

FREQUENCY OF DEPRESSION IN MULTIDRUG-RESISTANT TUBERCULOSIS PATIENTS: AN EXPERIENCE FROM A TERTIARY CARE HOSPITAL

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ABSTRACT

Background: Both depression and Multi-drug resistant tuberculosis (MDR-TB) are global public health problems that have a substantial impact on human health. However, depressive state among MDR-TB patients has not been well investigated in Pakistan.

Objective: To find out the frequency of depression at baseline (at the time of registration) in currently diagnosed MDR-TB patients and the emergence of depression during MDR-TB treatment in registered MDR-TB patients in PMDT.

Design: The longitudinal study was conducted at PMDT centre, Lady Reading Hospital Peshawar (LRH) on patients enrolled for MDR-TB treatment from 1st May 2012 to 30th August 2013. A total of 213 patients were included in this study. All newly diagnosed MDR-TB patients at the time of registration and on every follow up.

Result: The total of 213 MDR-TB patients were recruited for the study. Out of 213 registered patients, 139 (65.5%) had depression at baseline. At the end of 1st quarter, only 47 (33.81%) out of 139 still had depression and at the end of 2nd quarter this number further decreased to 35 (15.10%). While the emergence of depression was 36% at the end of both 1st and 2nd quarter.

Key Words: Depression; MDR-TB; PMDT; Peshawar; Pakistan

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INTRODUCTION

Tuberculosis (TB) is a major cause of morbidity and mortality throughout the world, its causative organisms, *Mycobacterium tuberculosis*, infects one third of the world's population and causes more than 8 million new cases of tuberculosis (TB) and approximately 2 million deaths each year. Because of its unique determinants and particular social and geographic distributions, tuberculosis control programs have not yet succeeded in disease elimination, and often strikes the most vulnerable members of society and, if left untreated, causes its victims to lose weight, weaken and eventually waste away.¹

While adverse effects associated with MDR-TB treatment may be managed effectively^{2,3} certain side effects require special attention. In particular, depression can greatly impact patient quality of life, as well as physician's attitudes toward MDR-TB therapy. Successful control of depression is therefore crucial

not only for favorable patient outcome, but also for patient's overall well-being and physician's comfort with managing MDR-TB therapy. Depression may be a very important negative factor for treatment adherence in patients with MDR-TB and may hinder adaptation to illness conditions, which is a crucial survival factor in such diseases.⁴

Due to depression & its complications patients rejected to take treatment and this lead to default of the patient from treatment. The consequences of default from MDR TB treatment may be particularly grave, because effective therapy for patients with MDR TB relies on the remaining drugs to which the strain has in vitro susceptibility.⁵ Thus, treatment default may lead to the transmission of diseases that is more difficult to cure with existing drugs. Among individuals who defaulted from treatment, however, a higher rate of death was seen among those with a baseline psychiatric illness.⁶

Despite that Pakistan is among the high prevalence country for MDR-TB, there is a dearth of information on the frequency of depression among patients suffering from MDR-TB, we therefore the aim of this study is to find out frequency of depression among MDR-TB patients enrolled for treatment at PMDT-LRH Peshawar, Pakistan.

METHODOLOGY

The longitudinal study was conducted at PMDT centre, Lady Reading Hospital Peshawar (LRH), Pakistan on patients enrolled for MDR-TB treatment from 1st May 2012 to 30th August 2013. A total of 213 patients were included in this study. All newly diagnosed MDR-TB patients at the time of registration were assessed individually at the PMDT centre. After developing rapport with each patient, a semi-structured interview was conducted to collect demographic information. Psychological assessment was performed by a clinical psychologist, all of the patients at the time of registration for depression and then at every follow up as well for depression develops during the MDR-TB treatment. Hamilton depression rating scale was used for the assessment of depression.

Tool

Hamilton Depression Rating Scale: For the assessment of depression among MDR-TB patients, Hamilton depression rating scale (HAM-D) was used. The HAM-D consists of 20 questions. It's a valid and reliable scale. Test-Retest reliability for Hamilton depression scale ranged from 0.81 to 0.89.

Aim/Objective: To find out the frequency of depression at baseline (at the time of registration) in currently diagnosed MDR-TB patients and the emergence of depression during MDR-TB treatment in registered MDR-TB patients in PMDT.

RESULTS

The total of 213 MDR-TB patients was recruited for the study. Out of 213 patients, 111 (52.1%) were female and 102 (47.9%) were male patients. The majority of subjects were married 123 (57.7%), while unmarried were 90 (42.3%). The mean age of study subject was 29.45 ± 14.49 years with a male to female ratio of 1:1.1. Most of the patients 116 (54.5%) had history of past TB treatment more than one year, while duration of less than one year was 97 (45.5%). Patients belonging to urban area were 114 (53.5%) and patients of rural area were 99 (46.5%). These demographic characteristics are given in Table 1.

Table 1: Baseline Characteristics of study cases (n=213)

Characteristics	No. of patients (%) n=213
Gender	
Male	102 (47.9)
Female	111 (52.1)
Marital status	
Single	90 (42.3)
Married	123 (57.7)
Age (Years)	
≥ 30	141 (66.2)
<30	72 (33.8)
Duration of past TB treatment	
≥ 1 Year	116 (54.5)
< 1 Year	97 (45.5)
Residence	
Urban	114 (53.5)
Rural	99 (46.5)

Figure 1: Frequency of Depression at Baseline

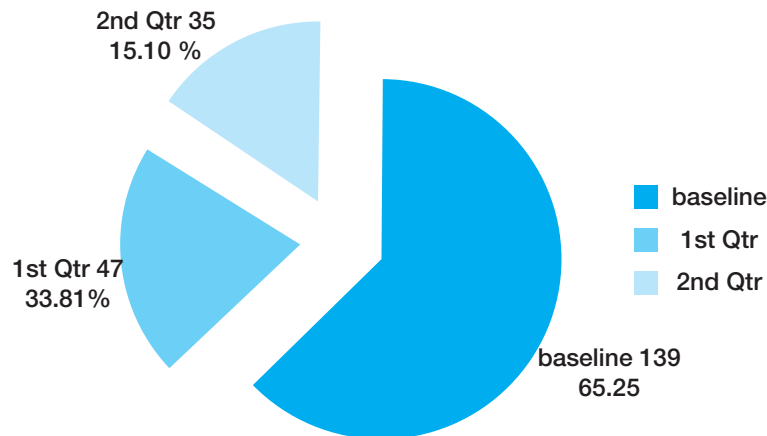
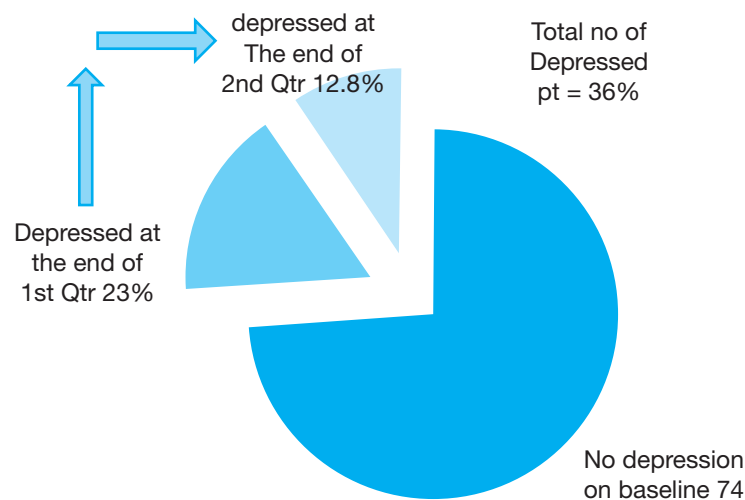


Figure 2: Frequency of Depression Develop during the MDR-TB treatment



Out of 213 registered patients, 139 (65.5%) had depression at baseline. At the end of 1st quarter, only 47 (22.6%) still had depression and at the end of 2nd quarter this number further decreased to 35 (16.43%) (Figure 1). Two third of the depressed patients were suffering from mild to moderate depression whereas 8.95% patients were severely depressed at the start of their treatment (baseline). At each follow up psychological assessment was done and find out the depression level. At first follow up (1st month of

treatment) depression was 42.3%, out of which 97.34% were suffering from mild and moderate depression whereas 2.65% patients were severely depressed. When the depression was assessed at 2nd month follow up (3rd visit) it was 36.3%, out of which more patients (97.93%) were suffering from mild and moderate depression whereas 2.06% patients were severely depressed. At third month (4th visit) depressed patients were 30.0% out of which 90.0% patients were suffering from mild and moderate

Figure 3: Depression at Baseline of MDR-TB Patients followed by every month

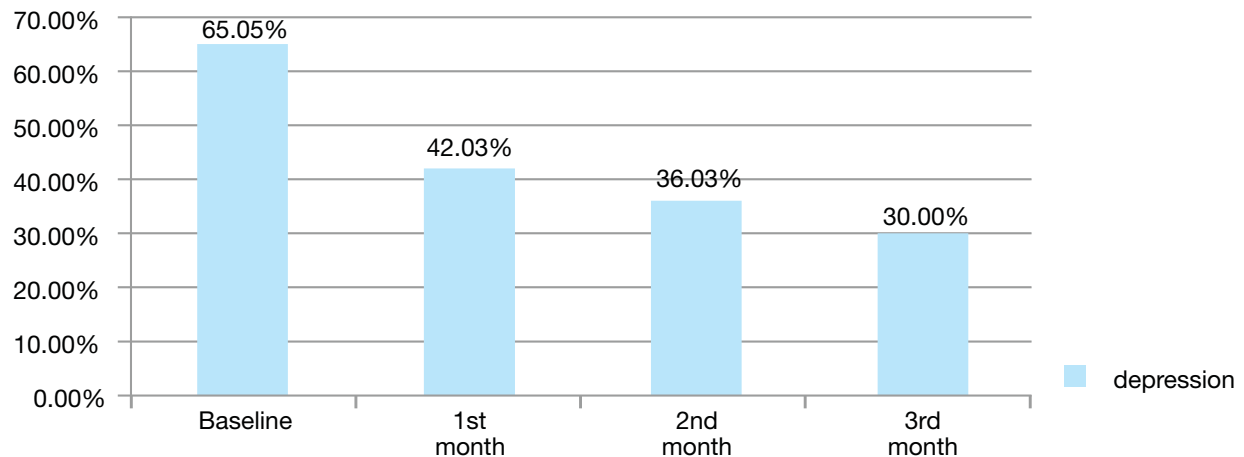
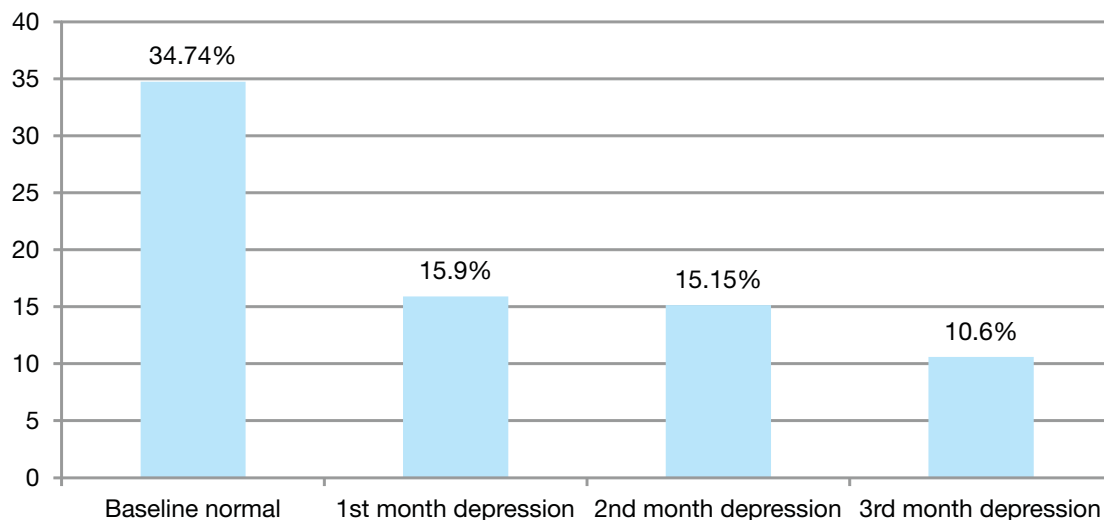


Figure 4: Emergence of Depression of MDR-TB Patients during treatment



depression whereas 10.0% patients were severely depressed (Figure 3). At start of the treatment (at baseline), 74 normal patients 21 (15.90%) patients had mild and moderate depression after taking one month treatment, whereas 4.10% suffered from severe depression. Twenty (15.15%) were those patients who were normal at zero and 1st month but mildly depressed at 2nd month (3rd visits). At 3rd month (4th visit) 14 (10.60%) more normal patients were became depressed, out of this 13 (92.85%) were suffering from mild depression whereas 1 (7.15%) patient was severely depressed (Figure 4). Out of 74 patients without depression at the baseline, 17 (23%) became

depressed at the end of 1st quarter and 9 (12.8%) more developed depression at the end of 2nd quarter making a total of 26 (35.13%) in those not depressed at baseline (Figure 2).

DISCUSSION

MDR-TB treatment is difficult as compared to drug susceptible TB with such toxic drugs which cause severe side effects, especially psychiatric problems and depression is top listed of them. Due to this fact we conducted this study which revealed that the prevalence of depression was 65.0%. The finding was similar with other studies carried out in Kenya 61%,⁷ in

India 62 %⁸ and 82 %.⁹ On the other hand, the current study findings were higher than the study done in Nigeria 27 %, ¹⁰ Greece 9.93 %, ¹¹ Nigera 41.9%, ¹² in Ibadan Nigera 45.5%¹³ and in Pakistan 46.3%.¹⁴ The present study indicated that at baseline depression was 65% which decreased upto 15.1% whereas rate of developmental depression was 23% at the end of 1st quarter which raise upto 36.8% at the end of 2nd quarter. The result of the study showed that most of the depressed patients at baseline improved with the passage of time during their treatment, presumably as they recovered from MDR-TB and were able to resume important social roles in their family and community. But on the other hand sad news is the developmental depression during treatment and at the end of 2nd quarter it reached upto 36.8%. The possible reason for developmental depression is due to some psychosocial forces, as well as drug-related factors. But in this study we did not find out main causes of depression.

Two main strategies have been used to manage depression during MDR-TB therapy in this program. First, clinical psychologist has been crucial in the identification, counseling, referral and management of this disorder. Clinical psychologist is trained to recognize early manifestations of adverse reactions, including psychiatric symptoms. Importantly, they provide counseling, psychotherapy and emotional support for patients and family members. The second strategy has been the use of psychiatric medications in the majority of incident cases, often managed by a psychiatrist and followed by psychologist.

The limitation of this study is small sample size which limits the analysis of risk factors and effect of psychiatric complications on treatment outcome. A larger cohort will likely be necessary to identify risk factors associated with the emergence of depression.

CONCLUSION

This study shows that most of the patients were found depressed at the time of registration for MDR-TB at PMDT centre LRH, Peshawar. Depression at baseline is more frequent than depression develop during the treatment. The possible reason for more depression at baseline is long time illness before coming for MDR-TB treatment and this disease as a social stigma. This study also shows the important role of clinical psychologist for doing psychological assessment at proper time, counseling, psychotherapy and referred moderate and severely depressed patients to psychiatrist for proper medication. There is an urgent need of more such studies.

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