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Implementation of Individual Placement and Support in Italy: The Reggio Emilia Experience

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Abstract

Individual placement and support (IPS) is an evidence-based intervention helping people with mental illness to obtain competitive jobs. In the last decade, European mental health leaders were interested on its implementation. Aim of the study was to assess the IPS feasibility in Italian patients with moderate-to-severe mental illness. To date, no evaluation of IPS has been conducted exclusively in Italy. Participants (n = 95) were clients of community mental health centers of the Reggio Emilia Department of Mental Health. In addition to drop-out rates, we calculated job acquisition, job duration, and total hours per week worked. A crude competitive employment rate of 41.1% and a crude drop-out rate of 30.5% were found over 42-month follow-up period. Using a Kaplan–Meyer survival analysis, the cumulative employment rate increased up to 44% at 12 months and 61% both at 24 and 42 months. This study documents the feasibility of an implementation strategy for introducing the IPS model in the public mental health care system in Italy.

Keywords Supported employment · Individual placement and support · Psychiatric rehabilitation · Mental health services · Outcomes · Implementation

Introduction

Only 15% of people suffering from a severe mental illness (SMI) (i.e. schizophrenia or bipolar disorder) are employed in the competitive labor market (Viering et al. 2013). In particular, compared to other medical disabilities, the SMI condition is associated with a significantly higher risk of unemployment in adults of working age (Schenider and Akhtar 2012).

Individual Placement and Support (IPS) is a psychosocial intervention to help people with mental disorder in obtaining and maintaining competitive jobs in the open labor market (Becker and Drake 2003). IPS has proven to be an evidence-based practice with an upper effectiveness over other vocational rehabilitation approaches (Berardi and Fioritti 2017; Modini et al. 2016). Specifically, a meta-analysis of 15 randomized controlled trials found an overall employment rate of 55% for people receiving IPS compared to 23% for those subjects provided with a traditional rehabilitation model (Bond et al. 2012a). Moreover, a more recent meta-analysis of the international IPS evidence reported that the overall pooled risk ratio for competitive employment using

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IPS compared with traditional vocational rehabilitation was 2.40 (Modini et al. 2016). However, the vast majority of this evidence comes from the United States (US), where the intervention was developed and firstly implemented.

During the past ten years, with the dissemination of these promising results, some mental health leaders in Europe began to be interested in the IPS exportability outside the US (Fioritti et al. 2014a). The EQOLISE study (Burns et al. 2007) was the first European trial on effectiveness of IPS confirming the excellent findings of US researches, despite ample differences in culture of mental health services and in labor market regulations. In this international six-site randomized controlled trial with an average follow-up length of 18.4 months, IPS has proven to be superior to conventional vocational rehabilitation both in terms of number of people entering the competitive job market (55% vs 26%) and number of days worked. In this regard, although an early systematic review on the generalizability of IPS model outside the US had revealed that the competitive employment rates were stronger for 9 US than for 6 non-US studies (62.1% vs 47.3%) (Bond et al. 2012a), more recent meta-regression indicated that neither geographic location nor unemployment rates affected the overall effectiveness of IPS approach (Modini et al. 2016).

Diminished effects for IPS, especially in some European countries, has been traditionally imputed to labor and disability policies that could impede returns to work (e.g. what was referred to as the "benefit trap") (Burns et al. 2009). Therefore, further European studies are needed to examine the nature and the strength of these policy factors and to determine what adaptations are necessary. In general, Europe has a long tradition of vocational rehabilitation interventions based on sheltered workshops, training centers, social enterprises, and legislative quota system, but each country has its own propensity to incorporate evidence-based innovations and therefore the degree of IPS implementation widely varies (Berardi and Fioritti 2017).

IPS in Italy

Over the last 40 years, a deep-reaching change of the mental health care system has occurred in Italy, resulting in a comprehensive and integrated system of community-based mental health departments that are interconnected with general hospitals and the network of the other community services (e.g. general practitioners, schools, social agencies). In this context, programs aimed at employment have always been considered hallmarks of good practice in Italian community psychiatry (Fioritti et al. 2003). They mostly include traditional ("train and place") approaches provided in different settings, such as sheltered workshops or training stages by social enterprises. All these activities, which are usually associated with employment grants (generally of about 3 euro/h), are flexible and sometimes rapid instruments, but they are quite stigmatizing and overprotective, leave little choice to clients in the typology of occupation, and often keep users out of competitive job for a long time (Fioritti et al. 2014a). Moreover, the recent pervasive economic crisis, together with a clearer awareness of personal rights, has boosted the demand for employment services by people with mental disorder. Indeed, in the last decade, the number of individuals who entered traditional vocational rehabilitation programs in Italy almost doubled, despite the rate of subjects entering competitive jobs halved from 10 to 5% (Berardi and Fioritti 2017). As the costs associated with developing and maintaining noncompetitive employment programs are often enormous and their socio-economic burden is unsustainable on a large scale (specifically, these costs are usually entirely borne by governmental subsidies rather than a private sector, and clients do not pay taxes on noncompetitive jobs), Italian psychiatric departments became interested in innovative models of psychosocial intervention, such as the IPS approach (Pelizza et al. 2019a).

After the EQOLISE trial (Burns et al. 2009), Emilia-Romagna Region put IPS in its policy and financed a program for IPS implementation in all of its regional mental health departments. In 2014, 20 of out 41 Community Mental Health Centers (CMHC) in the region began offering IPS to their users (among them, all of adult CMHCs of the Reggio Emilia Mental Health Department) (Fioritti et al. 2014a). However, because the EQOLISE study was not powered to test the IPS effect and feasibility for the separate European countries, new evidence is needed, particularly in Italy, where, differently to the US socioeconomic climate, labor market is less flexible, there is a stronger social security system and the employment opportunities are rather limited (Berardi and Fioritti 2017).

Starting from this background, the *aim* of the current study was two-fold: (1) to assess the feasibility of IPS in people with moderate-to-severe mental illness, examining the main competitive employment outcomes, and (2) to explore any relevant association of these outcomes with working history, sociodemographic and clinical characteristics in those participants obtaining job during a 42-month follow-up period. To the best of our knowledge, this is the first Italian study addressed to investigate the IPS feasibility directly in the "real world" and to shed more light on its long-term outcomes, using a 42-month follow-up design.

Methods

Participants and Setting

For the purpose of the study, inclusion criteria were: (a) working age (18–60 years), (b) moderate-to-severe

mental illness with a major role dysfunction in the previous 12 months, (c) to be in contact with CMHC for a minimum of 6 months and expected to remain during the follow-up period, (d) unemployment status at the time of recruitment and in the preceding year, (e) expressed desire for competitive job in the open employment market, (f) at least a 3-month clinical stabilization period before enrollment, and (g) residence in the catchment area.

Exclusion criteria were: (a) absence of a DSM-IV-TR primary diagnosis of mental retardation (known Intelligence Quotient < 70), dementia or other organic mental disorders, and substance/alcohol abuse or dependence, (b) absence of significant medical conditions (such as end-stage cancer) that would preclude working during the follow-up period, (c) full-time hospitalization, and (d) concomitant engagement in another vocational rehabilitation intervention.

Participants (n = 95) were recruited from clients receiving treatment for moderate-to-severe mental illness in one of the 7 adult CMHCs of the Reggio Emilia Department of Mental Health, a semi-urban catchment area of approximately 550.000 inhabitants, in the northern Italy. Enrollment started on 1 January 2015 and ended on 30 June 2018. Specifically, all the participants underwent an extensive diagnostic assessment using the Structured Clinical Interview for axis I mental Disorders (SCID-I) (First et al. 2002). As defined by the Diagnostic and Statistical Manual of Mental Disorders, IV Edition, Text Revised (DSM-IV-TR) (APA 2000), schizophrenia, bipolar disorder and major depressive disorder were the primary psychiatric diagnoses.

All adults entering the study protocol agreed to participate to the research and gave their informed consent before interview engagement and after the procedures had been fully explained. Relevant local ethical approvals were sought for the study. The current research has been carried-out in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) for experimental protocols including humans. The data that support the findings of this study are available on request from the authors. The data are not publicly available due to privacy and ethical restrictions.

Procedures

CMHC clients were informed about the study in various ways (e.g. directly by mental health care team members or through local information meetings). Each user interested in participation and expressing a wish for paid employment was interviewed by IPS independent local coordinators, who were trained to evaluate eligibility. Clients who met the research criteria were accepted as participants of the study and referred for the baseline assessment.

All the participants were trained by job coaches in accordance with the IPS approach, which is based on the main following *core principles*: (a) focus on competitive employment in the open job market, (b) support in rapid job search (i.e. clients are expected to obtain jobs directly, without lengthy pre-employment training), (c) integration of vocational services with CMHCs (i.e. rehabilitation is considered as an integral component of mental health treatment rather than a separate service), (d) attention to client's job preference, (e) individualized job support (with an employment specialists' engagement in the systematic and active job development), (f) continuous assessment based on real work experiences, (g) time-unlimited support, (h) eligibility based on client's choice (i.e. motivation for obtaining competitive employment is the most important condition for the IPS enrollment), and (i) financial counselling about social security benefits (Bond 1998; Bond et al. 2007).

All the participants were assigned to an IPS employment specialist (added to a multidisciplinary CMHC team) and were followed up over the course of the study. Prior to start-up of the IPS program, IPS specialists received at least 4-month internal training and supervision on the IPS model (and its "place-and-train" approach to job rehabilitation) from a team of IPS trainers consisting of expert on supported employment that strictly collaborated with IPS model developers in the Dartmouth Psychiatric Research Center. Each IPS specialist met regularly with his allocated CMHC to raise awareness of the intervention model and relied on CHMC staff members to refer potential participants. Referred users were assessed by the IPS specialist for their motivation in obtaining employment before being offered the service, as well as for work preference, past work experiences, past experiences of traditional vocational rehabilitation, duration of taking charge at CMHC (i.e. before IPS enrollment) and social benefits.

Similarly to the EQOLISE trial procedures (Burns et al. 2009), in each CMHC, the IPS approach followed the manualized model focusing on the immediate support of a job coach and on a direct integration into competitive employment. IPS specialists supported the client by rapidly searching for vacant jobs, assisting applications, as well as for coaching him/her in working situations (Burns et al. 2009). Once employed, "on the job" training and follow-along support were provided to help the individual in retaining job for as long as possible. Indeed, IPS specialists provided time-unlimited support before, during, and after periods of employment, operating in close collaboration with the other CMHC team members. To assess the quality of the IPS implementation, we also conducted a *fidelity* assessment using the IPS-25 Fidelity Scale (Bond et al. 2012b), which measures adherence to the IPS core principles. Indeed, it has been widely proven that the lack of adequate technical assistance and training for staff members leads to an IPS substandard implementation, an attenuated effectiveness of the IPS program, and a great impairment of the quality of the

resulting evaluation (Bond et al. 2012a). All the participating CMHCs scored above the critical cut-off point of > 74 on fidelity scale (Bond et al. 2012b) both at baseline assessment and throughout the follow-up period.

According to Bond et al. (2016), competitive employment was defined as a paid job in the open job market. In the present study, in accordance with what proposed in the current literature (Bond et al. 2016; Modini et al. 2016; Pelizza et al. 2019b), we examined the following main competitive employment *outcomes*: (a) job acquisition (i.e. employment in the labor market for at least 1 day during the 42-month follow-up period), (b) job duration (i.e. the total number of days worked), (c) job tenure (i.e. the weeks worked on the longest-held competitive job), (d) total hours per week worked, (e) participants "ever working ≥ 20 h per week" (i.e. the number of individuals working at least 20 h per week at some time during the follow-up period), and (f) days to first job (i.e. the number of days from IPS admission to first competitive job). Specifically, days to first job is a negative indicator of successful employment (i.e. the longer the duration, the poorer the outcome) (Bond et al. 2016). Job acquisition and participants "ever working ≥ 20 h per week" were dichotomous parameters, while the others were continuous parameters. All employment outcomes were prospectively assessed during the follow-up period, both at baseline and every 6 months, in order to compare them with previous IPS studies. Self-reported information was derived from direct interviews and cross-checked through chart records, which were maintained by the support center staff having every week contact with each participant. Finally, we also examined drop-out rates during the 42-month follow-up period.

In the total sample, we first observed the "crude" competitive employment rate (i.e. employment at any time during the follow-up period) and the "crude" drop-out rate (i.e. the number of participants who discontinued IPS service at any time during the follow-up). Subsequently, we calculated competitive employment rates and drop-out rates every 6 months throughout the follow-up period using a Kaplan-Meyer survival analysis. Moreover, within the subsample of participants obtaining job at some time during the follow-up period (i.e. the IPS + subgroup), we examined any relevant association of both competitive employment outcomes and drop-out condition with their working history (i.e. years of previous work, past work experiences, past experiences in traditional rehabilitation, current social benefits), and their sociodemographic and clinical characteristics (i.e. gender, age, ethnic group, years of education, primary psychiatric diagnosis, duration of taking charge at CMHC).

Statistical Analysis

Data were analyzed using the Statistical Package for Social Science (SPSS) for Windows, version 15.0 (SPSS Inc. 2010). Descriptive data included mean value ± standard deviation, median and interquartile range for quantitative variables, while absolute frequencies and percentages were used to represent categorical parameters. There were no missing data. All tests were two-tailed with level of significance set at 0.05. Non-parametric statistics were used, due to non-normality in all explorations (Kolmogorov–Smirnov test with Lilliefors significance correction: $p < 0.05$).

In between-group comparisons, categorical data were analyzed using Chi-square or Fisher's exact test (as appropriate: i.e. when any expected frequency was < 1 or 20% of expected frequency was ≤ 5). The Mann–Whitney *U* test was used to compare ordinal parameters. Spearman's rho (ρ) correlation coefficients were used to examine between-variable associations.

Finally, we performed a Kaplan–Meier survival analysis on job acquisition and drop-out rates in order to take into account the different time duration of individual follow-ups and the amount of subjects who progressively dropped-out. Indeed, even if the primary aim of a survival analysis is the modeling and analysis of "time-to-event" data (i.e. data that have as an end-point the time when an event occurs, such as a completed suicide) (Jager et al. 2008), events may be not limited to death, but can include other significant events for the study (such as employment and drop-out rates), for which the "Time" dimension and the amount of censured individuals (i.e. those participants lost at any time during the follow-up period) are crucial in achieving the research goals. We specifically calculated cumulative survival (i.e. the proportion of subjects surviving in a defined time interval) and cumulative proportion (i.e. 1—cumulative survival) of job acquisition and individuals who dropped-out every 6 months during the 42-month follow-up period.

Results

Over the course of the study, 95 individuals (51 [53.7%] males, 92 [96.8%] white Caucasians, median age = 32.68 years [interquartile range = 16.82 years]) were consecutively provided with the IPS service in one of the 7 CMHCs of the Reggio Emilia Department of Mental Health. Clinical and sociodemographic characteristics of the total sample are reported in the Table 1.

SCID-I was administered at baseline and showed that psychoses and mood disorders (i.e. bipolar or major depressive disorders) were the most common diagnoses. Specifically, 50.5% (n = 48) of the participants fulfilled the criteria for a SMI (i.e. psychotic or bipolar disorder), while 49.5% (n = 47) were diagnosed as moderate or severe major depressive disorders (Table 1).

At baseline, 71 (74.7%) participants reported having at least aprevious competitive work experience, 22 (23.1%) at

Table 1 Employment outcomes, work history, and sociodemographic/clinical characteristics in the IPS total sample (n = 95)

Variables		
Gender (males)		51 (53.7%)
Ethic group (Caucasian)		92 (96.8%)
Age		32.68 (16.82)
Years of education		13.00 (2.00)
Primary diagnosis		
Psychosis		36 (37.9%)
Bipolar disorder		12 (12.6%)
Major depressive disorder		47 (49.5%)
Duration (in years) of taking charge at CMHC		1.54 (5.04)
Work history		
Previous work experiences		71 (74.7%)
Years of previous work		7.00 (15.00)
Past experience of traditional vocational rehabilitation		22 (23.1%)
Social benefits		33 (34.7%)
Disability pension		24 (25.3%)
Unemployment insurance		9 (9.5%)
Job acquisition		39 (41.1%)
6-month cumulative employment rate		34%
12-month cumulative employment rate		44%
18-month cumulative employment rate		54%
24-month cumulative employment rate		61%
42-month cumulative employment rate		61%
Drop-outs		29 (30.5%)
6-month cumulative drop-out rate		17%
12-month cumulative drop-out rate		33%
18-month cumulative drop-out rate		42%
24-month cumulative drop-out rate		42%
42-month cumulative drop-out rate		53%
Employment outcomes in the IPS + subgroup (n = 39)		
Days to first job	40 (63)	69.16 ± 100.71
Total days employed	68 (321)	214.26 ± 286.09
Job tenure (in weeks)	10 (36.5)	28.05 ± 39.34
Hours per week worked	20 (11.50)	18.03 ± 10.45
Ever working ≥ 20 h per week	24 (61.5%)	–

Frequencies, percentages, median and interquartile range, and mean ± standard deviations are reported

IPS individual placement and support, *CMHC* Community Mental Health Center; *IPS + subgroup* participants obtaining job at some time during the follow-up period

least apast experience of traditional vocational rehabilitation, and 33 (34.7%) a social benefit (Table 1).

Employment Outcomes

The crude competitive employment rate during the 42-month follow-up period (i.e. job acquisition) was 41.1% (n = 39) (Table 1). Using a Kaplan–Meier survival analysis, we observed a cumulative employment rate of 34% at 6 months, 44% at 12 months, 54% at 18 months, and 61% both at 24 and 42 months (for details, see also supplementary materials [Table S1]).

Table 1 also shows the other main employment outcomes in the IPS + subgroup (n = 39). No difference in working history, socio-demographic and clinical variables were found between IPS + subjects and participants who did not obtain job at any time during the follow-up period (n = 56) (see supplementary materials [Table S2] for details).

Associations of employment outcomes with working history and sociodemographic characteristics in the IPS + subgroup are reported in the Tables 2 and 3. Specifically,

Table 2 Associations of competitive employment outcomes with working history, sociodemographic and clinical variables in the IPS + subgroup (n = 39)

Variables	Gender			Age group		
	Males (n = 24)	Females (n = 15)	(Z/χ^2; p)	18–35 years (n = 22)	> 35 years (n = 17)	Z/χ^2; p
Total days employed	210.08 ± 273.09	220.93 ± 315.53	− 0.32; 0.35	232.32 ± 276.84	190.88 ± 304.58	− 0.81; 0.42
Hours per week worked	20.29 ± 11.61	14.40 ± 7.21	*− 2.01; 0.043*	19.59 ± 10.98	16.00 ± 9.66	− 1.19; 0.23
Ever working ≥ 20 h per week (yes)	16 (66.7%)	8 (33.3%)	0.69; 0.40	15 (62.5%)	9 (37.5%)	0.94; 0.33
Days to first job	13.00 (2.00)	13.00 (2.00)	− 0.50; 0.61	198.23 ± 177.22	111.59 ± 112.98	*− 2.01; 0.041*

	Ever working 20 h per week		
	Yes (n = 24)	No (n = 15)	Z/χ^2; p
Age	34.29 ± 11.82	37.59 ± 10.32	− 1.18; 0.24
Years of education	11.79 ± 2.93	13.07 ± 3.08	− 1.14; 0.25
Duration (in years) of taking charge at CMHC	3.40 ± 3.19	4.76 ± 6.64	− 0.21; 0.84
Years of previous work	12.71 ± 11.53	10.27 ± 11.20	0.37; 0.36

	Primary diagnosis: psychosis			Past work experience		
	Yes (n = 22)	No (n = 17)	Z/χ^2; p	Yes (n = 32)	No (n = 7)	Z/χ^2; p
Total days employed	221.06 ± 266.23	216.73 ± 306.74	− 0.08; 0.99	234.28 ± 307.77	122.71 ± 130.59	− 0.55; 0.71
Hours per week worked	17.71 ± 7.64	18.27 ± 12.37	− 0.36; 0.72	18.34 ± 9.10	16.57 ± 16.15	− 0.94; 0.35
Ever working ≥ 20 h per week (yes)	12 (50.0%)	12 (50.0%)	1.04; 0.31	22 (91.7%)	2 (8.3%)	*3.92*; 0.08
Days to first job	194.65 ± 208.39	134.05 ± 98.97	− 0.04; 0.97	167.44 ± 168.25	128.57 ± 90.91	− 0.31; 0.76

	Past traditional rehabilitation experience			Social benefit		
	Yes (n = 10)	No (n = 29)	(Z/χ^2; p)	Yes (n = 14)	No (n = 25)	(Z/χ^2; p)
Total days employed	422.70 ± 370.83	142.38 ± 214.50	− 2.28; 0.039	332.50 ± 360.05	148.04 ± 215.99	− 1.30; 0.24
Hours per week worked	19.60 ± 9.82	17.48 ± 10.72	− 0.69; 0.49	19.14 ± 9.80	17.40 ± 10.93	− 0.92; 0.36
Ever working ≥ 20 h per week	7 (70.0%)	3 (30.0%)	0.41; 0.71	9 (37.5%)	15 (62.5%)	0.07; 0.79
Days to first job	182.60 ± 147.42	161.86 ± 30.01	− 0.63; 0.53	139.21 ± 116.27	172.36 ± 176.80	− 0.41; 0.68

Statistically significant p values are given in italics

Frequencies, percentages, mean ± standard deviation, Chi-squared (χ^2) test, Mann–Whitney test (Z) and p values are reported

IPS individual placement and support, *CMHC* Community Mental Health Center, *IPS + subgroup* participants obtaining job at some time during the follow-up period

Table 3 Correlations of competitive employment outcomes with sociodemographic and clinical variables in the IPS + subgroup (n = 39)

Variables	Age (ρ; p)	Years of education (ρ; p)	Duration (in years) of taking charge at CMHC (ρ; p)	Years of previous work (ρ; p)
Total days employed	− 0.169; 0.40	− 0.01; 0.75	0.10; 0.49	− 0.23; 0.32
Hours per week worked	*− 0.299; 0.047*	*− 0.300; 0.046*	0.01; 0.98	0.03; 0.85
Days to first job	*− 0.299; 0.047*	− 0.03; 0.87	− 0.16; 0.37	− 0.18; 0.28

Statistically significant p values are given in italics

Spearman's correlation (ρ) coefficients and p values are reported

IPS individual placement and support; *CMHC* Community Mental Health Center; *IPS + subgroup* participant obtaining job at some time during the follow-up period

IPS + participants with past experiences of traditional rehabilitation showed a significantly higher number of total days employed than those individuals without previous traditional rehabilitation experiences. In the IPS + subgroup, no other significant correlations of employment outcomes with clinical characteristics (i.e. duration of taking charge at CMHC, primary diagnosis of psychosis or SMI), past work experience, years of previous work and social benefit were also found.

In comparison with females, IPS + male participants showed a higher number of hours per week worked (Table 2). Moreover, in the IPS + subsample, hours per week worked had significant negative correlations with age and years of education (Table 3). Finally, days to first job showed a significant negative correlation with age (Table 3) and were significantly lower in the age group of > 35 years than in IPS individuals aged 18–35 years (Table 2).

Drop-Out Rate

The crude drop-out rate during the 42-month follow-up period was 30.5% (n = 29) (Table 1). Using a Kaplan–Meier survival analysis, we observed a cumulative drop-out rate of 17% at 6 months, 33% at 12 months, 42% at both 18 and 24 months, and 53% at 42 months (for details, see also supplementary materials [Table S3]).

Significant *associations* of "drop-out" condition with working history, sociodemographic and clinical characteristics in the IPS total sample are shown in the Table 4. Specifically, IPS participants who dropped-out at some time during the 42-month follow-up period showed an older age and a higher number of years of previous work than those subjects who did not drop-out. No associations of drop-out condition with gender, years of education, duration of taking charge at CMHC, primary diagnosis of psychosis, previous work experience, past experiences of traditional rehabilitation and social benefits were also found.

Discussion

First aim of this uncontrolled, descriptive study was to assess the IPS feasibility in patients with moderate-to-severe mental illness, examining the most used competitive employment outcomes directly in the daily practice of a public service network of adult CMHCs in Italy. Indeed, as the EQOLISE trial (Burns et al. 2007) was not powered to test the IPS model for the separate European countries, new evidence on IPS approach is needed in Italy, where, differently to the US labor economics, there is a more structured social security system, the employment opportunities are currently limited, and the labor market is poorly flexible (Fioritti et al. 2014a).

Employment Outcomes

In the current research, competitive employment rates are substantially in line with those observed in other European IPS trials. Indeed, we found a 54% cumulative employment rate at 18 months, consistently with what was reported in the EQOLISE study (i.e. 55% in an 18-month follow-up period) (Burns et al. 2007). However, our job acquisition rates were lower than what (approximately 62%) was found in an early systematic review on the first US IPS trials (Bond et al. 2012a).

Diminished effects for IPS in Europe has been typically attributed to labor and disability policies that could prevent the return to work (i.e. the "benefit trap") (Burns et al. 2009), as well as to the lack of adequate technical

Table 4 Associations of "drop-out" condition with working history, sociodemographic and clinical variables in the IPS total sample (n = 95)

Variables	Drop-out		
	Yes (n = 29)	No (n = 66)	Z/χ^2; p
Gender (males)	18 (62.1%)	33 (50.0%)	1.18; 0.28
Age	37.76 ± 9.83	33.67 ± 10.33	− 1.99; 0.047
Age group (> 35 years)	17 (40.5%)	25 (59.5%)	*6.03; 0.045*
Years of education	11.76 ± 2.79	12.88 ± 3.43	− 1.48; 0.14
Duration (in years) of taking charge at CMHC	1.91 ± 2.54	4.37 ± 5.05	− 1.71; 0.09
Primary diagnosis: psychosis	12 (33.3%)	24 (66.7%)	− 0.21; 0.65
Years of previous work	11.97 ± 11.29	8.70 ± 10.23	*− 2.02;0.043*
Past work experience: yes	25 (35.2%)	46 (64.8%)	2.09; 0.09
Past traditional rehabilitation experience: yes	4 (18.2%)	18 (81.8%)	− 2.06; 0.15
Social benefit: yes	7 (21.2%)	26 (78.8%)	2.07; 0.15

Statistically significant p values are given in italics

Frequencies, percentages, mean ± standard deviation, Chi-squared (χ^2) test, Fisher exact test, and Mann–Whitney test (Z) values are reported

IPS individual placement and support; *CMHC* Community Mental Health Center

assistance and training for the staff, leading to substandard implementation (Fioritti et al. 2014a). Indeed, without pertinent IPS fidelity, the effect and feasibility of an IPS program are attenuated and the quality of the resulting evaluation is greatly compromised (Bond et al. 2012b). In the current research, all the participating CMHC teams scored fair (> 74) on fidelity scale both at baseline assessment and throughout the follow-up period, showing adequate levels in case-load size, amount of time spent by employment specialists in offering support and service's integration with mental health providers. However, in this regard, a more recent meta-analysis on the international evidence of IPS model indicated that neither geographic nor unemployment rates affected the overall effectiveness of IPS approach (Modini et al. 2016). Moreover, a recent meta-regression of the impact of policy on the efficacy of the IPS methodology showed that IPS effects were not moderated by regulation of temporary employment, generosity of disability benefits, type of integration policies, gross domestic product, unemployment rate or employment rate for those subjects with low education (Brinchmann et al. 2020).

Furthermore, our survival analysis results found that cumulative employment rates progressively increased up to 24 months of follow-up, confirming the inconsistency of concerns that several clinicians often raised about the potential detrimental impact of the IPS model (Pelizza et al. 2019b). Indeed, they frequently worried that IPS (i.e. rapid job searching attempts and the efforts to hold a competitive employment) might lead to increase anxiety and uncertainty in patients with SMI because of the threat of returning to the workplace without a protracted period of preparation (Viering et al. 2013). For these reasons, they often discouraged patients from applying for competitive employment because they were convinced that a stressful surrounding would have led to a destabilization of the subject. To date, no evidence supported these concerns and deterioration in psychological or social functioning over time in the IPS approach compared to the traditional vocational services (Burns et al. 2015). On the contrary, it has been demonstrated that finding employment into the competitive labor market leads to increase self-esteem, self-efficacy, global functioning and quality of life, due to receiving a salary and the chance of finding more social contacts (Burns et al. 2009). Moreover, it should also be taken into consideration that working in a sheltered employment or within other traditional vocational rehabilitation environment often means revealing one's SMI and hence a fear of not being accepted in the society (Metcalfe et al. 2018). Fear of public stigma and employer prejudice (as well as self-stigma) may stop people from seeking competitive employment. In this sense, the IPS approach can help to face structural and organizational barriers as a result of stigma and prejudice (Schneider and Akhtar 2012).

In the present research, the finding that the mean of days to first job (approximately 70 days) was halved in comparison with what reported in other US IPS study (Bond et al. 2012a; Burns et al. 2015, together with the evidence that our IPS + participants obtained competitive job within 2 years of follow-up (specifically, about 87% of them did so within the first 12 months), seems to confirm that little is lost in terms of job acquisition by limiting the duration of enrollment in IPS service to 24 months. About this, Burns et al. (2015) proposed the overcoming of IPS "no-discharge" policy. Indeed, as this "no-discharge" policy may powerfully restrict access to IPS in resource-limited public services, there is probably a merit on a time limit to avoid persisting with participants who are currently unlikely to succeed (Pelizza et al. 2019b). In the present study, a limit of the support duration to 24 months does not appear to significantly reduce the number of people obtaining employment. Thus, given current difficulties in implementing IPS in times of austerity, an IPS time-limited model could be the first choice for new services (Burns et al. 2015).

Furthermore, our results on job duration, job tenure and hours per week worked are substantially in line with those reported in the European EQOLISE study (Burns et al. 2007) and in recent systemic reviews and meta-analyses on US and international IPS trials (Bond et al. 2012a, b; Modini et al. 2016; Dewa et al. 2018). However, in the current research, few IPS clients worked full-time, likely due to preferences, limited stamina, and/or fear of losing health insurance or other benefits.

Despite the encouraging results of this study, a transfer of IPS methodology to Italy requires certain structural changes, as Italy differs from USA in terms of job market, labor economics and welfare system. According to Fioritti et al. (2014a), a first controversial issue in Italy concerns the fact that some clients find jobs in the informal "black labor market", which represents 10%-to-50% of all employment opportunities in different regions, mostly comprising jobs requiring non-specialized manpower. Differently to the set of values in the Italian constitution (defining work as a right of the individual), the black labor market often offers a quick and easy economic opportunity, but also represents a condition frequently not dignified and not exempt of blackmailing, enhancing social and personal stigma, and thus to be fought (Fioritti et al. 2014b). A second controversial issue is the current, precarious nature of several jobs in Italy. Indeed, most participants (approximately 60%) find a part-time employment in 6-to-12 month contact, which is very far from the gold standard of a full-time and permanent occupation that traditional Italian regulations would require (Fioritti et al. 2014a). Indeed, to date, precarious jobs represent approximately 50% of employment opportunities for all young workers in Italy, creating a general condition of existential instability and lack of life planning for the future

(Fioritti et al. 2014b). Conversely, social enterprises and temporary grant jobs are often not precarious, as they tend to be permanent, but they are not open labor market occupations and are an economically protected niche (Fioritti at el. 2014a). For these reasons, many mental health users may be apprehensive about participating in a new vocational program aimed at competitive employment, and they may opt for continuing in the more familiar and comfortable environment of existing services (Oshima et al. 2014). In Italy, the role of social cooperatives in vocational rehabilitation programs has been historically relevant and is still currently crucial and widespread in almost all Italian regions. However, given the substantially conserved working skills shown by our IPS participants with SMI, it seems increasingly necessary that social enterprises move towards the definition of workplaces more similar to an open labor market that to a protective environment. Finally, a third important controversial issue regards the 40%-to-50% of users who do not find a job with IPS and still demand work. In this sense, it is perhaps useful to provide IPS approach along with other treatment option, possibly in a stepwise order (Fioritti et al. 2014a). Strategies supporting the individual in entering mainstream jobs should be used first, especially for early psychosis (Pelizza et al. 2019c), and for a sufficient time duration (at least 12–24 months), before entering the subsidy system and sheltered approach (Fioritti et al. 2014b).

Employment Outcomes: Associations

In the present research, days to first job were negatively correlated to age, with the older age group (> 35 years) starting work earlier from IPS enrollment than younger subjects, inconsistently with what observed in a longitudinal study comparing predictors of employment in IPS participants, showing no age correlation (Metcalfe et al. 2018). However, younger age had a significant positive correlation with hours per week worked. This result suggests that an employment with a greater time commitment is preferably required and offered to young adults, even if with few years of education and with a probably less skilled labor force.

Moreover, we also found that IPS + participants with past traditional rehabilitation experience showed a longer job duration, with a significantly higher number of total days employed during the 42-month follow-up period. In this regard, a (often repeated) criticism on IPS approach is that although it is successful in getting over the threshold into jobs, a lack of preparation may lead to shorter employment (Modini et al. 2016). Differently, our findings seem to support the importance of previous occupational experiences in current job maintaining over time.

Inconsistently with what reported by Metcalfe et al. (2018), we observed a significant association between male gender and a higher number of hours per week worked. This finding probably confirms the well-known sexist discrimination that (also in Italy) penalizes women in searching and obtaining a full-time job.

Finally, in the current research no significant associations between job acquisition and clinical variables were found. Indeed, our employment rates were similar in participants with moderate and severe mental illness, indicating that the IPS model may have a positive effect beyond the original target group of patients with SMI (Reme et al. 2018). Moreover, it also seems to be independent from duration of taking charge at CMHC and social benefits. Thus, our findings do not further support the risk-adverse of the benefit trap and perverse incentives of social security system in Italy.

Drop-Out Rate

Our drop-out rates were slightly higher than that (approximately 10%) was reported in a systematic review on the first US IPS trials (Bond et al. 2012a), but definitely lower than that (43%) was observed in a more recent European IPS trial conducted in the Netherlands (Michon et al. 2014). Moreover, in the current research, drop-out rates significantly increased after 18 months of follow-up, confirming the need to overcome the IPS "no discharge" policy.

In the present study, the drop-out condition was also significantly correlated with older age and a higher number of years of previous work. These results seem to suggest that older aged participants also with a longer past work experience may have a greater and more urgent job expectation, which, if frustrated, more easily leads to drop-out the rehabilitation program.

Limitations

Several limitations should be acknowledged. First, this was a descriptive study with before and after results only. As uncontrolled research tends to overestimate effects, our findings should be treated very cautiously. Thus, further investigation in the "real world" examining comparisons of employment outcomes with any other comparator group is needed.

In the present study, we also focused exclusively on competitive job. The impact of supported employment on non-vocational measures of psychiatric symptoms and quality of life has not been evaluated, as well as measures of job quality and job satisfaction.

In the current research, measuring job tenure has been problematic because some participants were still employed at the end of the follow-up period (i.e. some job tenure periods were right-censored). About this, Bond et al. (2012b) suggested that the literature consistently underestimates job tenure. The optimal solution would be to conduct longer-term follow-up studies.

Despite the evidence that our drop-out rates were higher than those reported in other US and European trials, one explanation could be related to different inclusion criteria and variations in study recruitment procedures.

Finally, due to a relatively small sample (especially in the IPS + subgroup [n = 39]), care should be taken in emphasizing p values of employment outcomes.

Conclusions

Our findings overall support the feasibility of an implementation strategy for introducing a new rehabilitation service model (i.e. the IPS approach) in a traditional public mental health care system in Italy. A nationwide introduction of IPS not only might lead to beneficial changes for clients, but also might precipitate system changes towards a development of recovery-oriented CMHCs. Moreover, our results add evidence to the growing literature on the positive effect of IPS in promoting employment among people with moderate-to-severe mental illnesses, also in a European country with a socioeconomic climate that differs and is more protective than that in the United States. However, future studies on subjective outcomes, process evaluations and cost effectiveness are needed.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Moreover, all authors certify responsibility for this manuscript.

References

American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders, IV edition, text revised*. Washington DC: American Psychiatric Association Press.

Becker, D. R., & Drake, R. E. (2003). *A working life for people with severe mental illness*. New York: Oxford University Press.

Berardi, D., & Fioritti, A. (2017). *Individual Placement and Support: manuale italiano del metodo per il supporto all'impiego delle persone con disturbi mentali*. Bologna: Bononia University Press.

Bond, G. R., Drake, R. E., & Becker, D. R. (2012a). Generalizability of the Individual Placement and Support (IPS) model of supported employment outside the US. *World Psychiatry, 11*, 32–39.

Bond, G. R., Drake, R. E., & Campbell, K. (2016). Effectiveness of individual placement and support supported employment for young adults. *Early Intervention in Psychiatry, 10*, 300–307.

Bond, G. R., Peterson, A. E., Becker, D. R., & Drake, R. E. (2012b). Validation of the Revised Individual Placement and Support Fidelity Scale (IPS-25). *Psychiatric Services, 63*, 758–763.

Bond, G. R., Salyers, M. P., Dincin, J., Drake, R., Becker, D. R., Fraser, V. V., et al. (2007). A randomized controlled trial comparing two vocational models for persons with severe mental illness. *Journal of Consultant and Clinical Psychology, 75*, 968–982.

Bond, G. R. (1998). Principles of the Individual Placement and Support model: empirical support. *Psychiatric Rehabilitation Journal, 22*, 11–23.

Brinchmann, B., Widding-Havneraas, T., Modini, M., Rinaldi, M., Moe, C. F., McDaid, D., et al. (2020). A meta-regression of the impact of policy on the efficacy of individual placement and support. *Acta Psychiatrica Scandinavica, 141*(3), 206–220.

Burns, T., Catty, J., Becker, T., Drake, R.E., Fioritti, A., Knapp, M., Lauber, C., Rössler, W., Tomov, T., van Busschbach, J., White, S., Wiersma, D., & the EQOLISE Group. (2007). The effectiveness of supported employment for people with severe mental illness: A randomised controlled trial. *Lancet, 2007*(370), 1146–1152.

Burns, T., Catty, J., White, S., Becker, T., Koletsi, M., Fioritti, A., Rössler, W., Tomov, T., van Busschbach, J., Wiersma, D., Lauber, C., & the EQOLISE Group. (2009). The impact of supported employment and working on clinical and social functioning: Results of an international study on individual placement and support. *Schizophrenia Bulletin, 35*, 949–958.

Burns, T., Yeeles, K., Langford, O., Montes, M. V., Burgess, J., & Anderson, C. (2015). A randomized controlled trial of time-limited individual placement and support: IPS-LITE trial. *British Journal of Psychiatry, 207*, 351–356.

Dewa, C. S., Loong, D., Trojanowski, L., & Bonato, S. (2018). The effectiveness of augmented versus standard individual placement and support programs in terms of employment: A systematic literature review. *Journal of Mental Health, 27*(2), 174–183.

Fioritti, A., Bassi, M., & De Girolamo, G. (2003). Italian Psychiatry, 25 years of change. *International Psychiatry, 2*, 14–16.

Fioritti, A., Burns, T., Hilarion, P., van Weeghel, J., Cappa, C., Suñol, R., et al. (2014a). Individual Placement and Support in Europe. *Psychiatric Rehabilitation Journal, 37*, 123–128.

Fioritti, A., D'Alema, M., Barone, R., & Bruschetta, S. (2014b). Social enterprises, vocational rehabilitation, supported employment: Working on work in Italy. *Journal of Nervous and Mental Disease, 202*(6), 498–500.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. T. (2002). *Structured clinical interview for Axis I DSM-IV-TR disorders, research edition*. New York: New York State Psychiatric Institute.

Jager, K. J., van Dijk, P. C., Zoccali, C., & Dekker, F. W. (2008). The analysis of survival data: The Kaplan–Meier method. *Kidney International, 74*, 560–565.

Metcalfe, J. D., Riley, J., McGurk, S., Hale, T., Drake, R. E., & Bond, G. R. (2018). Comparing predictors of employment in Individual Placement and Support: A longitudinal analysis. *Psychiatry Research, 264*, 85–90.

Michon, H., van Busschbach, J. T., Stant, A. D., van Vugt, M. D., van Weeghel, J., & Kroon, H. (2014). Effectiveness of individual placement and support for people with severe mental illness in The Netherlands: A 30-month randomized controlled trial. *Psychiatric Rehabilitation Journal, 37*, 129–136.

Modini, M., Tan, L., Brinchmann, B., Wang, M. J., Killackey, E., Glozier, N., et al. (2016). Supported employment for people with severe mental illness: Systematic review and meta-analysis of

the international evidence. *British Journal of Psychiatry, 209*(1), 14–22.

Oshima, I., Sono, T., Bond, G. R., Nishio, M., & Ito, J. (2014). A randomized controlled trial of individual placement and support in Japan. *Psychiatric Rehabilitation Journal, 37*, 137–143.

Pelizza, L., Azzali, S., Paterlini, F., Garlassi, S., Scazza, I., Chiri, L. R., et al. (2019a). Characterization of young people with first episode psychosis or at ultra-high risk: The Reggio Emilia At-Risk Mental States (ReARMS) program. *Rivista di Psichiatria, 54*(6), 254–263.

Pelizza, L., Azzali, S., Paterlini, F., Garlassi, S., Scazza, I., Chiri, L. R., et al. (2019b). The "Reggio Emilia At-Risk Mental States" program: A diffused, "liquid" model of early intervention in psychosis implemented in an Italian Department of Mental Health. *Early Intervention in Psychiatry, 13*(6), 1513–1524.

Pelizza, L., Ficarelli, M. L., Vignali, E., Artoni, S., Franzini, M. C., Montanaro, S., et al. (2019c). Individual placement and support in Italian young adults with mental disorder: findings from the Reggio Emilia experience. *Early Intervention in Psychiatry*. https://doi.org/10.1111/eip.12883.

Reme, S. E., Monstad, K., Fyhn, T., Sveinsdottir, V., Løvvik, C., Lie, S. A., et al. (2018). A randomized controlled multicenter trial of individual placement and support for patients with moderate-to-severe mental illness. *Scandinavian Journal of Work and Environmental Health*. https://doi.org/10.5271/sjweh.3753.

Schneider, J., & Akhtar, A. (2012). Implementation of Individual Placement and Support: The Nottingham experience. *Psychiatric Rehabilitation Journal, 35*, 325–332.

SPSS Inc. (2010). *Statistical package for social science (SPSS) for windows version 15.0*. Chicago: SPSS Inc. Press.

Viering, S., Bärtsch, B., Obermann, C., Rusch, N., Rössler, W., & Kawohl, W. (2013). The effectiveness of individual placement and support for people with mental illness new on social benefits: A study protocol. *BMC Psychiatry, 13*, 195.