OPEN ACCESS

ISSN: 2676-7473

RBMS.2021;26(1):e22

ORIGINAL RESEARCH

Pre- and post-employment issues of bipolar patients and predisposing factors and vocational rehabilitation implications: a new perspective

Zeinab Rostami[1], Mohammad Reza Abedi[2]*, Parisa Nilforooshan[3]

1. *Ph.D, Career Counseling, Department of Counseling, Faculty of Education and Psychology, University of Isfahan, Isfahan, Iran. ORCID: 0000-0002-3269-3177*
2. *Professor, Department of Counseling, Faculty of Education and Psychology, University of Isfahan, Isfahan, Iran. ORCID: 0000-0003-3162-7044*
3. *Associate professor, Department of Counseling, Faculty of Education and Psychology, University of Isfahan, Isfahan, Iran. ORCID: 0000-0002-6358-7959*

*Corresponding Author:
Address: Department of Counseling, Faculty of Education and Psychology, University of Isfahan, Isfahan, Iran.
Email: m.r.abedi@edu.ui.ac.ir
ORCID: 0000-0003-3162-7044

Date Received: October, 2020 *Date Accepted: November, 2020* *Online Publication: September 15, 2021*

Abstract

Objective: The aim of this study was to explore the employment issues of bipolar patients and their predisposing factors.
Materials and Methods: This study was performed using the moose systematic qualitative method, by using research articles that addressed the employment issues of bipolar patients. Initially, 2204 articles were extracted but after primary and secondary screening and studying the full text finally, 15 articles were selected according to predetermined criteria.
Results: The extracted employment issues of bipolar patients were divided into two general types of pre- and post-employment issues and the factors causing the employment issues. Pre- and post-employment issues of bipolar patients were divided into three sub-domains (Unemployment, lack of productivity in the workplace, and ethical-communication problems). factors causing bipolar employment issues were divided into three domains (factors related to symptoms of the disorder, psychosocial factors and inappropriate therapeutic interventions).
Discussion: Although pre- and post- employment issues of bipolar patients appear to be a major issue both in society and in researches; the underlying causes of these patients' employment issues are also important driving factors, which need attention and consideration and rehabilitation.

Keywords: Bipolar disorder, Employment problems, Vocational rehabilitation.

Introduction

Bipolar disorder is a chronic and recurrent disorder that is periodically changing and replacing with the phases of depression, mania, hypomania, or asymptomatic and neutral phases. These patients are more likely to be absent from work, especially due to experiencing symptoms of depression, than normal people. They have difficulty finding and maintaining a job, and most are unemployed or working in part-time jobs (1,2,3,4). Sixty percent of these patients are even unemployed with a college degree, and 88% of their employers reported having multiple problems with them in the workplace (5). A six-month follow-up on a group of bipolar patients hospitalized for mania showed that only 43% of them after discharge from the hospital were employed, although 85% of these patients were asymptomatic, or they had mild symptoms (1).

The rate of employment of these patients, even after recovering from the disorder and in times, they have not symptoms, is much lower than healthy individuals and more even than patients with affective disorders. In a study with a followed up on patients who had been hospitalized for six months due to mania, the results showed that only 43% of these people were employed, while of these, only 21% had been employed in a favorite job, although 80% of them were asymptomatic or had mild symptoms after the six-month treatment period (6). In addition to the unemployment problem and these patients not being hired by the employer; the disorder also has a profound effect on the patient's work performance, causing inefficiency and disruption in one's work performance (7, 8).

One study that analyzed fourteen studies about work dysfunction of bipolar patients and even comparing work performance of these patients with other psychiatric patients claimed that bipolar patients had more long-term unemployment, poor work performance, and poorer job performance than people having other mental disorders. They are also frequently absent from work due to affective and physical problems (9). These patients, especially those with bipolar, I disorder diagnosis, are more likely to lose their jobs, work fewer hours due to mental health and medical problems, suffer from financial disabilities, turn to crime, and they do not receive drug interventions and are eventually fired, and by many work difficulties, they cannot experience career success (6).

Bipolar patients not only have access to career success, but also cannot have a job as usual or keep that job for themselves without any problems (1). In fact, these patients are largely facing unemployment and work loss and numerous employment issues, and 25% of them are unwilling to get help, and they have never asked for help. 88% of these patients, despite receiving treatment, still have significant work problems (10, 11).

Of course, resolving employment and achieving a successful career path for patients with bipolar disorder requires special vocational care and attention, particularly among people who suffer from a mental disorder. It seems that one of the most important mental disorders that deviates patients from their career path is bipolar disorder. Despite the profound impairment of bipolar disorder on the career path of these patients, it seems that specific research has not been done with a specialized approach to identify employment problems and separating the antecedents and consequences of these patients' employment issues. Therefore, the aim of this study was to analyze the pre- and post- employment issues of bipolar patients and to analyze the underlying factors.

Materials and Methods

The study was performed using the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) systematic qualitative method and using research articles that addressed the employment issues of bipolar patients. For this purpose, electronic search was performed from three databases of EMBASE, Medline and PsychInfo using keywords (employment) and (bipolar, manic depression and affective psychosis). Bipolar disorders, American Journal of Psychiatry and Journal of Affective Disorder was also selected for manual search. All published articles from the beginning until 2018 which were relevant to this topic and keywords were selected. The title and abstract of the articles were reviewed to select relevant articles. Also the references of related articles were searched to find other possible related articles. The articles were entered into the endnotes software then, and were evaluated on the basis

of include and exclude criteria. Include and exclude criteria were used to select the full text of the relevant articles. In the first phase of the search a comprehensive inclusion strategy was used. All abstracts of the extracted articles were studied and the predefined criteria were used to retrieve and extract the full text of the selected articles. Initially, 2204 articles were extracted, of which 241 remained after the initial screening. After the secondary screening, there were 54 articles. After studying the full text of the articles finally, 15 articles were selected in accordance with predetermined criteria.

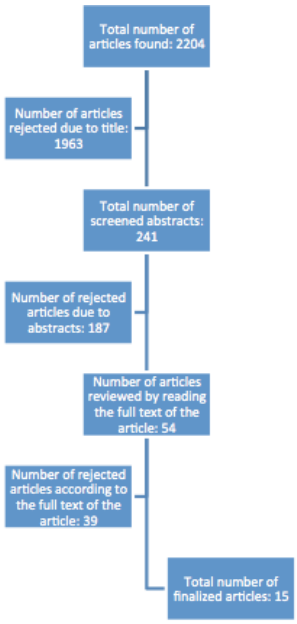

Figure 1: Summary of search results and selection of appropriate articles

Inclusion and exclusion criteria

The inclusion criteria included:

A) The full text of the articles is available and accessible.

B) The article has been published in English.

C) The issue includes bipolar disorder and the employment outcomes of these patients.

The exclusion criteria included:

A) The sample or statistical population of articles with other mental disorders is combined and shared.

B) The reported consequences are related only to the patient's performance status and not to his or her employment status.

The coding process

The full text of all selected final articles was studied and the data extracted from the articles were coded according to a standard format:

A) First author's name

B) The year of publication of the article

C) Sample size

F) The type of employment status examined in published articles.

G) The type of employment problem reported.

To ensure the validity of the coding process, two researchers carried out this work separately and cases of disagreement or differences were reviewed. This process was continued until a final agreement was reached.

Results

After reviewing the literature, the findings indicated that bipolar disorder employment issues were due to two factors. One is related to the employment process problems, and another two problems that are causing, provocative and precede the problems of bipolar patients in employment. Specifically, the problems extracted from each of the articles were re-analyzed, and each problem cited in the articles was classified into one of these two general areas.

Table 1 describes the employment problems that bipolar patients face and struggle with it during and after employment. The second column of this table lists the name of the first author and the year of publication of the article and the third column lists the sample number reported in the article. Column 4 highlights the type of employment situation which the articles investigated the employment problems of bipolar patients in that context. Column 5 of this table also shows the problems that bipolar patients are encountering during and after the employment process.

According to table 1, by eliminating the problems reported by several studies, there are generally thirteen key problems that bipolar patients are struggling with, related to pre- and post- employment process, including: unemployment, low level of work productivity, high absence rate, high rate of termination of employment contract, imposing a significant financial burden on employers, getting stigma in the workplace, uninsured or uncovered by Medicare, being involved in a crime, few hours of work, being fired, prolong unemployment, work place underperformance and sliding in occupational statues.

Table 1. Problems pre- and post- employment of bipolar patients

Number	Authors	Sample size (people/ paper)	Type of employment examination	Employment problem	
1	Dickerson et al., 2004	117 people	Employment statues	-	
2	Tse et al., 2014	6301 people	Favorable employment outcomes	-	
3	Morselli et al., 2004	968 people	Unemployment	• Unemployment	
4	Kleinman et al., 2005	230000 people	Productivity output for employment	• Low level of work productivity	• High absence rate
5	Grander et al., 2006	229906 people	Economic impact of bipolar disorder in employment	• High absence rate	
6	Rajagopalan et al., 2006	699 people	Employment termination	• High rate of termination of employment contract	
7	Altshuler et al., 2007	213 people	Employment statues	-	
8	Laxman et al., 2008	17 paper	Impact of bipolar disorder on employment	• Imposes a significant financial burden on employers • Low level of work productivity	• Getting stigma in the workplace • High absence rate
9	Bauer et al., 2009	281 people	Employment statues	-	
10	McMorris et al., 2010	417 people		• Low level of work productivity • Few hours of work • Being involved in a crime	• Miss work • Uninsured or uncovered by Medicare • Have been fired or laid off
11	Gilbert et al., 2010	154 people	Employment trajectory	-	
12	Zimmerman et al., 2010	206 people	Sustained unemployment	• Prolonged unemployment	
13	Gilbert et al., 2012	9 paper	Predictors of employment	-	
14	Marwaha et al., 2013	25 paper	Employment outcomes	• Work place underperformance • Sliding in occupational statues	• Unemployment • High absence rate
15	Ryan et al., 2015	178 people	Employment outcomes	• Few hours of work	• Unemployment

As it can be seen in table 2, pre- and post-employment problems for bipolar patients as described in table 1 along with their subsets, overall are included in three main areas including: 1) Unemployment (consist of: missing job and termination of employment contract, being fired or laid off, uninsured or uncovered by Medicare, prolonged unemployment and sliding in occupational statues), 2) Low productivity in workplace (consist of: high absence rate, few hours of work, work place underperformance, imposing a significant financial burden on employers and 3) Moral and communications problems (consist of: getting stigma in the workplace and being involved in a crime). Thus, it can be said that the pre- and post- employment problems of a bipolar patient are in the three main areas, which were mentioned above.

Table 2. Summary of pre- and post- employment problems of bipolar patients

Number	Pre- and post-employment problems	Subsets	
1	Unemployment	• Missing job and termination of employment contract • Being fired or laid off • Uninsured or uncovered by Medicare	• Prolonged unemployment • Sliding in occupational statues
2	Low productivity in workplace	• High absence rate • Few hours of work	• Workplace underperformance • Imposing a significant financial burden on employers
2	Moral and communications problems	• Getting stigma in the workplace	• Being involved in a crime

Table 3 describes the contextual factors that drive the phenomenon of subsequent bipolar patient problems that will be encountered for employment. In the second column of this table the first author and the year of publication of the article are discussed and in the third column the number of articles reported is seen which is proportional to the quality or quantity of articles being written, including reports on the number of persons used or articles used. Column 4 outlines the type of problem and context that the paper has followed on the employment status of bipolar patients. In the fifth column of this table, the underlying causes of the problems that bipolar patients face in the process of employment and after employment is reported.

According to table 3, and eliminating the problems reported by several studies, the thirteen factors that may predispose and predict subsequent employment problems among bipolar patients can be summarized as follows: having history of psychiatric hospitalizations, having severe symptoms of disorder, longer durations of disorder, improper prescribing psychiatric drugs, lack of early diagnosis and management of disorder in the workplace, relapse of disorder, low level of maternal education, old age at onset of disorder, being single, having a history of drug or alcohol use, high periodic recurrence of disorder each year, cognitive dysfunction and lack of support. In fact, as much as a bipolar patient has the factors stated above, his/her

employment problems will increase in the future.

Table 3. Predisposing factors of employment problems in bipolar patients

Number	Authors	Sample size (people/ paper)	Type of employment examination	Employment problem	
1	Dickerson et al., 2004	117 people	Employment status	• Cognitive dysfunction • Having severe symptoms of the disorder	• History of psychiatric hospitalizations • Low levels of mother's education
2	Tse et al., 2014	6301 people	Favorable employment outcomes	• Cognitive dysfunction • Having personality disorder • Low levels of mother's education • Have lower education levels • Being single • High periodic recurrence of disorder each year	• Longer durations of disorder • Having more hospitalizations • Old age at onset of disorder • Lack of support • Having a history of drug use
3	Morselli et al., 2004	968 people	Unemployment	• Symptoms of disorder	
4	Kleinman et al., 2005	230000 people	Productivity output for employment	-	
5	Grander et al., 2006	229906 people	Economic impact of bipolar disorder on employment	-	
6	Rajagopalan et al., 2006	699 people	Employment termination	Improper prescribing psychiatric drugs	
7	Altshuler et al., 2007	213 people	Employment statues	• Prior number of psychiatric hospitalization • Number of psychotic medication	• Executive dysfunction
8	Laxman et al., 2008	17 paper	Impact of bipolar disorder on employment	• Presence of comorbid condition	• Lack of early diagnosis and management of disorder in the workplace
9	Bauer et al., 2009	281 people	Employment statues	• Depression symptoms	
10	McMorris et al., 2010	417 people		• Recurrent disorder symptoms	
11	Gilbert et al., 2010	154 people	Employment trajectory	• Concentration problems	• Have lower education levels
12	Zimmerman et al., 2010	206 people	Sustained unemployment	• Having psychiatric reasons (Axis I disorders e.g., increased rates of panic disorder, post-traumatic stress disorder) • Borderline personality disorder	• A lifetime history of alcohol abuse or dependence • Being older • Experienced more episodes of depression
13	Gilbert et al., 2012	9 paper	Predictors of employment	• Cognitive dysfunction • Depression	• Level of education • Executive dysfunction
14	Marwaha et al., 2013	25 paper	Employment outcomes	• More established disorder	
15	Ryan et al., 2015	178 people	Employment outcomes	• Depression symptoms	

Table 4 also summarizes and categorizes the predisposing factors of bipolar disorder employment problems. Overall, the underlying predisposing factors of Bipolar employment problems can be divided into three main areas: 1- Factors related to the symptoms of disorder (including: having a psychiatric history of hospitalization, having severe symptoms of disorder, depression, having a history of drug or alcohol use, high periodic recurrence of disorder each year, high number of prescribing psychiatric drugs, other comorbid psychiatric disorders, longer durations of disorder, and relapse), 2- Factors related to psycho-social Variables (being single, lack of support, having lower education levels, low level of maternal education, old age at onset of disorder), 3- Factors related to incorrect therapeutic interventions (including: improper prescribing psychiatric drugs, lack of early diagnosis and management of disorder in the workplace).

Table 4. Summary of the outcome factors causing employment problems in bipolar patients

Number	Predisposing factors of employment problems	Subsets	
1	Factors related to symptoms of disorder	• Having history of psychiatric hospitalization • Having severe symptoms of the disorder • High periodic recurrence of disorder each year • High number of prescribing psychiatric drugs	• Depression symptoms • Having a history of substance or alcohol use • Other comorbid psychiatric disorder • Longer durations of disorder • Relapse of disorder • Cognitive dysfunction
2	Factors related to psycho-social variables	• Being single • Lack of support • Having lower education levels	• Low level of mother's education • Old age at onset of disorder
3	Factors related to incorrect therapeutic interventions	• Improper of prescribing psychiatric drugs	• Lack of early diagnosis and management of disorder in the workplace

In fact, bipolar patients encounter two major problems in the employment, one is pre-employment and post-employment problems in the workplace and another is factors that will underpin the future employment problems of these patients and have an important impact on the process and quality of recruitment and retention of these patients in employment. Overall, all research findings on the pre and post-employment problems of bipolar patients and their disposing factors are presented in table 5.

Table 5. Employment problems for bipolar patients

Number	Employment problems of bipolar patients	domain	Subsets	
1	Pre and post-employment problems	Unemployment	• Missing job and termination of employment contract • Being fired or laid off • Uninsured or uncovered by Medicare	• Prolonged unemployment • Sliding in occupational statues
		Low productivity in workplace	• High absence rate • Few hours of work	• Work place underperformance • Imposes a significant financial burden on employers
		Moral and communications problems	• Getting stigma in the workplace	• Being involved in a crime
2	Predisposing factors of employment problems	Factors related to symptoms of disorder	• Having history of psychiatric hospitalization • Having severe symptoms of the disorder • High periodic recurrence of disorder each year • High number of prescribing psychiatric drugs	• Depression symptoms • Having a history of drug or alcohol use • Other comorbid psychiatric disorder • Longer durations of disorder • Relapse of disorder • Cognitive dysfunction
		Factors related to psycho-social Variables	• Being single • Lack of support • Having lower education levels	• Low level of mother's education • Old age at onset of disorder
		Factors related to incorrect therapeutic interventions	• Improper prescribing psychiatric drugs	• Lack of early diagnosis and management of disorder in the workplace

Discussion

According to the findings of the study, employment problems of bipolar patients are divided into two areas: pre and post-employment problems, and predisposing factors. Pre and post- employment problems are included: unemployment, low productivity in the workplace and moral and communications problems. Predisposing factors include: (factors related to symptoms of disorder, factors related to psycho-social Variables and factors related to incorrect therapeutic interventions) which are further explained in this study along with concurrent and inconsistent evidence from other researches.

Bipolar patients do not perform well in the workplace and are often reluctant to attend the workplace due to depressed mood and tend to be absent from the workplace and if they are present at the workplace, they perform the task with slow rhythm and their engagement in a typical task takes hours. Naturally, they are not as efficient as other employees. Researches have also suggested that the disorder severely disrupts work performance and due to the experience of depressive episodes their ability to work is reduced and they are absent from working days due to illness. In fact, depression causes them to be less involved in their work and their average working hours to be significantly lower than other employees (12, 6, and 13).

The working productivity of these patients is severely impaired that longitudinal studies with a final eight-year follow-up have reported that the average work performance of these patients is even lower than those with psychotic disorders (14). Bipolar patients never work without problems because patients always experience some symptoms (15). In fact, the patient's ability to work is directly related to the patient's recovery from symptoms and researches show that a patient's defective work function persists, even after symptoms have subsided (16).

The remarkable point is that these patients become degraded over time due to a defect in work performance, because their work performance becomes weaker and worse over time. By a study aimed at investigating this problem, it was found that 54% of these patients experience work degradation over time compared to the best time of their work performance (16, 17), and even after one year from experiencing and recovering from the acute symptoms of the disorder, they cannot be employed even in their previous job position (18), and this issue gradually leads to a decline in the employment rank of these patients.

Employers believe that these patients not only have poor work productivity, but they also impose a significant financial burden on employers. According to a study by several large US companies, the results showed that bipolar patients are the most disservice among other psychiatric patients, both in terms of medical care and insurance costs and

inefficiencies (19). That's why, the employment contracts of these patients are often terminated and they are fired or laid off and because employers do not have a good experience to employ such patients, they suffer from prolonged unemployment. Consistent with these findings, statistics also show that bipolar patients are twice as likely to be fired and have contracts terminated as normal people (20, 1, 21, 22), meaning that about 66% of these patients are fired and the reason for this dismissal and termination of the contract, from the perspective of bipolar patients themselves, was due to the supervisor's or employer's dissatisfaction with their mental attitude, work performance and behavior (23) and this problem caused them to fail to find job again, relapsing of disorder and consequently it leads to long-term unemployment (24, 25). According to statistics, 61.8% of people with bipolar mood disorder suffer from unemployment. 4.5% of them are looking for a job and only 28% are working (26). Six longitudinal studies with follow-up periods ranging from three months to six years claimed employment rate between bipolar patients is between 27% and 72%. In contrast, four other studies using the sectional method reported that full-time employment rate in bipolar patients varied between 16% and 36% (27).

In spite of all these damages and problems, it is natural that employers often refuse to insure these patients (23) maybe because they don't like to invest in the performance of these patients. However, because of the willingness of bipolar patients to work in part-time jobs that is commensurate with their swing moods, occupational insurance is lost.

However, this defect is so effective that it can cause many problems in interpersonal relationships for these patients (24). When the work environment, witnesses a patient's work dysfunction, fluctuations and swing in his or her performance and behavior, the bipolar patient is seen through another perspective that is along with humiliation, contempt, reproach, and ridicule. In line with these findings, the majority of interviews with these patients indicated that these patients are afflicted with a stigma in the workplace and have been excluded and dismissed because of this unfavorable attitude. There have been obstacles in the way of their progress and they demolished in the workplace, eventually, they were faced with a decline in rank of job status (6). The constant humiliation and ridicule and dismissal of these patients from their desirable job positions, and consequently the degradation of their work status over time, make these patients more nervous and irritable and prepare them to carry out acts of revenge and to restore their lost rights and dignity, resulting in strife and quarrel that sometimes lead to serious conflicts and committing crimes in the workplace.

Statistics showed that the highest crime rate among bipolar patients is in the age group of 21-30 years and the lowest crime rate are in the age of 41-50 years. Single bipolar patients are more likely to commit crime. Among these patients, the unemployed people are more likely to commit crime, but compared to schizophrenic patients, bipolar patients who are employed are more likely to commit crime. These patients are more likely to commit to maim others and commit to murder, political and financial crimes and etc. are in the next order. Most of these crimes occur with a degree to diploma and lower educational degree and Usually bipolar patients commit crime alone and do not have a partner (29).

Lack of proper management of disorder in the workplace, and perhaps a small mockery and degradation, can provide the basis for the misdeed and commission of crime. Numerous studies have also suggested that lack of knowledge and insight about bipolar disorder can lead to interpersonal problems in the workplace (6, 30). Most of these patients for fear of being stigmatized hide their disorder in the workplace that this issue is causing and exacerbating the problems. Lack of early detection and diagnosis of the disorder can aggravate it and cause acute symptoms in the workplace, and it is not easy to recover. If the patient in the workplace could express having bipolar disorder without any fear of the consequences, loss of security, human dignity and occupational status, both patient and workplace would not experience more severe problems and consequences due to the onset of acute symptoms.

In fact, the patient's fear of expressing disorder or lack of insight into the symptoms can lead to misdiagnosis and inappropriate therapeutic

interventions and psychiatric medications. Patients who received a bipolar diagnosis and were prescribed new antipsychotic drugs compared with bipolar patients who were prescribed mood stabilizers or older antipsychotic drugs, even after two years of follow-up, had the lowest rates of employment termination (20). Patients' lack of knowledge of the management of the disorder also led the patients too often not consider the phase of mania or hypomania as a disorder, and to look for a cure just in depression phase and incorrectly, they receive a diagnosis of unipolar depression (5).

Lack of proper knowledge of the disorder and lack of timely and accurate diagnosis and early treatment interventions in the workplace often aggravate the symptoms, lead to relapse, and cause persistence of the disorder and sometimes the patient conceals these symptoms so much and the work environment neglects so much, due to the intensify of the symptoms, the patient has to be hospitalized. Being in a mental hospital also loses the patient's self-esteem and sometimes it causes the patient to lose his or her job position and subsequently brings about periods of depression for the patient and a repeated experience of depression and a history of psychiatric hospitalization does not have a good prognosis for employment (31, 32, 33). Moreover, the more time passes the onset of illness, and the disease is more established, the patient will have a poorer work performance (17).

Research evidence suggests that patients who experience longer and more severe symptoms of disorder, especially depression must have had a psychiatric history of hospitalization and must have had more employment problems. (34, 35, 36, 37, 38, 39, 24 and 15). The recurrence of the depression phase in bipolar patients and comorbid with panic disorder and personality disorder, especially borderline personality disorder and alcohol abuse, also are associated with not being hired and prolonged unemployment (41, 32, 30, 24).

Multivariate analyzes have shown that circumstance of employment status or prolonged unemployment of people with bipolar mood disorder is significantly correlated with their cognitive performance (memory status), severity of symptoms, hospitalization history, and mother's education level. In fact, a mother who is less educated cannot easily understand the disorder and its management and will not have effective patient support (32). Another study has shown that having a strong, supportive relationship in the life of a bipolar patient is a more important factor in predicting work performance, and if such a relationship exists, the number of hospitalizations and the type of recent or current symptoms may not play a significant role in impairing the function of these patients (6).

Proper cognitive performance (verbal memory and executive functioning) is also associated with more desirable employment outcomes because a good cognitive performance is required to perform a number of specific tasks and it is often reported that bipolar patients suffer from decentralization, poor verbal memory, and poor executive functioning (41, 32, 39, 31, 33). In other words, bipolar patients are unmotivated during the depression phase and have poor decision making, and with poor cognitive function, they have very little capacity to get started at work (42, 6). Contrary to these findings, one study also reported that cognitive function (executive function and verbal memory) was not significantly associated with performance outcomes in bipolar patients (43).

Some studies also believe that age, gender, ethnicity, and socioeconomic position do not predict the serious consequences of the disorder. However, in a number of cases, old age has been related to poor outcomes of treatment. According to some research, the age of onset of the disorder is a good predictor of patient outcome treatment and adolescent patients respond to treatment better and faster than the other patients (44). Relapse of depression phase is associated with older age, race and social minority (45). In fact, the younger the patient is at the onset of the disorder, the faster he or she responds to treatment and is ready for recruitment, but higher age at onset of disease makes it harder to recover and increases the likelihood of unemployment and re-employment. (46, 47, 48, 35).

Overall, the findings of this study indicate that bipolar patients have many problems, both before and after employment that a number of disposing factors have led these problems in bipolar employment. However, most studies

have focused on the treatment and post-employment problems of bipolar patients and the disposing factors of these patients' employment problems have been overlooked.

Implications for vocational rehabilitation

Based on the research results it seems that vocational rehabilitation interventions can be effective for management of employment problems of bipolar patients including:

1. Early intervention is the best intervention and vocational rehabilitation is a part of early intervention (48,49).
2. Each organization must have a career counselor to prevent post-employment problems of these patients at work place. Problems such as: not being diagnosed, not managing the disorder at work place early and getting improper psychiatric drugs.
3. At career interviews of each organization which is done for staff employment, an expert career counsellor must attend so that in addition to diagnose the person's disorder early, he or she can determine the person's desires and preferences. The counselor must provide a supportive and intimate environment for the person at work place and also employ the patient for the career which is suitable with his or her career desires and preferences. Problems such as low efficiency at the work place, absence at work place, not having produced at work place must be prevented why the patients who are employed in the careers suitable with their career desires have higher motivation and higher efficiency at work (48).
4. In addition to creating an environment of acceptance and compassion for patients with bipolar disorder, each organization's counsellor must educate staff and employers on the care needed to treat these patients in order to avoid getting stigma, relapse of the disease in the workplace and prevent hospitalization of patients which have unpleasant consequences.
5. It seems that in any organization, there must be rules based on the principles of rehabilitation counseling so that patients with psychiatric disorders, especially bipolar mood disorder, can receive more organizational support and assess their occupational performance in accordance with these principles. For example, when a patient is hospitalized due to a recurrence of the disorder and is unable to be in the occupational position for a while, after discharge from the hospital and removing the symptoms and returning to work, he or she must work in the same position as before. In this case, both the patient's self-esteem will be maintained and the organizational outlook will not change and the person will not get stigmatized and also the patient will not decline over time due to the frequent recurrence of the disease.

Conclusion

Findings from research studies on employment problems of bipolar patients indicated that employment problems of these patients fall into two areas of pre- and post-employment problems and the factors causing these problems. One of the limitations of this study was the difficulty of the task and the time it took to perform qualitative research using the unknown moose method. In future research, it is recommended that researchers investigate the meta-analysis of treatments performed on pre- and post-employment problems of bipolar patients and its underlying factors.

Conflict of interest

Authors declare no conflict of interest.

Acknowledgement

The authors would like to thank the Dr. Geoffrey Waghorn as a senior innovation and research consultant leading provider of vocational rehabilitation and disability support services in Australia for his effective guidance for conducting this research.

References:

1. Bowden CL. Bipolar disorder and work loss. Am J Manag Care.2005; 11(3 suppl):S91-S94.
2. Zimmerman M, Martinez JH, Young D, Chelminski I, Dalrymple K. Sustained unemployment in psychiatric outpatients with bipolar depression compared to major depressive disorder with comorbid borderline personality disorder. Bipolar disorders. 2012; 14(8): 856-62.
3. Martínez-Camarillo S, Yoldi-Negrete M, Fresán-Orellana A, Ortega-Ortiz H, Becerra-Palars C. Work motivation in patients with bipolar disorder: Associated factors. International Journal of Social Psychiatry. 2019; 65(4): 300-4.
4. Rathbun-Grubb S. The Lived Experience of Work and Career among Individuals with Bipolar Disorder: A Phenomenological Study of Discussion Forum Narratives. The International Journal of Information, Diversity, & Inclusion (IJIDI). 2019; 3(4).
5. Hirschfeld R, Lewis L, Vornik L. Perceptions and impact of bipolar disorder: how far have we really come? Results from the National Depressive and Manic-Depressive Association 2000 Survey of individuals with bipolar disorder. J Clin Psychiatry. 2003; 64(2): 161-174.
6. Michalak EE, Yatham LN, Maxwell V, Hale S, Lam RW. The impact of bipolar disorder upon work functioning: a qualitative analysis. Bipolar Disord. 2007; 9(1-2): 126-143.
7. MacDonald HA, Colotla V, Flamer S, Karlinsky H. Posttraumatic stress disorder (PTSD) in the workplace: a descriptive study of workers experiencing PTSD resulting from work injury. Journal of Occupational Rehabilitation. 2003; 13(2): 63-77.
8. Latas M, Starcevic V, Vucinic D. Predictors of work disabilities in patients with panic disorder with agoraphobia. European psychiatry. 2004;19(5): 280-4.
9. Dean BB, Gerner D, Gerner RH. A systematic review evaluating health-related quality of life, work impairment, and healthcare costs and utilization in bipolar disorder. Current medical research and opinion. 2004; 20(2):139-54.
10. McClellan, J. Commentary: Treatment guidelines for child and adolescent bipolar disorder. Journal of the American Academy of Child and Adolescent Psychiatry. 2005; 44: 236-269.
11. Rigar, T. F., Maki, D. R. *Handbook of rehabilitation counseling.* Springer Publishing Company Inc; 2003.
12. Simon GE, Ludman EJ, Unützer J, Operskalski BH, Bauer MS. Severity of mood symptoms and work productivity in people treated for bipolar disorder. Bipolar disorders. 2008; 10(6):718-25.
13. Lerner D, Adler DA, Chang H, Lapitsky L, Hood MY, Perissinotto C, Reed J, McLaughlin TJ, Berndt ER, Rogers WH. Unemployment, job retention, and productivity loss among employees with depression. Psychiatric Services. 2004; 55(12): 1371-8.
14. Goldberg JF, Harrow M. Subjective life satisfaction and objective functional outcome in bipolar and unipolar mood disorders: a longitudinal analysis. J Affect Disord. 2005; 89(1-3): 79-89.
15. Judd LL, Akiskal HS, Schettler PJ et al. Psychosocial disability in the course of bipolar I and II disorders: a prospective, comparative, longitudinal study. Arch Gen Psychiatry 2005; 62: 1322–1330.
16. Coryell W, Scheftner W, Keller M, Endicott J, Maser J, Klerman G. The enduring psychosocial consequences of mania and depression. Am J Psychiatry. 1993;150(5): 720-727.
17. Marwaha S, Durrani A, Singh S. Employment outcomes in people with

bipolar disorder: a systematic review. Acta Psychiatrica Scandinavica2013; 128(3): 179-93.
18. Jiang HK. A prospective one-year follow-up study of patients with bipolar affective disorder. Chung Hua I Hsueh Tsa Chih (Taipei) 1999; 62: 477–486.
19. Goetzel RZ, Hawkins K, Ozminkowski RJ, Wang S.The health and productivity cost burden of the "top 10" physical and mental health conditions affecting six large U.S. employers in 1999. J Occup Environ Med. 2003; 45(1): 5-14.
20. Rajagopalan K, Kleinman NL, Brook RA, Smeeding JE, Novak S, Gardner HH. Likelihood of employment termination for employees with bipolar disorder treated with different psychotropic medications. InValue in Health 2006; 1 (9, 3): A73-A74. 9600 GARSINGTON RD, OXFORD OX4 2DQ, OXON, ENGLAND: BLACKWELL PUBLISHING.
21. Matza L, De Lissovoy G, Sasané R, Pesa J, Mauskopf J. The impact of bipolar disorder on work loss. Drug Benefit Trends. 2004; 16(9): 476-81.
22. Sasane R, de Lissovoy G, Matza LS, Mauskopf JA, Pesa JA. PMH54 WORK LOSS ASSOCIATED WITH BIPOLAR DISORDER. Value in Health. 2004; 1(3):n280.
23. McMorris BJ, Downs KE, Panish JM, Dirani R. Workplace productivity, employment issues, and resource utilization in patients with bipolar I disorder. Journal of medical economics. 2010; 1; 13(1): 23-32.
24. Zimmerman M, Galione JN, Chelminski I, Young D, Dalrymple K, Ruggero CJ. Sustained unemployment in psychiatric outpatients with bipolar disorder: frequency and association with demographic variables and comorbid disorders. Bipolar disorders. 2010; 12(7): 720-6.
25. Shi L, Juarez R, Hackworth J, Edgell ET, Maria Haro J, Vieta E, Tohen MF. Open-label olanzapine treatment in bipolar I disorder: clinical and work functional outcomes. Current medical research and opinion. 2006; 22(5): 961-6.
26. Jablensky A, McGrath J, Herrman H, Castle D, Gureje O, Morgan V, Korten A. People living with psychotic illness: an Australian study 1997–98. National Survey of Mental Health and Wellbeing Report. 1999; 4: 1-20.
27. Tse S. Practice guidelines: therapeutic interventions aimed at assisting people with bipolar affective disorder achieve their vocational goals. Work 2002; 19: 167–179.
28. Tohen M, Hennen J, Zarate C, et al. Two-year syndromal and functional recovery in 219 cases of frst-episode major affective disorder with psychotic features. Am J Psychiatry. 2000; 157(2): 220-228.
29. Saberi S M, Dehghani zade N, Tofighi Zavare H, Mehr pishe S, Memarian A. A Comparison of Committed Crimes Between Patients Sufferring From Bipolar Mood Disorder and Schizophrenia Referred to Forensic Psychiatry Department in Tehran Legal Medicine Center from April 2007 to April 2008.. Sci J Forensic Med. 2012; 18 (1) :39-45 [Persian]
30. Laxman KE, Lovibond KS, Hassan MK. Impact of bipolar disorder in employed populations. The American journal of managed care. 2008; 14(11): 757-64.
31. Dickerson FB, Boronow JJ, Stallings CR, Origoni AE, Cole S, Yolken RH. Association between cognitive functioning and employment status of persons with bipolar disorder. Psychiatric Services. 2004; 55(1): 54-8.
32. Tse S, Chan S, Ng KL, Yatham LN. Meta-analysis of predictors of favorable employment outcomes among individuals with bipolar disorder. Bipolar disorders. 2014; 16(3): 217-229.
33. Altshuler L, Tekell J, Biswas K, Kilbourne AM, Evans D, Tang D, Bauer MS. Executive function and employment status among veterans with bipolar disorder. Psychiatric Services. 2007; 58(11): 1441-7.

34. Kessing LV, Hansen MG, Andersen PK. Course of illness in depressive and bipolar disorders. Naturalistic study, 1994-1999. Br J Psychiatry 2004; 185: 372–377
35. Bauer M, Glenn T, Grof P, Rasgon NL, Marsh W, Sagduyu K, Alda M, Lewitzka U, Sasse J, Kozuch-Krolik E, Whybrow PC. Frequency of subsyndromal symptoms and employment status in patients with bipolar disorder. Social psychiatry and psychiatric epidemiology. 2009 Jul 1;44(7):515-
36. Hees HL, Koeter MW, Schene AH. Longitudinal relationship between depressive symptoms and work outcomes in clinically treated patients with long-term sickness absence related to major depressive disorder. J Affect Disord 2013; 148: 272–277.
37. Ryan KA, Eisenberg D, Kim HM, Lai Z, McInnis M, Kilbourne AM. Longitudinal impact of a collaborative care model on employment outcomes in bipolar disorder. Journal of affective disorders. 2015; 188: 239-42.
38. Gilbert E, Marwaha S. Predictors of employment in bipolar disorder: a systematic review. Journal of Affective Disorders. 2013; 145(2): 156-64.
39. Goodwin F, Jamison K. Manic-Depressive Illness: Bipolar Disorders and Recurrent Depression, 2nd edn. New York: Oxford University Press, 2007.
40. Gilbert AM, Olino TM, Houck P, Fagiolini A, Kupfer DJ, Frank E. Self-reported cognitive problems predict employment trajectory in patients with bipolar I disorder. Journal of affective disorders. 2010; 124(3): 324-8.
41. Zubieta JK, Huguelet P, O'Neil RL, Giordani BJ. Cognitive function in euthymic bipolar I disorder. Psychiatry Res 2001; 102: 9–20.
42. Wingo AP, Baldessarini RJ, Holtzheimer PE, Harvey PD. Factors associated with functional recovery in bipolar disorder patients. Bipolar Disord. 2010; 12: 319–326.
43. Strober, M., Morrell, W., Burroughs, J., Lampert, C., Danforth, H., & Freeman, R.. A family study of bipolar I disorder in adolescence: early onset of symptoms linked to increased familial loading and lithium resistance. Journal of Affective Disorders. 1988;15(3), 255-268.
44. Carlson GA, Jensen PS, Findling RL, Meyer RE, Calabrese J, DelBello MP, Emslie G, Flynn L, Goodwin F, Hellander M, Kowatch R. Methodological issues and controversies in clinical trials with child and adolescent patients with bipolar disorder: report of a consensus conference. Journal of child and adolescent psychopharmacology. 2003; 13(1): 13-27.
45. Hammen C, Gitlin M, Altshuler L. Predictors of work adjustment in bipolar I patients: a naturalistic longitudinal follow-up. J Consult Clin Psychol. 2000; 68: 220–225.
46. Elinson L, Houck P, Pincus HA. Working, receiving disability benefits, and access to mental health care in individuals with bipolar disorder. Bipolar Disord. 2007; 9: 158–165.
47. Waghorn G, Chant D, Jaeger J. Employment functioning and disability among community residents with bipolar affective disorder: results from an Australian community survey. Bipolar Disord. 2007; 9: 166–182.
48. Waghorn, G., Chant, D., & Whiteford, H. Clinical and non-clinical predictors of vocational recovery for Australians with psychotic disorders. The Journal of Rehabilitation. 2002; 68(4): 40-51.