JOURNAL OF CURRENT RESEARCH IN SCIENCE (ISSN 2322-5009)
CODEN (USA): JCRSDJ
2014, Vol. 2, No. 6, pp: 961-964
Available at www.jcrs010.com

ORIGINAL ARTICLE

PREVALENCE OF DEPRESSION AMONG PATIENTS WITH TUBERCULOSIS IN BANDAR ABBAS 2013

Parivash Davoodian [1], Javad Golmirzaei [2], Ibrahim Khaje [1], Armaqan Jahanmir *[3]

1. *Infectious and Tropical Diseases Research Center, Hormozgan University of Medical Sciences, Bandar Abbas, Iran.*
2. *Pediatric Neurology Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.*
3. *Student Research Committee, Hormozgan University of Medical Sciences, Bandar Abbas, Iran.*

- *Corresponding Author: Armaqan Jahanmir, Student Research Committee, Hormozgan University of Medical Sciences, Bandar Abbas, Iran. Email: armaqan.jahanmir@gmail.com*

ABSTRACT: Tuberculosis is a global health problem, especially in developing and the underdeveloped countries. TB, especially among individuals with a mood disorder, such as depression is common. Because of this association of TB with mood disorders doctors should also note to Depression during the treatment of TB patients to prevent the spread of TB in the community. This cross-sectional study was performed on TB patients. In order to collect demographic information, a checklist of demographic questions, including age, gender, education, nationality (Iranian or non-Iranian), family size, etc. were used. The results will be classified according to the severity of depression: absence of depression (Score 10-1), mild depression (Score 16-11), moderate (score 30-17) and severe (Score 40-31) and very severe (Score 40 and up). Data was entered in SPSS and to determine the relationship between different variables T-Test was used. in this study 76 patients included 46 males (60.5%) and 30 females (39.5%) with a mean age of 42.14 ± 17.67 years were take part. 17 patients (22.4%) have mild depression, 25 patients (32.9%) have moderate depression, 7 patients (9.2%) have severe depression and 27 patients (35.5%) were healthy (no depression). Comparison of the data shows that between the severity of depression and history of drug use, there is a significant relationship (P-value = 0.001). The severity of depression in TB patients was examined in terms of level of education, Comparison of the data indicated that there was no significant relationship between depression severity and level of education (P = 0.388**:** In the present study, the prevalence of depression among TB patients was 66.5%. 17 patients (22.4%) have mild depression, 25 (32.9%) patients have moderate depression, and 7 patients (9.2%) suffered from severe depression and found no cases of severe depression. between The prevalence of depression and drug use and history of depression in patients a significant relationship was found, so that those Prevalence of depression is higher in patients who has a history of depression and drug use.

Key words: Tuberculosis, depression, sex, drugs, education, nationality (Iranian or non-Iranian), history of disease.

INTRODUCTION

Tuberculosis (TB) is a global health problem, particularly in developing and underdeveloped countries. It is also the major cause of mortality and responsible for more than three million deaths, annually (1). According to a survey of World Health Organization (WHO), about a third of the world's population (nearly two billion people) is infected with Mycobacterium Tuberculosis; and 8-10 million new cases are added to it annually (2). Every second, a person is infected with TB; and in every four seconds, a person is diagnosed with this illness. Also, every 10 seconds, a person dies of tuberculosis. It is expected that, within the next 10 years, about 300 million people are infected with tuberculosis, and 90 million people are diagnosed with tuberculosis (3). In 2005, 8.8 million new cases of infection with TB were found in the world. The highest incidence of infection with TB is related to African and Asian countries, especially Bangladesh, India, China, Indonesia, Pakistan and the Philippines (4). The success rate of smear positive drug treatment in 2005 in the six WHO regions, including Africa, America, Eastern Mediterranean, Europe, Southeast Asia, the Pacific West and also in Iran was 50, 65, 46, 35, 64, 64, 76, respectively (5). Tuberculosis is particularly common among those with mood disorders, such as depression. As TB is associated with mood disorders, during treatment of TB patients, physicians should be aware of the

presentations (symptoms) of clinical depression, because it can lead to irregular treatment or treatment discontinuation (6). Awareness about depression and its role in the outcome of chronic diseases such as rheumatoid arthritis and diabetes has been increased in recent years. Like tuberculosis, diabetes is a chronic disease, and research in this area has shown that physiologically, affective disorders, particularly depression and patient's insight to his/her illness predict poor control of blood sugar. The efficiency of mental disorders treatment in improving the care of people with diabetes has been proven (7). In Britain, patients with tuberculosis who had not a good therapeutic compliance showed higher rates of depression and anxiety. Depression and lack of knowledge are separately associated with the lack of adherence to treatment. That is why the treatment of psychiatric disorders in patients with TB can play a role in increasing adherence, but more research is needed in this area (8).

Tuberculosis is a life-threatening disease representing a broad spectrum of clinical diseases mostly caused by Mycobacterium Tuberculosis (9). TB can infect the whole body, but the most common form of the disease is the white plague (pulmonary tuberculosis). Tuberculosis is presented in humans in two forms of pulmonary and extra-pulmonary tuberculosis (10). In the global rank of diseases, based on the WHO indices, TB was ranked seventh in 1990 and it is anticipated that to be remained in this rank in 2020. This is despite the fact that the most infectious diseases in this rank have fallen to the lower ranks (10). Depression is the most common mental illness that can prevent individuals from progress in doing their tasks and responsibilities through reducing their abilities. Tuberculosis is associated with psychiatric disorders, especially depression; and this is considered as a cause of increased mortality from this disease. Despite this important factor, no special attention is paid to the diagnosis of depression in patients with tuberculosis (11).

In 2005, 8.8 million new cases of TB were created in the world, the largest number of which was associated with African and Asian countries (Especially the six countries of Bangladesh, India, China, Indonesia, Pakistan and the Philippines) (4). The success rate of smear positive drug treatment in 2005 in the six WHO regions including Africa, America, Eastern Mediterranean, Europe, Southeast Asia, the West Pacific and also Iran was 50, 65, 46, 35, 64, 64 and 76 percent, respectively (5). In 2012, 5409 new smear positive pulmonary TB cases were found in Iran. These patients had a treatment success rate of 85% (3).

In the global rank of diseases, based on the WHO indices, TB was ranked seventh in 1990 and it is anticipated that to be remained in this rank in 2020. This is despite the fact that the most infectious diseases in this rank have fallen to the lower ranks (10).

A few studies have examined the common mental disorders in patients with tuberculosis in low and middle income countries (LMICs). The results of these studies have shown the high prevalence of mental disorders in patients with TB in Pakistan as equal to 46.3- 80% (12-13), in Nigeria, as equal to 27.7 - 30% (14-15), in Ethiopia as equal to 64% (16), in India as equal to 76% (17) and in South Africa as equal to 46% (18).

This cross-sectional study was conducted on patients with confirmed tuberculosis referred to the health centers in Bandar Abbas, according to the national TB program executed since January 2012 to December 2013. To gather demographic information, a check list composed of demographic questions including age, sex, education, nationality (Iranian or non-Iranian), family size, etc. was used. Beck depression standard questionnaire containing 21 questions filled out through the interviews with patients was used to assess the rate or severity of depression. The rate of depression was classified according to the obtained score: no depression (scores of 1-10), mild depression (scores of 11-16), moderate depression (scores of 17-30), severe depression (scores of 31-40), and very severe depression (scores of 40 and up). Patients were free to participate and the purpose of study was explained for them before the interview. Patients were free to leave the study in any part of the interview. After collecting the data, the data was entered in SPSS; and T-test was used to examine the relationship between the variables. In order to investigate the association of depression with each of the variables of interest, the logistic regression test was used.

Total number of TB patients referred to the health centers were 139 cases, of which 76 patients including 46 males (60.5%) and 30 females (39.5%) participated in this study. 63 patients refused to participate in the study from the beginning or left the study during the interview. In the present study, 27 individuals (35.5%) were healthy as far as the depression was concerned, 17 patients (22.4%) had mild depression, 25 patients (32.9%) had moderate depression, 7 patients

(9.2%) were diagnosed with severe depression and no cases were diagnosed with very severe depression. The prevalence of depression was assessed in each group, as well.

The prevalence of mild and severe depression in males was 12 patients (26.1%) and 5 patients (10.10%), respectively; and the prevalence of mild and severe depression in females was 5 patients (16.6%) and 2 patients (22.2%), respectively.

In patients with a history of depression, 2 patients (11.1%) were diagnosed with mild depression and 4 patients (22.2%) were diagnosed with severe depression. Among patients without any history of depression, 15 patients (25.5%) had mild depression and 3 patients (5.2%) had severe depression. Comparative data show that there is a significant relationship between depression and the history of depression (P-value = 0.004).

In patients with a family history of depression, 2 patients (12.5%) had mild depression and 3 patients (18.8%) had severe depression; and among patients without any family history of depression, 15 patients (25%) were diagnosed with mild depression and 4 patients (6.7%) were diagnosed with severe depression. Comparative data show that there is no significant relationship between the severity of depression and family history of depression (P-value = 0.236).

In patients with a history of drug abuse, 3 patients (15%) had mild depression, and 4 patients (20%) had severe depression; and in patients without any history of drug abuse, 14 patients (25%) were diagnosed with mild depression and 3 patients (5.4%) were diagnosed with severe depression. Comparative data show that there is a significant relationship between the severity of depression and the history of drug abuse (P-value = 0.001). In patients diagnosed with HIV, in addition to TB, 1 patient (10%) had mild depression and 5 patients (50%) had moderate depression. Also among the patients with tuberculosis who had renal failure, 1 patient (20%) was diagnosed with moderate depression, but none of them were suffering from severe depression. Comparative data show that there is no significant relationship between the severity of depression and the history of other diseases mentioned (P = 0.500). These data has been presented in Table 1.

REFERENCES

1. Joshi R, Maharjan M, Mark D.Z. Tuberculosis Awareness Among TB Patients Visiting In DOTS Clinic. Saarc J, Tuberc, Lung Dis, HIV/AIDS; 2006; 3:.20-5.
2. Natani GD, Jain NK, Sharma TN et al. Depression In TB Patients: Correlation With Duration Of Disease And Response To Anti-Tuberculous Chemotherapy. Indian Journal Of Tuberculosis 2006; 32:195.
3. World Health Organization .Fact Sheet About Tuberculosis, 2012.
4. Kunik ME, Roundy K, Veazey C, et al. Surprisingly High Prevalence Of Anxiety And Depression In Chronic Breathing Disorders. Chest 2005; 127: 1205-11
5. Paschalides C, Wearden AJ, Dunkerley R, et al. The Associations Of Anxiety, Depression And Personal Illness Representations With Glycaemic Control And Health-Related Quality Of Life In Patients With Tuberculosis. J. Psychosom Res 2004; 57: 557-64.
6. Lin EH, Katon W, Rutter C, et al. Effects Of Enhanced Depression Treatment On Diabetes Self Care. Ann Fam Med 2006; 4: 46-53.
7. Qayyum S, Rizvi R. Prevalence of depression in TB patients in comparison to non-tuberculous family contacts visiting the DOTS clinic in tertiary care hospital and its correlation with disease pattern. Infectious Diseases Journal of Pakistan 2008; 17:3–5.
8. Hussain MO, Dearman SP, Chaudhry IB,et al. The Relationship Between Anxiety, Depression And Illness Perception In Tuberculosis Patients In Pakistan. Clin Pract Epidemil Mental Health 2008; 4: 179-87.
9. Steingart KR, Henry M, Ng V, Hopewell PC, Ramsay A,Cunningham J, et al. Fluorescence versus conventional sputum smear microscopy for tuberculosis: a systematic review. Lancet Infect Dis 2006;6(9):570-81.
10. Center Disease Management. Handbook of Tuberculosis Compaign. 1st ed. Tehran. seda publish center;2002.p.9-23.[Persian]
11. Austin MP, Lumley J. Antenatal screening for postnatal depression: a systematic review. Acta Psychiatr Scand.2003;107:10-17.
12. Hussain MO, Dearman SP, Chaudhry IB, Rizvi N, Waheed W: The relationship between anxiety, depression and illness

perception in tberculosis patients in Pakistan. Clin Pract Epidemiol Ment Health 2008, 26:4.

13. Aamir SA: Co-morbid anxiety and depression among pulmonary tuberculosis patients. J Coll Physicians Surg Pak 2010, 20(10):703-704.
14. Issa BA, Yussuf AD, Kuranga SI: Depression comorbidity among patients with tuberculosis in a university teaching hospital outpatient clinic in Nigeria. *Mental Health Family Med* 2009, 6:133-138.
15. Aghanwa HS, Erhabor GE: Demographic/socioeconomic factors in mental disorders associated with tuberculosis in southwest Nigeria. *J Psychosom Res* 1998, 45(4):353-360.
16. Deribew A, Tesfaye M, Hailmichael Y, Apers L, Abebe G, Duchateau L, Colebunders R: Common mental disorders in TB/HIV co-infected patients in Ethiopia. *BMC Infect Dis* 2010, 10:201
17. Prakash C, Sangita S: Study of Psychiatric co - morbidity in cases of tuberculosis patients undergoing treatment. *Indian J Public Health Res Development* 2011, 2(2):111-113.
18. Westaway MS, Wolmarans L: Depression and self-esteem: rapid screening for depression in black, low literacy, hospitalized tuberculosis patients. *Soc Sci Med* 1992, 35(10):1311-1315.
19. Panchal, Swarn Lata. "Correlation with duration and depression in TB patients in rural jaipur district (nims hospital) swarn lata panchal."
20. Sulehri, Muhammad Anwar, Imtiaz Ahmad Dogar, Hamza Sohail, Zain Mehdi, Muhammad Azam, Obaid Niaz, M. Sheraz Javed, Istikhar Ali Sajjad, and Zahid Iqbal. "Prevalence of depression among tuberculosis patients." In APMC, vol. 4, no. 2, pp. 133-137. 2010.
21. Vega, P., A. Sweetland, J. Acha, H. Castillo, D. Guerra, Smith Fawzi, and S. Shin. "Psychiatric issues in the management of patients with multidrug-resistant tuberculosis." The International Journal of Tuberculosis and Lung Disease 8, no. 6 (2004): 749-759.
22. Balaji, Arjun L., Hulegar A. Abhishekh, Naveen C. Kumar, and Ravindra M. Mehta. "Depression in patients with pulmonary tuberculosis in a tertiary care general hospital." Asian journal of psychiatry 6, no. 3 (2013): 251-252.
23. Peltzer, Karl, Pamela Naidoo, Gladys Matseke, Julia Louw, Gugu Mchunu, and Bomkazi Tutshana. "Prevalence of psychological distress and Associated Factors in Tuberculosis Primary Care Patients in South Africa."
24. Ige, Olusoji Mayow, and Victor Olufolahan Lasebikan. "Prevalence of depression in tuberculosis patients in comparison with non-tuberculosis family contacts visiting the DOTS clinic in a Nigerian tertiary care hospital and its correlation with disease pattern." Mental health in family medicine 8, no. 4 (2011): 235.
25. Macharashvili, Neli, Maia Archvadze, and Lamara Vashakidze. "Tuberculosis (TB) and depression." European Respiratory Journal 42, no. Suppl 57 (2013): P2795.
26. Trenton, Adam J., and Glenn W. Currier. "Treatment of comorbid tuberculosis and depression." Primary care companion to the Journal of clinical psychiatry 3, no. 6 (2001): 236.
27. Eram, U., I. A. Khan, Md Z. Tamanna, Z. Khan, N. Khaliq, and A. J. Abidi. "Patient perception of illness and initial reaction to the diagnosis of tuberculosis." Indian Journal of Community Medicine 31, no. 3 (2006): 2006-07.