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ScienceDirect

Comprehensive Psychiatry 55 (2014) S38–S45

COMPREHENSIVE PSYCHIATRY

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Employment program for patients with severe mental illness in Malaysia: A 3-month outcome

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Abstract

Objective: This study aimed to examine the rate and predictive factors of successful employment at 3 months upon enrolment into an employment program among patients with severe mental illness (SMI).

Methods: A cross-sectional study using universal sampling technique was conducted on patients with SMI who completed a 3-month period of being employed at Hospital Permai, Malaysia. A total of 147 patients were approached and 126 were finally included in the statistical analyses. Successful employment was defined as the ability to work 40 or more hours per month. Factors significantly associated with successful employment from bivariate analyses were entered into a multiple logistic regression analysis to identify predictors of successful employment.

Results: The rate of successful employment at 3 months was 68.3% (n = 81). Significant factors associated with successful employment from bivariate analyses were having past history of working, good family support, less number of psychiatric admissions, good compliance to medicine, good interest in work, living in hostel, being motivated to work, satisfied with the job or salary, getting a preferred job, being in competitive or supported employment and having higher than median scores of PANNS on the positive, negative and general psychopathology. Significant predictors of employment, from a logistic regression model were having good past history of working ($p < 0.021$; OR 6.12; [95% CI 2.1–11.9]) and getting a preferred job ($p < 0.032$; [OR 4.021; 95% CI 1.83-12.1]).

Conclusion: Results showed a high employment rate among patients with SMI. Good past history of working and getting a preferred job were significant predictors of successful employment.

1. Introduction

Employment has been recognized as an important tool in the treatment of people with severe mental illness (SMI) to promote recovery. It has become one of the important components in psychiatric rehabilitation. Besides providing income, it may improve social function, self-esteem, quality of life, insight, treatment compliance and symptom [1–9]. The area has been extensively researched in the developed countries [1–9] with certain employment models being more and more incorporated into psychiatric services. The evidence indicates that many people with severe mental illness can be assisted in finding and maintaining competitive employment.

Among these models, individual placement and support (IPS) model of supported employment was observed to have the largest evidence for its positive outcomes [3,5,10–16]. This model employs the "place-train" approach unlike the traditional "train-place" model of vocational rehabilitation, whereby the individuals are immediately placed in the competitive employment settings and provided necessary training and ongoing support to maintain employment [11].

Publication of this supplement was supported by Universiti Kebangsaan Malaysian Medical Centre, Kuala Lumpur, Malaysia.

Conflict of interest: The authors have no conflict of interest to declare.

Source of funding: None.

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0010-440X/$ – see front matter © 2014 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.comppsych.2013.03.011

It has been consistently shown that IPS is superior to other rehabilitation programs with better employment outcomes, for example, better competitive wages and improving job retention [10,15].

In Malaysia, work rehabilitation program in the mental hospitals is still largely "train-place" in approach by providing work in a sheltered environment, training people before sending them to work. Supported employment using the IPS model in the current study setting was first developed in 2009 in a large scale where most of prevocational activities were stopped and resources channelled to place individual patients in the community jobs. Social enterprise is another model within the supported employment concept developed at the center, where patients are employed by businesses created in the center and receive competitive salary. Patients who do not survive these two types of employment are placed in the transitional work which acts partly as training for the patients as well earning income.

It is also important to know that work rehabilitation program in a developing country like Malaysia is operating on low-resource levels as resources in general are inadequate in all psychiatric service settings. This study aimed to examine the rate and predictive factors of successful employment at 3 months among patients with SMI upon enrolment into an employment program in a Malaysian mental hospital. The outcome of this study may be useful to inform further development in this area in developing countries like Malaysia.

2. Method

This study was conducted at the Hospital Permai, the second largest among the four mental hospitals in Malaysia. Data were collected cross sectionally in a period of 3 months between July and September 2011. The study was a naturalistic and retrospective cohort study on patients with SMI who were referred for job placement. All patients who completed the period of 3 months upon enrolment into the employment program were approached to participate in the study.

Inclusion criteria included the following: (1) having diagnosed with either schizophrenia, bipolar disorder or major depressive disorder with psychotic features by psychiatrists based on DSM IV-TR; (2) age between 18 and 60 years old; and (3) being proficient in either Malay or English language and literate. Exclusion criteria included the following: (1) being diagnosed with mental retardation and dementia and (2) refusal to consent. The employment profiles were obtained from the clinical records. Respondents filled in the Demographic Data Questionnaire, Clinical and Work History Questionnaire before they were assessed using the Positive and Negative Syndrome Scale (PANSS) and Schedule for the Assessment of Insight (SAI). S.H.W.K., who did the data collection, completed a training module on the PANNSS. An approval was obtained from the Research Ethics Committee of the Faculty of Medicine, Universiti Kebangsaan Malaysia (UKM) and the Director of Hospital Permai prior to starting the study.

2.1. Study instruments

2.1.1. Demographic, clinical and work data questionnaires

These self-developed questionnaires were used to gather information on gender, age, ethnicity, marital status, education level, duration of illness, diagnosis, number of previous admissions, co-morbidities, medications and compliance to medications, employment status, previous employment, type of work, preferred job, satisfaction with job, salary and employer and motivation to work. Motivation for, interest in and satisfaction from job and salary were assessed with Likert scales: 5, very good; 4, good; 3, average; 2, poor; and 1, none.

2.1.2. The Positive and Negative Syndrome Scale (PANSS)

This widely used scale is a 30-item scale measuring positive, negative and general psychopathology. Symptom severity is assessed in a scale from 1 (absent) to 7 (extreme) with higher scores indicating more severe symptoms [17]. The scale has good internal reliability for all the components [17], inter-rater reliability and test–retest reliability [18]. It has been repeatedly shown to have criterion-related validity [17].

2.1.3. The Schedule for the Assessment of Insight (SAI)

This interviewer-rated rating scale was developed for use in psychotic conditions and uses scores from 0 to 14 [19]. It assesses insight in three different domains, that is, the recognition of mental illness (0–6); treatment compliance (0–4); and the reattribution of abnormal mental events (0–4). The maximum score is 14 with higher scores indicating greater insight.

2.2. Operational definition

Successful employment was defined as working for 40 h or more per month (or 5 days of working, 8 h a day) as being used in the "Demonstration to Maintain Independence and Employment" by the Centers for Medicare and Medicaid Services issued June 7, 2000 [20]. This definition has also been used in other studies [21].

2.3. Statistical analysis

Data were analyzed using the Statistical package for Social Sciences (SPSS) (version 19) computer program. Employment was the dependent variable and was treated as a binary variable (successfully employed versus unsuccessfully employed). Bivariate analyses were done using chi-square for categorical data and *t*-test for continuous data. Mean and standard deviation (SD) were used to describe continuous variables. Multiple logistic regression analysis was done to

predict significant independent variables for successful employment status.

3. Results

A total of 147 patients who were referred for job placement at the study center were approached to join the study. Twenty-one (14.2%) did not fulfil the inclusion criteria: six (4.1%) refused to participate and four (2.7%) did not complete the questionnaires. Nine (6.1%) were illiterate (unable to read in Bahasa Malaysia or English) and two (1.3%) were patients with mental retardation. Thus, 126 (85.7%) were included for statistical analyses.

The rate of successful employment at 3 months was 68.3% (n = 81). The demographic, clinical and work characteristics of the respondents are shown in Tables 1 and 2. Most of the respondents worked as cleaner (60.5%, n = 49), followed by kitchen helper (15.3%, n = 13) and others like handicrafts, agriculture, carpentry, security guard, laundry, factory, sundry shop and carwash (22.6%, n = 19). More than half of the respondents were working in the supported employment (56.3%, n = 46), followed by transitional work (19.8%, n = 16), social enterprise (11.1%, n = 9) and vocational (11.1%, n = 9). More than half of them (64.3%) worked in the competitive employment. The mean salary of the respondents was RM 421.39 (± 289.59) with 56.5% (n = 46) of them reported to be satisfied with the salary.

Table 3, 4 and 5 illustrate the association between sociodemographic, clinical and work characteristics and employment outcome from bivariate analyses. Factors found to be significantly associated with successful employment were as follows: number of past psychiatric admission (p = 0.044; [OR 0.179; 95% CI 0.004–0.373]); compliance to medicine (p = 0.033; [OR 0.207; 95% CI 0.006–0.380]); having low PANSS scores on the positive symptoms (p = 0.000; OR 0.499; [95% CI 0.349–0.636]), negative symptoms (p = 0.000; OR 0.420; [95% CI 0.255–0.554]) and general psychopathology symptoms (p = 0.000; [OR 0.4999; 95% CI 0.340–0.640]); having interest in the work (p = 0.000; [OR 0.572; 95% CI 0474–0.675]); being motivated to work (p = 0.000; OR 0.374; [95% CI 0.247–0.532]); being satisfied with the job (p = 0.000; OR 0.572; CI 0.418–0.728); being satisfied with the salary (p = 0.000; OR 0.420; CI 0.260–0.577); getting a preferred job (p = 0.000; OR 0.671; [95% CI 0.575–0.767]); being in competitive employment (p = 0.000; OR 0.488; [95% CI 0.326–0.641]); and being involved in supported employment (p = 0.000; OR 0.409; [95% CI 0.259–0.587]).

When these variables were entered into a stepwise logistic regression model to predict successful employment status; only previous work history and getting preferred job were found to be the significant predictors for successful employment. Those with history of working for more than 1 month in the past 5 years (p < 0.021; OR 6.12; [95% CI 2.1–11.9]) and getting a preferred job (p < 0.032; [OR 4.021; 95% CI 1.83–12.1]) were more likely to be successfully employed at 3 months upon being enrolled into the employment program (Table 6).

Table 1
Sociodemographic and clinical characteristics of respondents (n = 126).

Variables	n (%)	Mean (±SD)
Age (years)		39.6 (±9.2)
Gender		
Male	113 (89.7)	
Female	13 (10.3)	
Race		
Malay	77 (61.1)	
Others	49 (38.9)	
Marital status		
Single	90 (71.4)	
Married	16 (12.7)	
Separated/Divorced	20 (15.9)	
Place of living		
Alone	8 (6.3)	
With relatives/friends	40 (31.7)	
Hostels	27 (21.4)	
Hospital/Ward	51 (40.5)	
Illness of duration		13.1 (±7.8)
Diagnosis		
Schizophrenia spectrum	117 (92.9)	
Others	9 (7.1)	
Number of previous psychiatric admissions		
0–5 times	96 (76.2)	
>5 times	30 (23.8)	
Medical comorbidity		
Yes	28 (22.2)	
No	98 (78.8)	
Substance involvement		
Yes	45 (35.7)	
No	81 (64.3)	
Insight toward illness		
Good	75 (59.5)	
Partial	28 (22.2)	
Poor	23 (18.3)	
Types of medications		
Atypical antipsychotic	34 (27.0)	
Typical antipsychotic	23 (18.2)	
Combination	69 (54.8)	
Compliance to medication		
Yes	119 (94.4)	
No	7 (5.6)	
Psychiatric symptomatology		
Positive symptoms		4.825 (± 6.000)
Negative symptoms		7.396 (±6.800)
General psychopathology		12.952 (±11.62)
Positive symptoms		4.825 (± 6.000)

4. Discussion

One important finding from this study was the relatively high rate of patients with SMI observed to be successfully maintaining their job at 3 months upon being enrolled into an employment program (68.3%). Other studies in the west that focused mainly on supported employment generally

Table 2
Employment characteristics of respondents (n = 126).

Variables	n (%)	Mean (±SD)
Interest in work		
Good	52 (41.3)	
Average	74 (58.7)	
Motivation to work		
Good	69 (54.8)	
Average	57 (45.2)	
Satisfaction with job		
Yes	87 (69)	
No	39 (31)	
Salary		RM 421.4 (±282.6)
Satisfaction with salary		
Yes	65 (56.5)	
No	51 (40.5)	
Getting preferred job		
Yes	87 (69)	
No	39 (31)	
Competitive employment		
Yes	81 (64.3)	
No	45 (35.7)	
Types of employment		
IPS	71 (56.3)	
Transitional	39 (30.9)	
Social enterprise	14 (11.1)	
Unemployed	2 (1.6)	
Types of job		
Cleaner	75 (59.5)	
Others	49 (38.9)	
Unemployed	2 (1.6)	
Ongoing support		
Less than 2 weeks	114 (90.5)	
More than 2 weeks	10 (7.9)	
Unemployed	2 (1.6)	
Past work history		
>1 month in the past 5 years	70 (55.6)	
<1 month in the past 5 years	56 (44.4)	

reported lower rates of job maintenance. Cook et al. [10] reported 39% of patients in the supported employment program worked for 40 or more hours in a month compared to the comparison group. Burns et al. [22], using 1 day of working as the employment outcome, found 55% of patients randomised to IPS compared to only 28% in vocational services group maintaining job. Lehman et al. [23] found 42% versus 11% of the IPS group compared to the comparison group were more likely to work. Drake et al. [24], reported 46% employment rates when using 20 h or more as the employment outcome. However, there was one study by Crowther et al. [25], reported a high rate (70%) of retention of job at 6 months comparing supported employment with prevocational training, similar to this study finding. Job retention in competitive employment at 12 months has been reported to be lower at 11% by Lehman et al. [12], 22% by Cook et al. [10] and 34% by Mueser et al. [2].

One important contributing factor to the successfulness of the employment program in the study setting was the fact that the program was structurally integrated within a mental health system of the mental hospital. Heslin et al. [26] reported difficulties in the implementation of IPS when it is not well integrated within mental health teams as the support from the mental health teams cannot be compromised in ensuring success in any employment program. In the study setting, the change in policy on employment approach, that is, from "train-place" to "place-train," was done in a large scale involving a total restructure of the staff, facilities and work processes. Every staff shares the same mission that all patients interested in working be offered job and be supported all along, clinically and workwise. This goes with a clear instruction that prevocational work is not tolerated for patients who have not been shown to be capable of working in the open employment. Support is provided for the patients to work in all aspects besides the clinical aspect, from the need for clothing, pocket money, transport and accommodation. A number of patients are offered to live in hostels near to the workplace.

There have been inconsistent results on association between sociodemographic factors and employment in previous studies [6,26]. Positive work history was reported to be the strongest predictor of employment outcomes in supported employment [27,28]. These studies reported past history of being able to work for more than 1 month in the past 5 years (same criteria used in the current study) to be associated with successful employment. This may be a proxy to good level of baseline functioning which is an established good prognostic factor for recovery from SMI. The skills to cope with work and work environment from their previous exposure to work may have also help these patients to have successful employment.

The other significant predictor of successful employment in the current study was getting a preferred job. This finding was consistent to the finding from a previous study by Muesser et al. [2], who reported that those who obtained a preferred job, would be satisfied with the job and able to retain the job longer in supported employment program compared to those who did not get a preferred job. With regard to interest to work, there have been inconsistent finding from previous studies. It was shown to have significantly influenced the chances of patients getting a job in one study [29] but other studies reported that those with no interest in working also eventually did get a job [25,28].

Having good family support as described as being married and living with family were reported to be associated with good employment outcomes in a previous study [26]. Unlike in this current study, good family support which was found to be a significant contributing factor to successful employment from bivariate analysis became insignificant when other potential confounding factors were controlled in a logistic regression analysis. In the current study, patients who did not have family support were offered to stay in hostels with their basic needs provided for at some stage of their employment, which may have buffered the effect of good family support. This possibility was strengthened by the significant association of living in hostels and successful employment from bivariate analysis. A large number of

Table 3
The association between demographic variables and clinical outcome from bivariate analysis.

Variables	Employment outcome		χ^2	p Value	Crude OR (90% CI)
	Successful, n = 86 (%)	Unsuccessful, n = 40 (%)			
Age group					
0–40	47 (69.1)	21 (30.9)	0.051	0.822	0.020 (0.164–0.188)
>40 years	39 (67.2)	19 (32.8)			
Gender					
Male	75 (66.4)	38 (33.6)	1.791	0.184*	0.119 (0.242–0.036)
Female	11 (84.6)	2 (15.4)			
Race					
Malay	56 (72.7)	21(27.3)	1.829	0.124	0.120 (0.052–0.299)
Others	30 (61.2)	19 (38.8)			
Marital status					
Single	59 (65.6)	31 (34.4)	1.578	0.454	0.112 (0.025–0.282)
Married	13 (18.3)	3 (18.8)			
Separated/Divorced	14 (70.0)	6 (30.0)			
Education level					
Tertiary	3 (75.0)	1 (25.0)	3.688	0.297	0.171 (0.068–0.370)
Secondary	55 (73.3)	20 (26.7)			
Primary	24 (57.1)	18 (42.9)			
None	4 (80.0)	1 (20.0)			
Family support					
Good	23 (85.2)	4 (14.8)	9.056	0.025*	0.268 (0.138–0.445)
Average	17 (50.0)	17 (50.0)			
Minimal	21 (72.4)	8 (27.6)			
None	25 (69.4)	11 (30.6)			
Place of living					
Alone	5 (62.5)	3 (37.5)	9.428	0.024*	0.274 (0.170–0.429)
With relatives/friends	25 (62.5)	15 (37.5)			
Hostel	25 (92.6)	2 (7.4)			
Hospital	31 (60.8)	20 (39.2)			
Diagnosis					
Schizophrenia spectrum	80 (68.4)	37 (31.6)	0.011	0.589	0.009 (0.153–0.205)
Others	6 (66.7)	3 (33.3)			
Past psychiatric admission					
0–5 times	70 (72.9)	26 (27.1)	4.046	0.044*	0.179 (0.004– 0.373)
>5 times	16 (53.3)	14 (46.7)			
Medical comorbidity					
Yes	19 (67.9)	9 (32.1)	0.003	0.959	0.005 (0.200–0.171)
No	67 (68.4)	31 (31.6)			
History substance abuse					
Yes	27 (60.0)	18 (40.0)	2.201	0.138	0.132 (0.300– 0.061)
No	59 (72.8)	22 (27.2)			
Insight toward illness					
Good	56 (74.7)	19 (25.3)	5.855	0.054	0.216 (0.070–0.417)
Partial	19 (67.9)	9 (32.1)			
Poor	11 (47.8)	12 (52.2)			
Types of medications					
Atypical antipsychotic	27 (75.0)	7 (25.0)	1.288	0.525	0.101 (0.027–0.295)
Typical antipsychotic	16 (69.6)	7 (30.4)			
Combination	43 (64.2)	24 (35.8)			
Compliance to medications					
Good	84 (70.6)	35 (29.4)	5.386	0.033*	0.207 (0.06–0.380)
Poor	2 (28.6)	5 (71.4)			

* Fisher exact test, $p < 0.05$.

patients (40%), actually stayed in the hospital which may be a reflection of poor family support that these patients ended up staying in the hospital.

With regard to psychopathology, previous studies reported mixed results with several studies associated negative symptoms with unemployment in schizophrenia [30–34]. In another study, Catty et al. [28] reported that positive psychotic symptoms had better employment outcomes than negative symptoms. Razzano et al. [21] reported that adherence to medications may have helped the individuals to work more hours. As for association with diagnosis, we did not replicate the evidence that people with

Table 4
The association between clinical variables and employment outcome from bivariate analysis.

Variables	Employment outcome		χ^2	p Value	Crude OR (90% CI)
	Successful, n = 86 (%)	Unsuccessful, n = 40 (%)			
Interest in work					
Good	52 (100.0)	0 (0.0)	41.18	<0.000*	0.572 (0.474–0.675)
Average	34 (45.9)	40 (54.1)			
Motivation to work					
Good	58 (84.1)	11 (15.9)	17.582	<0.000*	0.374 (0.247–0.532)
Average	28 (49.1)	29 (50.9)			
Satisfaction with job					
Yes	75 (86.2)	12 (13.8)	41.81	<0.000*	0.576 (0.418–0.728)
No	11 (28.2)	28 (71.8)			
Satisfaction with salary					
Yes	59 (90.8)	6 (9.2)	20.261	<0.000*	0.420 (0.260–0.577)
No	27 (44.3)	34 (55.8)			
Getting preferred job					
Yes	62 (100)	0 (0)	56.773	<0.000*	0.671 (0.575–0.767)
No	24 (37.5)	40 (62.5)			
Competitive employment					
Yes	69 (85.2)	12 (14.8)	30.006	<0.000*	0.488 (0.326–0.641)
No	17 (37.8)	28 (62.2)			
Types of employment					
IPS	56 (78.9)	15 (21.1)	20.734	<0.000*	0.409 (0.587– 0.259)
Transitional	17 (41.5)	24 (58.5)			
Social enterprise	13 (92.9)	1 (7.1)			
Unemployed	0 (0)	2 (100)			
Ongoing support					
Less than 2 weeks	77 (67.5)	37 (32.5)	0.279	0.433	0.047 (0.129– 0.198)
More than 2 weeks	9 (75.0)	3 (25.0)			

* Fisher exact test, $p < 0.05$.

schizophrenia have poor employment outcomes than those with affective disorders [21]. This was because the majority of our subjects had schizophrenia (92.9%); hence, the study was unable to find an association between diagnosis and successful employment.

The only job factor that was not significantly associated with successful employment even by bivariate analysis was ongoing support. Previous studies have shown inconsistent results on this factor. Becker et al. [35] showed that ongoing contact with supported employment program was the key for maintaining the stable job over 8 to 12 years. Another study by Brekke et al. [36] reported that there was a "positive association between service intensity and functional outcomes" and that service intensity was the key for job tenure. However, this was not replicated in other studies [37]. The finding from the current study should be interpreted cautiously on this aspect, in view of the study being naturalistic and retrospective in nature in capturing data on ongoing support.

There were a few limitations faced by the current study. Being cross sectional in design limits the interpretation of the findings in terms of causal relationship. The study being conducted in one large mental institution may again limit the interpretation of the findings. While resources are generally inadequate for mental health still in Malaysia, mental hospital, being more established compared to the still growing

Table 5
Association between employment outcome with symptomatology from bivariate analysis.

PANSS scores (median)	Employment		χ^2 Value	p Value	Crude OR (95% CI)
	Successful, n (%)	Unsuccessful, n (%)			
Positive symptoms					
Low	61 (89.7)	7 (10.3)	31.374	<0.001*	0.499 (0.349–0.636)
High	25 (43.1)	33 (56.9)			
Negative symptoms					
Low	56 (87.5)	8 (12.5)	22.234	<0.001*	0.420 (0.255–0.554)
High	30 (48.4)	32 (51.6)			
General psychopathology					
Low	61 (89.7)	7 (10.3)	31.374	<0.001*	0.499 (0.340– 0.640)
High	25 (43.1)	33 (56.9)			

* χ^2, $p < 0.05$.

Table 6
Factors significantly influencing employment outcome from logistic regression test.

Variable	Adj. OR	95% CI	χ^2 Statistic (*df*)[a]	*p* Value[a]
Past work history				
>1 month in the past 5 years	6.12	2.10–11.9	6.52 (1)	0.021
<1 month in the past 5 years	1			
Having a preferred Job				
Yes	3.837	1.44–12.10	4.101 (1)	0.032
No	1			

Adj. OR = adjusted odds ratio. Nagelkerke $R^2 = 0.12$.
[a] Likelihood ratio (LR) test.

psychiatric facilities in the general hospitals are better equipped for services. While the findings may apply to other mental hospitals in Malaysia, it may not be generalized to the general hospital psychiatric service setting which are growing in number. It will be desirable to conduct a community-based study that involves multiple centers.

5. Conclusions

In conclusion, this study showed a significant association between past work history and getting a preferred job and successful employment in patients with SMI. The study indicates high employment rates among patients with SMI, at 3 months. These findings may provide a preliminary evidence of the successfulness of work rehabilitation program for patients with SMI in a developing country like Malaysia.

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