

Employment and Social Security/Insurance among patients affected by mental disorders in Italy: A descriptive multi-center study

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Abstract

Introduction: Many mental disorders especially chronic serious ones such as schizophrenia-spectrum disorders, are disabling syndromes and impact on patients' social and cognitive functioning, including work activity. Thus, affected patients may show a particular socio-economic vulnerability and need specific social security as well as rehabilitation interventions, including pensions or job-placements. In Italy, the Working Group named 'Employment and Social Security/Insurance in Mental Health (ESSIMH)' was founded in 2020 in order to collect research evidence on mental illness, employment, social security, and rehabilitation.

Methods: A descriptive, observational and multi-center study has been conducted in eleven Departments of Mental Health in Italy (Foggia, Brindisi, Putignano, Rome, Bologna, Siena, Pavia, Mantova, Genova, Brescia, and Torino) and involved 737 patients affected by major mental illness and classified in five diagnostic categories: psychoses, mood disorders, personality disorders, anxiety disorders, and others. The data collection was performed in 2020 among patients aged 18 to 70 years old.

Results: The rate of employment in our sample was 35.8% ($n=264$). Occupational disability in our sample was recognized in 58.0% of patients with a mean percentage of severity 51.7 ± 43.1 ; patients with psychoses (73%) reported higher disability followed by personality (60%) and mood disorders (47.3%) ones. In a logistic multivariate modeling, factors significantly associated with diagnosis were (a) higher level of occupational disability in psychoses; (b) higher number of job- placement programs among psychoses patients; (c) lower level of employment in psychoses; (d) more psychotherapy in personality disorder patients; and (e) more years of MHC program in psychoses patients; factors associated with sex were: (a) higher number of drive licenses among males; (b) more physical activity among males; and (c) higher number of job-placement programs among males.

Conclusion: patients affected by psychoses were more likely to be unemployed, reported higher occupational disability as well as received more incentives and rehabilitation interventions. These findings confirmed that schizophrenia-spectrum disorders are disabling and patients need psychosocial support and interventions in the framework of a recovery-oriented treatment.

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Employment, social security, social insurance, psychosis, mental illness, INPS, INAIL, pensions, rehabilitation, job-placement, Italy

Introduction

Severe mental illness highly impacts on patients' individual cognition and social functioning (Twamley et al., 2019). It has been argued that illness-related factors, above all in patients affected by schizophrenia- spectrum disorders, may variably be connected with an impairment in working and daily activities (Solar et al., 2023). According to the findings from the Italian Network for Research on Psychoses, patients' conceptual disorganization directly and strongly impacts on daily activities, difficulty in abstract thinking is moderately associated with deficit in daily activities as well as grandiosity, avolition, and anhedonia are directly connected with a significant impairment in work activity or indirectly through the reduction of personal functional capacity (Rocca et al., 2018). Mucci et al. (2021) also found that neurocognition as well as social cognition are directly associated with work skills in patients with schizophrenia. Holm et al. (2021) pointed out that 24% of patients with schizophrenia and 45% of those affected by bipolar disorders were employed before the onset of illness; thus, the employment rates decreased significantly after 5 years of illness, -14% for schizophrenia and -11% for bipolar disorders patients. Also, patients' level of education at baseline, age at the illness-onset as well as lower rates of substance abuse, and hospitalizations, all were important associated factors with employment (Holm et al., 2021). Dominiak et al. (2022) systematically reviewed research evidence on the impact of bipolar spectrum disorders on patients' professional functioning. Severity of illness (e.g. cognitive impairment, symptoms, and comorbidity) significantly impacts on the occupational status and work performance in bipolar disorder patients (employment ranging 40%–75%) more than those affected by personality disorders (33%–67%), unipolar depression (61%–88%), and dysthymia (86%). According to the findings from a recent 8-year longitudinal study conducted by O'Donnell et al. (2023), predictors of unemployment in bipolar disorder patients are: being affected by bipolar disorder I, higher levels of depression, worse cognitive functioning, and physical health. Similarly, unemployment and depression are reciprocally connected since insecure work leads to depression and depressive symptoms impact on work disability (Saul et al., 2022; Veronese et al., 2012). Also, depressive symptoms show a mediating role in the relationship between unemployment and the outcome of personality disorders (Cruitt & Oltmanns, 2019).

It has been largely recognized that employment and education are central in the recovery process for people with severe mental illness (Gammelgaard et al., 2017). In particular, employment is indispensable for the social integration of persons with mental health problems,

contributes to a sense of belonging and identity and can benefit mental well-being (Bennett et al., 2023). Thus, the job-training plays an important role in the psychosocial rehabilitation programs (Ventriglio et al., 2020). Nonetheless, people affected by severe mental illness may report poor access to employment and the legal protection of their right to work may be a challenge in many countries (Nardodkar et al., 2016). The public social insurance may support those patients affected by severe mental illness with higher levels of social vulnerabilities (Bijal et al., 2019) as well as job-placement programs and other rehabilitation interventions improve the outcome of severe psychoses and mood disorders with lower positive and emotional discomfort and lower rate of re-hospitalizations (Bell et al., 1996). However, the impact of social insurance and other incentives on mental health may vary depending on the socio-economic framework and income of home country; social insurance is a system of compulsory contribution to enable the provision of state assistance in sickness or unemployment (Docrat et al., 2020). Galderisi et al. (2014) pointed out that the availability of a disability pension and access to social and family incentives also showed a significant direct association with patients' functioning.

In Italy, the rate of employment among patients with severe mental illness ranges 75% to 90% (Vanzetto et al., 2021). Nonetheless, after the approval of the national law 68/99, the right to work for people with disability became mandatory and a set of recommendations regarding the job-placement of people affected by mental illness within the rehabilitation interventions of the national Departments of Mental Health has been released (Grillo et al., 2012). In fact, law n. 68/1999 makes provisions for all workers who have a degree of disability of 33% and higher, that should be certified by the relevant authorities. In addition, priority has been given to a number of measures that help employers to comply with the requirement of hiring a set number of disabled workers (Grillo et al., 2012). The National Institute for Social Security (Istituto Nazionale della Previdenza Sociale- INPS, 2023), under the supervision of the Italian Ministry of Labour and Social Policies, provides social security and a retirement system for all waged workers and self-employed, including those with a recognized occupational disability because of physical and mental illness. Also, the National Institute for Insurance against Accidents at Work (Istituto Nazionale per l'assicurazione contro gli Infortuni sul Lavoro- INAIL, 2023), established in 1933, is an Italian statutory corporation, overseen by the Ministry of Labour and Social Policies, with the purpose to defend victims of workplace accidents via mandatory insurances. Two specific programs for the job-placement of mentally ill people have been adopted in Italy. The

Supported Employment (SE), developed in the United States in the 70's, which is based on services for people with disabilities, including intellectual disability and mental illness, and consists of a form of employment in which wages are expected as well as benefits from an employed status in a competitive workplace (Kinoshita et al., 2013). The Individual Placement and Support (IPS) is a supportive program among vulnerable people for achieving steady, meaningful employment in competitive jobs beyond the other vocational rehabilitation approaches; IPS has been extensively researched and found to be successful by the literature and employment services (Bond et al., 2020). In Italy, some projects conducted by the national Departments of Mental Health have been inspired by the IPS model such as the 'EQOLISE' (Enhancing Quality Of Life Implementing Supported Employment; Burns et al., 2007) trial, involving six European countries among which the Department of Mental Health in Rimini (Italy), reporting successful placements in the competitive work circuits. Battiloro et al. (2017) reported findings on successful job-placements within the projects 'Lavoro&Psiche', conducted between 2008 and 2013 in the region Lombardia (Italy), and 'Tsunami', conducted in 2016 in the region Piemonte (Italy).

Here we report on findings from a multi-center descriptive study conducted in Italy, describing the rate of employment among patients affected by major mental illness across the country, as well as the provision of social security/insurance and rehabilitation interventions aimed to support vulnerable patients reporting occupational disability. This is the first report of the Italian Working Group founded in 2020 and named 'ESSIMH (Employment and Social Security/Insurance in Mental Health) – Working Group'. It is focused on research activities in the field of mental health, employment, and social security.

Materials and methods

A descriptive, observational and multi-center study has been conducted in eleven Departments of Mental Health in Italy (Foggia, Brindisi, Putignano, Rome, Bologna, Siena, Pavia, Mantova, Genova, Brescia, and Torino) and involved 737 patients ($N=737$) affected by major mental illness and classified in five diagnostic categories including psychoses (schizophrenia-spectrum disorders), mood disorders (bipolar disorders and major depression), personality disorders, anxiety disorders, and others (including mental disorders not meeting diagnostic criteria for any other category considered). The data collection was performed in 2020, patients aged 18 to 70 years old were interviewed and their medical records were reviewed (the upper age limit of inclusion was set at 70 years old in order to include those patients with late retirement according to the Italian pension system). They were all diagnosed with a mental disorder (as categorized above) and mostly followed at Departments of Mental Health involved. Information on

Table 1. Socio-demographic and clinical characteristics of sample ($N=737$).

Characteristics ($N=737$)	n/N	%	$M \pm SD$
Sex			
Males	384	52.1	–
Females	353	47.9	–
Age (years old) total sample	–	–	45.6 ± 12.8
Males			44.8 ± 13.0
Females			46.4 ± 12.5
Education			
Primary school	34	4.61	–
Secondary school	258	35.0	–
High school	310	42.0	–
University	100	13.7	–
No education	35	4.69	–
Diagnosis			
Psychoses	252	34.1	–
Mood disorders	302	40.9	–
Personality disorders	83	11.2	–
Anxiety disorders	21	2.84	–
Others	109	10.9	–
Mental Health Center (MHC) (referred)			
Yes	710	96.3	–
No	27	3.70	–
MHC program (years)	–	–	9.86 ± 9.18
Psychopharmacotherapy ^a	710	96.3	–
(yes)			
Antipsychotics	505	71.1	–
Antidepressants	297	41.8	–
Anxiolytics	252	35.4	–
Mood stabilizers	284	40.0	–
Other	114	16.0	–
Treatment compliance			
Yes	677	91.8	–
No	60	8.20	–
%- Compliance (yes)	–	–	94.5 ± 14.8
Psychotherapy (yes)	225	30.5	–

^aNumbers and percentage include overlapping for combined therapies.

socio-demographic characteristics, diagnosis, treatments, employment, occupational disability and disability due to mental illness, job-placements and rehabilitation programs, social insurance, and social security (pensions), have been collected. A specific data-collection sheet has been prepared. The final questionnaire included 42 items divided in four areas: (a) socio-demographic characteristics; (b) medical history; (c) treatments; and (d) employment, social security/insurance, rehabilitation interventions. The complete list of characteristics is shown in Table 1 (sections a, b, and c) and Table 2 (section d).

In particular, with regard to the INAIL, the number of patients admitted to the protected categories with their benefits in the hiring and employment has been reported. According to the INAIL art. 18 law n. 68/99, employers with more than 15 employees are required to include people with disabilities (recognized as protected categories) in

Table 2. Employment, social security/insurance, and rehabilitation interventions (N=737).

Characteristics (N=737)	n/N	%	M ± SD
Employment			
Employed	264	35.8	–
Unemployed	403	54.6	–
Retired	70	9.6	–
Employment changes (in the last 2 years)			
Yes (among employed)	111	42.1	–
No (among employed)	153	57.9	–
Sickness leave (in the last 2 years)			
Yes (among employed)	185	70.0	–
Absenteeism for mental illness (in the last 2 years)			
Yes (among employed)	126	47.7	–
Fitness to work evaluation yes	232	87.8	–
Occupational disability	428	58.0	–
Yes (total sample)			
%- Occupational disability	–	–	51.7 ± 43.1
INPS pension	334	45.3	–
Yes (total sample)			
INPS pension years	–	–	4.78 ± 8.96
INAIL pension	20	2.71	–
INAIL pension years	–	–	0.23 ± 1.83
INAIL art. 18 law n. 68/99	92	12.4	–
yes (total sample)			
Job-placement	48	6.51	–
(INAIL art. 18 law n. 68/99)			
Job-placement (INAIL art. 18 law n. 68/99; months)	–	–	2.95 ± 19.3
Law 104/92 benefits (total sample)	75	10.1	–
-Art 21	10	13.3	–
-Art 33	12	16.0	–
-Art 21 and 33	31	41.3	–
Job-placement at DMH (total sample)	103	13.9	–
Job-placement at DMH (total sample; months)	–	–	3.82 ± 16.6
Job-placement, other projects	6	0.81	–
Other rehabilitation interventions	307	41.6	–
Other rehabilitation interventions (months)	–	–	21.9 ± 49.3
Physical exercise (yes)	245	33.2	–
Driver license (yes)	277	37.0	–
Driver license revision test (yes)	176	63.5	–

Note. INPS=National Social Security Institute; INAIL=National Institute for Insurance Against Industrial Injuries; DHM=Department of Mental Health.

their workforce (Gazzetta Ufficiale della Repubblica Italiana, 2023a). With regard to the benefits of law 104/92, patients who had entitled of the right of priority in job recruitment and placement (art. 21) as well as right of special work permits (art.33), or both (art. 21 and 33), were reported. For clarity, article 21 recognizes to patients with disabilities the right of priority in the job-recruitment, job-placement, and job-transfer; article 33 recognizes the right of special work permits which consist of a monthly amount of working hours, regularly paid by INPS, that enable to worker, if he is disabled, to have the therapies he needs and, if he has a disabled relative, to properly take care of him (Gazzetta Ufficiale della Repubblica Italiana, 2023b).

Ethical approval

This study was approved by the local ethical committee named ‘Comitato Etico Interprovinciale Area 1, Regione Puglia’ with the following protocol number ‘41/CE/2020’. This approval has been acquired by other local ethical committees as well in Brindisi, Putignano, Rome, Bologna, Siena, Pavia, Mantova, Genova, Brescia, and Torino. An informed consent for patients recruited was provided alongside the privacy policy statement (according to law 196, 30 June 2003). Findings, data collected, and any information were treated with confidentiality, equality, and justice, respecting the Helsinki principles.

Statistical analyses

Statistical analyses employed commercial microcomputer programs (Statview, SAS Corp., Cary, NC; Stata, Stata Corp., College Station, TX). Data have been presented as means \pm standard deviations (SDs), percentages (%) or 95% confidence intervals (CIs). Continuous data were compared by analysis of variance (ANOVA) methods (F), and categorical data by contingency tables (χ^2); Bonferroni correction was used to correct for multitest. Multivariate logistic regression modeling of association of selected factors to diagnosis and sex [yielding odds ratios (OR) and their 95% confidence intervals (CIs)], by stepwise inclusion of factors in order of their strength (p -value) of preliminary bivariate associations, was carried out. Findings were considered statistically significant with two-tailed $p \leq .05$.

Results

Descriptive findings

737 patients attending the Departments of Mental Health (Foggia, $n=89$; Brindisi and Putignano $n=101$; Rome, $n=125$; Bologna, $n=14$; Siena, $n=131$; Pavia, $n=162$; Mantova, $n=12$; Genova, $n=13$; Brescia, $n=59$; and Torino, $n=31$) in 2020 were recruited and their information collected. The sample included 384 males (52.1%) and 353 females (47.9%). The mean age in the sample was 45.6 ± 12.8 years old, with no significant differences among males and females (44.8 ± 13.0 and 46.4 ± 12.5 years old, respectively). Education among patients rated: high school, 42.0% > secondary school, 35.0% > university, 13.7% > no education, 4.69% > primary school, 4.61%. Patients' diagnoses were divided in six categories: mood disorders, 40.9% ($n=302$) > psychoses, 34.1% ($n=252$) > personality disorders, 11.2% ($n=83$) > others, 10.9% ($n=109$) > anxiety disorders, 2.84% ($n=21$). A 96.3% of patients ($n=710$) had been referred to the Mental Health Center (MHC) and were regularly on clinical follow-up with a mean of 9.86 ± 9.18 years. Compliance to treatments among patients was rated by the clinical investigators and considered to be good in 91.8% of patients. A 96.3% of sample was on psychopharmacological treatments whereas 30.5% were on psychotherapy (all shown in detail in Table 1).

Over one third (35.8%) of patients were employed at the time of recruitment to the study and 42.1% had changed job in the previous 2 years. Among the employed patients, 70% reported a sickness leave and 47.7% absenteeism for their mental illness in the previous 2 years. In the whole sample, 87.8% of patients, in the previous years, had undergone the fitness to work evaluation because of their mental illness. Occupational disability was recognized in 58.0% of patients as well as 45.3% had been granted an invalidity pension (INPS). A small number of patients

(2.71%) received an INAIL pension whereas 12.4% were admitted to the protected categories with their benefits in the hiring and employment (according to the INAIL art. 18 law n. 68/99) and 10.1% received benefits from the law 104/92 (established by article 21 and 33, as aforementioned). Of 92 patients included in the protected categories, 6.51% took part to specific job-placement programs with an average length of 2.95 ± 19.3 months. In addition, of those patients followed at DMHs (since most of patients included were referred to the DMH, the percentage was calculated on the total sample, Table 2), 13.9% was addressed to a job-placement program under the supervision of Mental Health Center (mean length of 3.82 ± 16.6 months), 41.6% to other rehabilitation programs (mean length of 21.9 ± 49.3 months). These descriptive findings are shown in detail in Table 2.

Additionally, information regarding patients' regular physical activity and possession of a driving license were collected as indirect characteristics of personal functioning: 33.2% ($n=245$) of patients performed regular physical activity (daily or weekly); 37.0% ($n=277$) reported to possess an active valid drive license and 63.5% ($n=176$) of them were subjected to license revision test regularly (all details in Table 2).

Diagnostic groups

In order to explore differences between the five categories of diagnoses, we performed a comparison of different socio-demographic, clinical, and other socio-economic characteristics (including employment and social security/insurance) within patients affected by psychoses ($n=252$), mood disorders ($n=302$), personality disorders ($n=83$), anxiety disorders ($n=21$), and others ($n=79$).

Patients affected by psychoses were more likely to be male (62.6%) whereas females were more represented in the anxiety and personality disorders categories (62.0% and 62.6%, respectively; $p=.0001$). Patients with mood disorders were older with a mean age of 48.7 ± 11.8 years old ($p < .0001$). Interestingly, even though there was no difference in the number of patients referred to the Mental Health Center, those patients affected by psychoses and personality disorders showed a longer program of follow-up at Mental Health Center, 13.0 ± 9.53 and 9.48 ± 9.47 years, respectively ($p < .0001$). These findings may be biased since recruited patients were mostly followed at MHC; also, longer follow-up (more years of) among psychoses and personality disorders cases may not necessarily reflect the severity of illness. As expected, all patients reported high rates of psycho-pharmacotherapy, with higher number of prescription of antipsychotic agents among patients affected by psychoses, higher prescription of antidepressants among patients with anxiety, higher numbers of mood stabilizers among mood disorders patients (all shown in Table 3). Levels of compliance to

Table 3. Socio-demographic and clinical characteristics and diagnostic groups (N=737).

Characteristics (N=737)	Psychoses	Mood disorders	Personality disorders	Anxiety	Others	p-Value
	(n=252) n (%); Mean ± SD	(n=302) n (%); Mean ± SD	(n=83) n (%); Mean ± SD	(n=21) n (%); Mean ± SD	(n=79) n (%); Mean ± SD	
Sex[§]						
Males	158 (62.6)	144 (47.6)	31 (37.3)	8 (38.0)	43 (54.4)	.0001
Females	94 (37.4)	158 (52.4)	52 (62.6)	13 (62.0)	36 (45.6)	
Age (years old)	44.5 ± 12.2	48.7 ± 11.8	40.3 ± 13.9	44.8 ± 13.9	41.2 ± 115.7	<.0001
Education[§]						
Primary school	9 (3.57)	13 (4.30)	2 (2.40)	2 (8.69)	8 (10.1)	.0503
Secondary school	99 (39.2)	93 (30.7)	31 (37.3)	7 (33.3)	28 (35.4)	
High school	111 (44.0)	131 (43.3)	31 (37.3)	9 (42.8)	28 (35.4)	
University	23 (9.12)	56 (18.5)	9 (10.8)	3 (14.2)	9 (11.3)	
No education	10(4.11)	9 (3.2)	10 (12.2)	0 (0.00)	6 (7.59)	
Mental Health Center (MHC) (referred)						
Yes	248 (98.4)	289 (95.6)	82 (98.7)	21 (100)	70 (88.6)	.2025
MHC program (years)	13.0 ± 9.53	8.23 ± 8.45	9.48 ± 9.47	4.45 ± 6.11	7.48 ± 8.57	<.0001
Psychopharmacotherapy [#] (yes)	245 (97.2)	296 (98.0)	79 (95.1)	21 (100)	69 (87.3)	<.0001
Antipsychotics	228 (90.4)	185 (61.2)	50 (60.2)	8 (38.0)	34 (43.0)	<.0001
Antidepressants	47 (18.6)	174 (57.6)	33 (39.7)	18 (85.7)	25 (31.6)	<.0001
Anxiolytics	90 (35.7)	89 (29.4)	44 (53.0)	6 (28.5)	22 (27.8)	.0003
Mood stabilizers	68 (26.9)	159 (52.6)	32 (38.5)	3 (14.2)	22 (27.8)	<.0001
Treatment compliance						
Yes	237(94.0)	283 (93.7)	71 (85.5)	20 (95.2)	66 (83.5)	.2279
%- Compliance (yes)	95.2 ± 13.6	94.4 ± 14.9	92.7 ± 16.7	99.0 ± 4.47	91.6 ± 24.2	.4304
Psychotherapy (yes)	62 (24.6)	88 (29.1)	36 (43.3)	7 (33.3)	32 (40.5)	.0010

[§]Missing information: diagnosis versus sex, n = 690/N = 720; Education, n = 663/N = 720; #Numbers and percentage include overlapping for combined therapies.

Table 4. Employment, social security/insurance, rehabilitation interventions among diagnostic groups (N=737).

Characteristics (N=737)	Psychoses	Mood disorders	Personality disorders	Anxiety	Others	p-Value
	(n=252)	(n=302)	(n=83)	(n=21)	(n=79)	
	n (%); M ± SD	n (%); M ± SD	n (%); M ± SD	n (%); M ± SD	n (%); M ± SD	
Employment						
Employed	61 (24.2)	150 (49.6)	21 (25.3)	11 (52.3)	21 (26.5)	<.0001
Employment changes (in the last 2 years)	29 (47.5)	48(32.0)	20 (95.2)	3 (27.2)	11 (52.3)	.0374
yes (among employed)						
Sickness leave (in the last 2 years)	40 (65.5)	99 (66.0)	21 (100)	6 (54.5)	19 (90.4)	.0003
Yes (among employed)						
Absenteeism for mental illness (in the last 2 years)	29(47.5)	71 (47.3)	13(61.9)	2 (18.1)	11 (52.3)	.0084
Yes (among employed)						
Fitness to work evaluation yes	78 (30.9)	99 (32.7)	21 (25.3)	9 (42.8)	25 (31.6)	.7197
Occupational disability	184 (73.0)	143 (47.3)	50 (60.2)	6 (28.5)	45 (55.6)	<.0001
yes (total sample)						
%- Occupational disability	65.7 ± 40.2	40.6 ± 41.5	55.4 ± 43.8	22.1 ± 36.4	44.5 ± 43.4	<.0001
INPS pension	158 (62.6)	96 (31.7)	41 (49.3)	4 (19.0)	35 (44.3)	<.0001
yes (total sample)						
INPS pension	7.08 ± 11.3	3.28 ± 7.27	4.70 ± 7.40	2.89 ± 6.69	2.61 ± 4.16	<.0001
Years						
INAIL pension	10 (3.96)	9 (2.98)	1 (1.20)	0 (0.00)	0 (0.00)	.5616
INAIL pension	0.29 ± 2.08	0.30 ± 2.08	0.95 ± 0.81	0.00 ± 0.00	0.00 ± 0.00	.8501
years						
INAIL art. 18 law n. 68/99	41 (16.2)	30 (9.93)	15 (18.0)	2 (9.52)	4 (5.06)	.1544
yes (total sample)						
Job-placement (INAIL)	25(9.92)	15 (4.96)	7 (8.43)	1 (4.76)	0 (0.00)	.1428
Job-placement (INAIL; months)	3.39 ± 16.9	2.15 ± 15.3	4.49 ± 28.4	12.0 ± 52.3	0.00 ± 0.00	.3076
Law 104/92 benefits	30 (11.9)	26 (8.60)	6 (7.22)	3 (14.2)	10 (12.6)	.7407
Art 21	4 (13.3)	3 (11.5)	1 (16.6)	1 (33.3)	1 (10.0)	.9467
Art 33	6 (20.0)	5 (19.2)	0 (0.00)	0 (0.00)	1 (10.0)	
Art 21 and 33	22 (73.3)	18 (69.2)	4 (66.6)	1 (33.3)	1 (10.0)	
Job-placement at DMH	59 (23.4)	25 (8.27)	15 (18.0)	0 (0.00)	4 (5.06)	<.0001
Job-placement at DMH (months)	8.35 ± 26.1	1.63 ± 7.58	0.83 ± 2.52	0.00 ± 0.00	1.56 ± 5.45	.0002
Job-placement, other projects	5 (1.98)	1 (0.33)	0 (0.00)	0 (0.00)	0 (0.00)	.4844
Other rehabilitation interventions	166 (65.8)	81 (26.8)	43 (51.8)	0 (0.00)	17 (21.5)	<.0001
Other rehabilitation interventions	37.3 ± 62.5	12.4 ± 38.4	14.5 ± 33.4	0.00 ± 0.00	16.0 ± 44.3	<.0001
(months)						
Physical exercise (yes)	93 (36.9)	96 (31.7)	31 (37.3)	8 (38.0)	17 (21.5)	.4742
Driver license (yes)	93 (36.9)	125 (41.3)	28 (33.7)	7 (33.3)	24 (30.3)	.0734
Driver license revision test (yes)	77 (82.7)	76 (60.8)	15 (53.5)	3 (42.8)	5 (20.8)	.0708

Note. INPS=National Social Security Institute; INAIL=National Institute for Insurance Against Industrial Injuries; DMH=Department of Mental Health.

treatments (measured with no standardized tools) did not differ among diagnostic groups whereas patients with personality disorders have shown significantly higher rates of psychotherapy, reasonably (Table 3).

Employment rated significantly lower among patients with psychosis (24.2%) and personality disorders (25.3%; $p < .0001$) whereas the rate of sickness leaves and absenteeism due to mental illness in the last 2 years were higher

among patients affected by personality disorders and psychoses (10% and 61.9%, respectively; $.0003 \leq p \leq .0084$). Consistently, the reported occupational disability was higher among patients with psychosis and personality disorders (73.0% and 60.2%), as confirmed by the severity mean percentages recognized by the INPS committee (65.7 ± 40.2 and 55.4 ± 43.8 , respectively; all $p < .0001$; Table 4). Consequently, patients who have been granted an

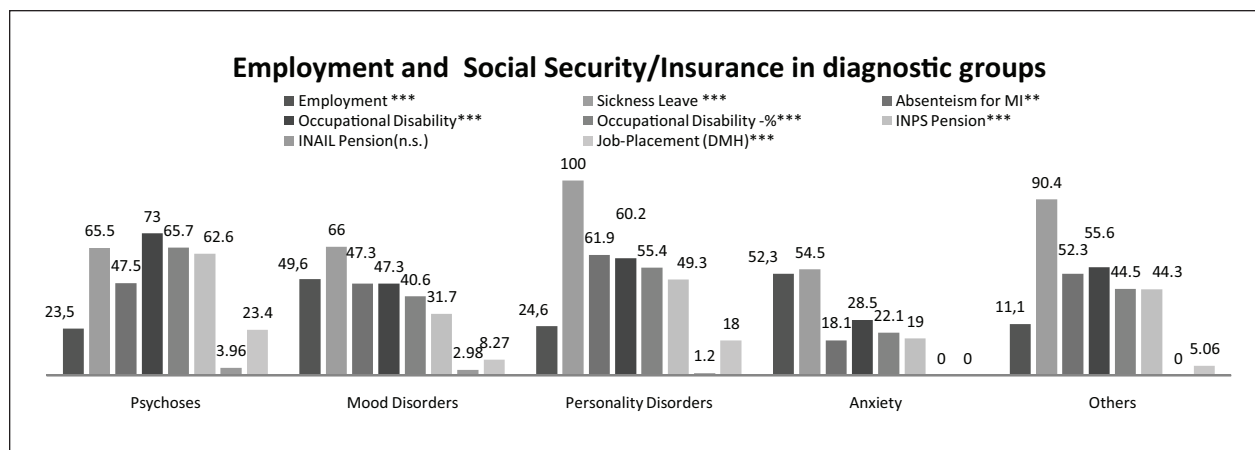


Figure 1. Employment and Social Security/Insurance in diagnostic group.

Note. All values are reported as percentages (%). *n.s.* = not significant.

***.0003 < *p* > .0001

** .0084

invalidity pension (INPS) were more likely to be affected by psychoses (62.6%) or personality disorders (42.3%) and both with longer period of social security, 7.08 ± 11.3 and 4.70 ± 7.40 years (all $p < .0001$; Table 4).

Patients affected by psychoses and personality disorders were also more likely to be engaged in job-placement programs (23.4% and 18%, respectively) with longer engagements for those with psychosis (8.35 ± 26.1 months) ($.0002 \leq p < .0001$; Table 4). Similarly, patients with psychoses, followed by those with personality disorders, were significantly more involved in other rehabilitation interventions (65.8) for longer time (37.3 ± 62.5 months) (all $p < .0001$; Table 4). Here we specify, that other rehabilitation interventions included: day care center, therapeutic community, cognitive remediation trainings, behavioral activation, and other activities supervised by the MHC.

Figure 1 displays differences found between different categories of diagnosis.

Comparisons within sex-groups

We explored differences between males and females (Tables 5 and 6) on a number of parameters. Cases of psychoses were highly represented among males (41.3%) whereas women were more likely to be affected by mood disorders (45.0%). Consequently, prescription of antipsychotic agents was significantly higher among men as well as antidepressants among women (all $p \leq .0007$; Table 5). Males were also more engaged in job-placement programs (20.1% vs. 7.32% in females), for longer time (5.19 ± 19.2 vs. 2.20 ± 12.9) as well as involved in more rehabilitation interventions (all $p < .0263$; Table 6). Moreover, males were more likely to practice physical exercise and possess a driving license (Table 6).

Of the factors preliminarily associated with diagnostic categories (Tables 3 and 4) and sex (Tables 5 and 6) in the

bivariate analyses, those significantly and independently remaining associated in subsequent logistic multivariate modeling are here reported as following (in descending order of statistical significance). For diagnosis (Table 7): (a) higher level of occupational disability in psychoses; (b) higher number of job-placement programs among psychoses patients; (c) lower level of employment in psychoses; (d) more psychotherapy in personality disorder patients; and (e) more years of MHC program in psychoses patients. For sex (Table 8): (a) higher number of drive licenses among males; (b) more physical activity among males; and (c) higher number of job-placement programs among males.

Discussion and conclusions

This descriptive study aimed to describe a set of characteristics, including socio-demographics, employment/unemployment, social security/insurance, rehabilitation interventions in a large sample of mentally ill patients followed by six Departments of Mental Health in Italy. The relevance of these findings add to evidence available regarding the real-world based description of socio-economic status of patients affected by different mental disorders across the country.

The rate of employment in our sample was 35.8% ($n=264$). Of these, 70% reported a sickness leave and 47.7% absenteeism for their mental illness in the last 2 years. These findings are in line with the international literature reporting a rate of unemployment reaching 70% among psychiatric service users, above all those affected by schizophrenia and bipolar disorders (Holm et al., 2021). Cirillo et al. (2009) in Pavia (Italy) found that 42% of patients affected by mental illness were employed and 58% were unemployed with 29% of them not receiving any support or job-placement. In terms of absenteeism

Table 5. Clinical and socio-demographic characteristics among males and females ($n=737$).

Characteristics ($N=737$)	Males	Females	F or χ^2	p -Value
	($n=382$)	($n=355$)		
	n (%); $M \pm SD$	n (%); $M \pm SD$		
Age (years old)	44.8 \pm 13.0	46.4 \pm 12.5	2.985	.0845
Education [§]				
Primary school	14 (3.66)	20 (5.63)	4.308	.3659
Secondary school	133 (34.8)	124 (34.9)		
High school	164 (42.9)	145 (40.8)		
University	56 (14.6)	43 (12.1)		
No education	15 (3.92)	23 (6.47)		
Mental Health Center (MHC) (referred)				
Yes	369 (96.5)	341 (96.0)	0.034	.8545
MHC program (years)	10.1 \pm 9.46	9.51 \pm 8.86	0.749	.3872
Diagnosis				
Psychoses	158 (41.3)	94 (26.4)	25.501	.0001
Mood disorders	142 (37.1)	160 (45.0)		
Personality disorders	31 (8.11)	52 (14.6)		
Anxiety	8 (2.09)	13 (3.66)		
Others	43 (11.2)	36 (10.1)		
Psychopharmacotherapy [#] (yes)	364 (95.2)	346 (97.4)	2.894	.0889
Antipsychotics	284 (74.3)	221 (62.2)	12.084	.0005
Antidepressants	133 (34.8)	164 (46.1)	14.605	.0007
Anxiolytics	133 (34.8)	119 (33.5)	0.021	.8836
Mood stabilizers	150 (39.2)	134 (37.7)	1.159	.5601
Treatment compliance	353 (92.4)	324 (91.2)	1.998	.1575
Yes				
%- Compliance (yes)	94.4 \pm 15.2	94.6 \pm 14.4	0.015	.9024
Psychotherapy (yes)	112 (29.3)	113 (31.8)	1.550	.2131

[§]Missing information: diagnosis versus sex, $n=690/N=720$; Education, $n=663/N=720$.

[#]Numbers and percentage include overlapping for combined therapies.

from work, our findings are in line with the National Report on Mental Health published in 2021 by the Italian Ministry of Health (Sistema Informativo per la Salute Mentale, 2021) indicating that the impact of common mental illness on the working continuity is high, reaching up to 80% of absenteeism/year. We found a lower rate of employment among patients affected by psychosis (24.2%) and personality disorders (25.3%) and higher unemployment was confirmed as significantly associated to psychosis in the multivariate model. This may add evidence to the literature confirming the significant impact of schizophrenia and related disorders on patients' personal functioning, including work activity (Mucci et al., 2021; Rocca et al., 2018). Interestingly, personality disorders reported a significant reduction of work activity and high unemployment in our sample. In fact, Cruitt and Oltmanns (2019) argued that personality disorders are characterized by enduring maladaptive patterns of behavior, cognition, and inner experiences (particularly those belonging to cluster A and B, such as borderline personality disorders) with possible relevant impact on patient's personal,

interpersonal functioning as well as work activity. Nonetheless, our findings were limited since subtypes of personality disorders were not analyzed and specific predictors of unemployment were not detectable. However, personality disorders patients in this study significantly reported more psychotherapy, as expected, since most of their personal discomfort, affecting their personal functioning, relationships as well as quality of life and satisfaction, are addressable with psychotherapeutic approaches (Beatson & Rao, 2014).

Occupational disability in our sample was recognized in 58.0% of patients with mean severity (as assigned by the INPS committee) of 51.7 ± 43.1 . There were no differences among sexes whereas patients with psychotic disorders reported higher disability (73%) followed by personality (60%) and mood disorders (47.3%) with severity-percentages ranging 65.7 ± 40.2 for psychoses, 55.4 ± 43.8 for personality disorders, and 40.6 ± 41.5 for mood disorders, respectively. These findings confirm that psychotic disorders are highly disabling in many areas of functioning, including work activities (Holm et al., 2021; Solar et al.,

Table 6. Employment, social security/insurance, and rehabilitation interventions among males and females ($N=737$).

Characteristics ($N=737$)	Males	Females	F or χ^2	p -Value
	($n=382$)	($n=355$)		
	n (%); $M \pm SD$	n (%); $M \pm SD$		
Employment	139 (36.3)	125 (35.2)	0.785	.6753
Employed				
Employment changes (in the last 2 years) yes (among employed)	61 (43.8)	50 (40.0)	0.204	.6516
Sickness leave (in the last 2 years) yes (among employed)	100 (71.9)	85 (68.0)	0.455	.5002
Absenteeism for mental illness (in the last 2 years) yes (among employed)	71 (51.0)	55 (44.0)	1.810	.4046
Fitness to work evaluation yes	111 (29.0)	121 (34.7)	3.001	.0832
Occupational disability yes (total sample)	234 (61.2)	194 (54.6)	2.469	.1161
%- Occupational disability	54.6 ± 43.6	48.5 ± 42.2	3.344	.0679
INPS pension yes (total sample)	190 (49.7)	144 (40.5)	5.334	.1489
INPS pension years	5.19 ± 9.84	4.23 ± 7.74	1.835	.1760
INAILpension	14 (3.66)	6 (1.69)	2.188	.1391
INAILpension years	0.29 ± 2.09	0.17 ± 1.50	0.652	.4196
INAIL art. 18 law n. 68/99 yes (total sample)	51 (13.3)	41 (11.5)	6.342	.9801
Job-placement (INAIL)	29 (7.59)	19 (5.35)	0.876	.3493
Job-placement (INAIL; months)	2.61 ± 15.5	3.40 ± 23.2	0.252	.6161
Law 104/92 benefits	40 (10.4)	35 (9.85)	0.39	.8442
Job-placement at DMH	77 (20.1)	26 (7.32)	21.658	<.0001
Job-placement at DMH (months)	5.19 ± 19.2	2.20 ± 12.9	4.961	.0263
Job-placement, other projects	3 (0.78)	3 (0.84)	0.031	.8605
Other rehabilitation interventions	185 (48.4)	122 (34.3)	9.964	.0016
Other rehabilitation interventions (months)	25.2 ± 53.5	18.1 ± 43.7	3.060	.0808
Physical exercise (yes)	147 (38.4)	98 (27.6)	9.019	.0027
Driver license (yes)	166 (43.4)	111 (31.2)	6.878	.0087
Driver license revision test (yes)	106 (27.7)	70 (19.7)	4.583	.0323

INPS=National Social Security Institute; INAIL=National Institute for Insurance against Industrial Injuries; DMH=Department of Mental Health.

2023) as well as personality traits, when severely maladaptive, may impact significantly on patients' function, even more than mood disorders which may lead to functional consequences in a various range, depending on polarity of mood episodes, recurrence over time, cycling, and other syndrome-related characteristics (O'Donnell et al., 2023). Consequently we found a strong significantly association in the logistic multivariate regression model between being affected by psychotic disorders and reporting more years of MHC program, higher number of job-placement interventions. Consistently, in the bivariate analysis, the social security incentives were higher among psychoses patients, 62.6% of them granted an invalidity pension (INPS) for 7.08 ± 11.3 years, followed by 49.3% of personality

disorders patients for 4.70 ± 7.40 years, 31.7% of mood disorders for 3.28 ± 7.27 years. This trend of social security and incentives has been confirmed by the higher number of job-placement programs in favor of psychotic patients with more years of placement (8.35 ± 26 months) and MHC follow-up (13.0 ± 9.53 years; confirmed in the logistic multivariate modeling). Also, higher number of other rehabilitation interventions was delivered in favor of patients with psychoses (65.8%) for longer time (37.3 ± 62.5 months; bivariate analysis). Here we may comment that the rate of incentives and support for psychosis in the Italian Mental health Care System rated high, even more than the average percentage of incentives described in the international literature (Bijal et al., 2019). This may be due to the

Table 7. Multivariate logistic regression model of factors associated with diagnostic groups.

Factors	Slope (β -coefficient)	OR [95% CI]	t-score	p-Value
Higher level of occupational disability in psychoses	5.28	[1.12, 1.28]	27.9	<.0001
Higher number of job-placement programs among psychoses patients	4.20	[1.00, 1.02]	17.7	<.0001
Lower level of employment in psychoses	-3.78	[0.98, 0.99]	14.3	.0002
More psychotherapy in personality disorder patients	3.363	[0.94, 0.98]	11.3	.0008
More years of MHC program in psychoses patients	2.739	[1.03, 1.25]	7.50	.0062

Note. MHC=Mental Health Center.

Table 8. Multivariate logistic regression model of factors associated with sex.

	Slope (β -coefficient)	OR [95% CI]	t-score	p-Value
Higher number of drive licenses among males	3.18	[0.36, 0.78]	10.2	.0015
More physical activity among males	2.94	[0.42, 0.84]	8.64	.0033
Higher number of job-placement programs among males	1.81	[0.43, 1.49]	3.30	.0107

introduction of various supportive institutions such as the Institutes of Social Security and Insurance (INPS and INAIL) for vulnerable citizens affected by disabilities, including mentally ill ones.

Finally, the impact of sex on these variables was somewhat negligible. Males were more likely to be involved in job-placement programs, to possess a valid drive license and practice regular physical activity (multivariate analysis). In fact 20.1% of males were addressed to job-placements versus 7.32% females for longer time (5.19 ± 19.2 vs. 2.20 ± 12.9 months). This may reflect a different gender role expectation in the work activity, above all in societies based on a traditional scheme of family with an expected role of man/husband providing for family subsistence needs (van Dijk & van Engen, 2019). Similarly, it has been largely described a gender impact on patterns of care-driving worldwide, with men expected to possess driving licenses more than women (Mateos-Granados et al., 2021). Also, physical activity is generally more practiced among men mostly sustained by cultural and societal factors based on gender-based body image (Bassett-Gunter et al., 2017).

Some limitations of the study need to be remembered and these include: the small number of patients screened for any involved Department of Mental Health; the small number of DMHs involved across the country; the lack of specific qualitative information regarding various factors such current psychopathological characteristics of patients, rehabilitation activities, baseline socio-economic factors, family history, and background. This missing information did not allow to describe specific predictors of unemployment in the sample and encourage further research in this filed. Also, a standardized measure/tool of patients' functioning was not employed and this should be adopted in

the next investigations of our working-group. Nonetheless, an effort has been made for collecting data on social security and insurance since official registers of INPS and INAIL as well as MHC records are poorly informative on mentally ill citizens or poorly available. This adds strength to the relevance of this large study aiming to provide a real-world database for further investigations and discussion.

In conclusion, this study provided real-world based findings on the employment rate, social security/insurance, and rehabilitation of psychiatric services users in Italy. Patients affected by psychoses were more likely to be unemployed, reported higher occupational disability as well as received more incentives and rehabilitation interventions. In general, rates of employment, social security, and support in the Italian Mental Health Care System were high and in line with the international literature. Even though the Italian legislative framework considered is not easily comparable to other international laws, these findings may reflect the impact of social security/insurance on disabilities due to mental illness and may encourage a debate on different social security models. These findings also add to the evidence that schizophrenia and related syndromes are long-term disabling disorders as well as affected patients need psychosocial support and interventions in the framework of a recovery-oriented treatment.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethical standards

This study has been approved by the local ethical committee named 'Comitato Etico Interprovinciale Area 1, Regione Puglia' with the following protocol number "41/CE/2020".

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