years during and after the implementation of Law 180. As expected, age adjusted mortality rates were higher than those observed in the general population living in the study area, and death rates among patients with "organic mental disorders" were higher than those among patients with "functional disorders". No difference in death rates was observed between the group of discharged patients and that of patients not yet discharged.*

KEY WORDS: mortality, psychiatric epidemiology, health legislation.

Riassunto (Tassi di mortalità tra pazienti psichiatrici durante e dopo l'attuazione della legge 180 nella Regione Lazio). - *Quello della mortalità tra pazienti dimessi da ospedali psichiatrici in seguito all'attuazione della legge 180 è argomento controverso. Abbiamo studiato una coorte di 1858 pazienti psichiatrici lungodegenti in ospedali pubblici, seguiti per un periodo di nove anni durante e dopo l'attuazione della legge 180. Come ci si attendeva, la mortalità osservata tra tali pazienti è più alta di quella della popolazione generale e la mortalità tra i pazienti con "malattie mentali organiche" è più alta di quella dei pazienti con "malattie mentali funzionali". Invece, non si sono osservate differenze nei tassi di mortalità standardizzati per età, tra il gruppo dei pazienti dimessi e quello dei pazienti ancora ospedalizzati.*

PAROLE CHIAVE: mortalità, epidemiologia psichiatrica, legislazione sanitaria.

Introduction

Studies on mortality rates of psychiatric patients, mostly conducted in USA [1-8], consistently reported death rates among patients of mental hospitals two to three times higher than those observed in the general population.

In May 1978, the Italian Parliament passed the so called Law 180, which brought to an end the use of mental hospitals in the care of persons with mental disorders.

Admissions to mental hospitals were gradually stopped, psychiatric wards were established in general hospitals and health services for psychiatric primary care were reinforced.

The great interest for the Italian psychiatric reform and its consequences led to several evaluation studies [9-11], addressing different issues.

We have studied the mortality experience of a cohort of psychiatric patients during the period of implementation of Law 180 in the attempt to answer questions of the type: was mortality rate among discharged patients higher than among hospitalized patients? Was it higher than that observed in the general population?

Materials and methods

A cohort of long-term psychiatric inpatients was identified.

Study eligibility criteria were: 1) to have been an inpatient in one of the three public mental hospitals of the Latium Region (Rome and surroundings) for an entire year (1975) without interruption; 2) to be resident in the area.

The first criterion helped in recruiting long-term patients rather than patients with minor psychiatric problems who in fact did not enter the study. The second criterion made easier the assessment of vital status and cause of death.

A standard precoded form was used.

Basic demographic information such as name, sex, date of birth, mental status was abstracted from the administrative records present in the files of the three mental hospitals. Clinical information was collected directly from the clinical chart. Information on date and cause of death was obtained from hospital records for patients died during their hospitalization and from vital statistics offices for all others.

Table 1. - *The initial cohort of psychiatric inpatients (1975) and their vital status as of December 1984 (Latium Region, Italy)*

Sex	no. (%)	Lost to follow-up (%)	Still alive (%)	Died (%)
Male	907 (100%)	12 (1.3)	577 (63.6)	318 (35.1)
Female	951 (100%)	16 (1.7)	573 (60.3)	362 (38.1)
Total	1858	28 (1.5)	1150 (61.9)	680 (36.6)

Table 2. - *Age-adjusted rates per 100 person-years by sex and psychiatric classification among psychiatric inpatients. 1975-84 (Latium Region, Italy)*

Psychiatric classification	Person-years	Died	Age-adjusted death rate	95% C.I.
Male				
Organic mental diseases	3136.3	175	4.4	(3.7-5.1)
Functional psychoses	2993.8	124	2.7	(2.1-3.3)
Other (*)	259.5	19		
Total	6389.7	318	3.6	(3.1-4.0)
Female				
Organic mental diseases	2404.3	159	5.1	(4.1-5.8)
Functional psychoses	3875.8	180	2.8	(2.0-3.6)
Other (*)	203.3	23		
Total	6483.4	362	2.8	(2.3-3.3)

(*) Direct age adjustment not feasible.

All causes of death, regardless of the year in which the death occurred, were classified according to the International Classification of Diseases (ISD-IX rev.) by a trained coder of the Italian Central Institute of Statistics (ISTAT). Since psychiatric diagnosis, available from the clinical records were not based on DSM or similar classification system, they were grouped by us into: 1) five "organic mental disorders", 2) "functional psychoses", 3) "other". Such classification, the only possible, given the extreme variability of the clinical diagnosis, is admittedly unsatisfactory for many purposes, but acceptable in the context of our study given its specific and limited objectives.

Total follow-up time was nine years from 1976 to 1984.

Crude person-time-rates were calculated. Standardized rates were also calculated according to the direct method of adjustment [12]. We used as standard the mid-1981, fifteen years of age-abridged, Latium Region population.

Standardized Mortality Ratios (SMR) with 95% confidence intervals were also calculated [13].

Results

The cohort of long-term psychiatric inpatients consisted initially of 1858 individuals, 907 males and 951 females.

As seen in Table 1, at the end of the nine years of follow-up 680 patients had died.

Three hundred fiftyseven patients, 189 males and 168 females, were discharged from hospitals, and among them only 28 (8%) were lost to follow-up, while 329 (92%) of them were effectively followed-up. In such a way, vital status as of december 1984 was ascertained for 98.5% of the initial cohort of patients.

As seen in Table 2, the age adjusted death rates for males and females were respectively 3.6 and 2.8×100 person-years. This is about three times the rates observed in our reference population, the mid-1981 15 years of age abridged Latium population.

Table 3. - *Age-adjusted death-rates per 100 person-years by sex and hospital discharge among psychiatric patients. 1975-84 (Latium Region, Italy)*

Hospital status	Person-years	Died	Age-adjusted death rate	95% C.I.
Male				
Hospitalized	5495.4	266	3.5	(3.0-4.0)
Discharged	894.2	52	4.0	(2.8-5.3)
Female				
Hospitalized	5609.6	329	3.8	(3.2-4.4)
Discharged	873.7	33	2.3	(1.3-3.2)

Age-adjusted death rates among patients with organic mental disorders were higher (1.6 and 1.8 times higher, respectively for males and females) than death rates among patients with functional psychoses.

But the main comparison of interest is between the mortality experience of the group of discharged and that of non discharged patients. Table 3 shows such comparison, suggesting that no difference exists between the two groups; in fact the risk associated with hospital discharge is estimated in our study as 1.2 (0.9-1.5) for males and 0.6 (0.4-0.9) for females.

The distribution of causes of deaths and the standardized mortality ratios for males and females given in Table 4, suggest that the excess mortality among psychiatric patients as compared to the general population, is attributable to several causes.

Discussion

In our study population of psychiatric inpatients, we have observed mortality rates higher than those observed in the general population.

This type of comparison is often made, although its validity is highly questionable; age-adjustment is a substantial improvement in this direction, since age is the main confounder, but it might be insufficient to make the two groups comparable due to other possible confounding factors.

However, high death rates among inpatients of mental hospitals, are consistently reported [1-8] and, in fact, this is likely and expected due to the long-term hospitalization and behavioural factors.

Table 4. - *Distribution of cause of death and SMR by sex for psychiatric patients. 1975-84 (Latium Region, Italy)*

Causes of death (International Classification of Disease - IX Rev.)	Observed	SMR	95% C.I.
Male			
Cod. 000.0-136.9 Infectious and Parasitic Diseases	15	2178	1221-3571
Cod. 140.0-239.9 Neoplasms	35	110	76-152
Cod. 240.0-279.9 Endocrine, Nutritional and Metabolic Diseases and Immunity Disorders	4	93	25-231
Cod. 280.0-289.9 Diseases of Blood and Blood-Forming Organs	1	358	14-1775
Cod. 290.0-315.9 Mental Disorders	7	4504	1811-9128
Cod. 320.0-389.9 Diseases of the Nervous System and Sense Organs	13	282	150-478
Cod. 390.0-458.9 Diseases of the Circulatory System	101	196	160-238
Cod. 460.0-519.9 Diseases of the Respiratory System	56	556	420-721
Cod. 520.0-577.9 Diseases of the Digestive System	16	197	113-318
Cod. 580.0-629.9 Diseases of the Genitourinary System	8	335	145-651
Cod. 780.0-796.9 Symptoms, Signs and ill-defined Conditions	44	13585	9879-18216
Cod. 800.0-999.9 Injury and Poisoning	18	373	222-587
All the causes	318	270	241-301
Female			
Cod. 000.0-136.9 Infectious and Parasitic Diseases	4	940	254-2331
Cod. 140.0-239.9 Neoplasms	42	157	113-212
Cod. 240.0-279.9 Endocrine, Nutritional and Metabolic Diseases and Immunity Disorders	10	106	51-193
Cod. 280.0-289.9 Diseases of Blood and Blood-Forming Organs	1	441	18-2190
Cod. 290.0-315.9 Mental Disorders	8	5451	2355-10592
Cod. 320.0-389.9 Diseases of the Nervous System and Sense Organs	12	785	406-1360
Cod. 390.0-458.9 Diseases of the Circulatory System	125	175	145-208
Cod. 460.0-519.9 Diseases of the Respiratory System	52	622	465-815
Cod. 520.0-577.9 Diseases of the Digestive System	19	163	109-387
Cod. 580.0-629.9 Diseases of the Genitourinary System	17	1138	664-1813
Cod. 680.0-709.9 Disease of the Skin and Subcutaneous Tissue	2	1831	209-6199
Cod. 710.0-738.9 Disease of the Musculoskeletal System and Connective Tissue	1	583	2-2889
Cod. 780.0-796.9 Symptoms, Signs and ill-defined Conditions	45	11419	8336-15263
Cod. 800.0-999.9 Injury and Poisoning	24	455	292-674
All the causes	362	266	239-295

Bias might be present as a consequence of the difference in modalities and circumstances of certification of cause of death between inpatients of mental hospitals and the general population; however this could affect if anything, the distribution of causes of death but not the comparison between rates; moreover, we were able to ascertain vital status for 98.5% of our initial cohort.

As expected death rates among patients with "organic mental disorders" were higher than those observed among patients with "functional psychoses".

The observation of major interest in our study is that of no difference in death rates between psychiatric patients who, during the phase of implementation of Law 180, were still hospitalized and those who were discharged.

Since there were differences between the two groups in methods of vital status and cause of death ascertainment (hospital records versus vital statistics) a possible bias in

the distribution of causes of death in the two groups might be present but presumably not in the comparison of death rates. Registration of death rates in Italy is complete and vital status ascertainment among our study population was 98.5. Most of the 28 patients lost to follow-up were presumably still alive since they were not registered as deaths in the vital statistics offices; but admittedly this is a point of uncertainty.

At any rate it is safe to state that, contrary to what was often said and written during and after the years of implementation of Law 180, a substantial increase of mortality rate among discharged psychiatric patients is not apparent, at least in our study population of psychiatric patients in the area of Rome.

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