Title: Female tuberculosis (TB) patients with stigma are at increased risk of persistent depression: time to integrate mental health screening into TB care

Presenter: NISHI SURYAVANSHI
Institution: BJGMC-JHU Clinical Research Site, PUNE

Scientific Research

EP-09-177-01

THE 50TH UNION WORLD CONFERENCE ON LUNG HEALTH

Background

Background:

- The prevalence of mental disorders, including depression and anxiety disorders, among people with TB is very high and estimated to be >40% in India (1,2).
- Much of this data is from cross-sectional studies and it is not known to what extent depression persists until end of TB treatment and what factors are associated with this persistent depression, defined as participants having depression at TB treatment initiation and at completion.
- Such data are needed to inform optimal screening, referral and treatment resources for individuals with persistent depression.

Research Objective:

- To study the epidemiology of persistent depression and its relationship with various risk factors.

Ethics:

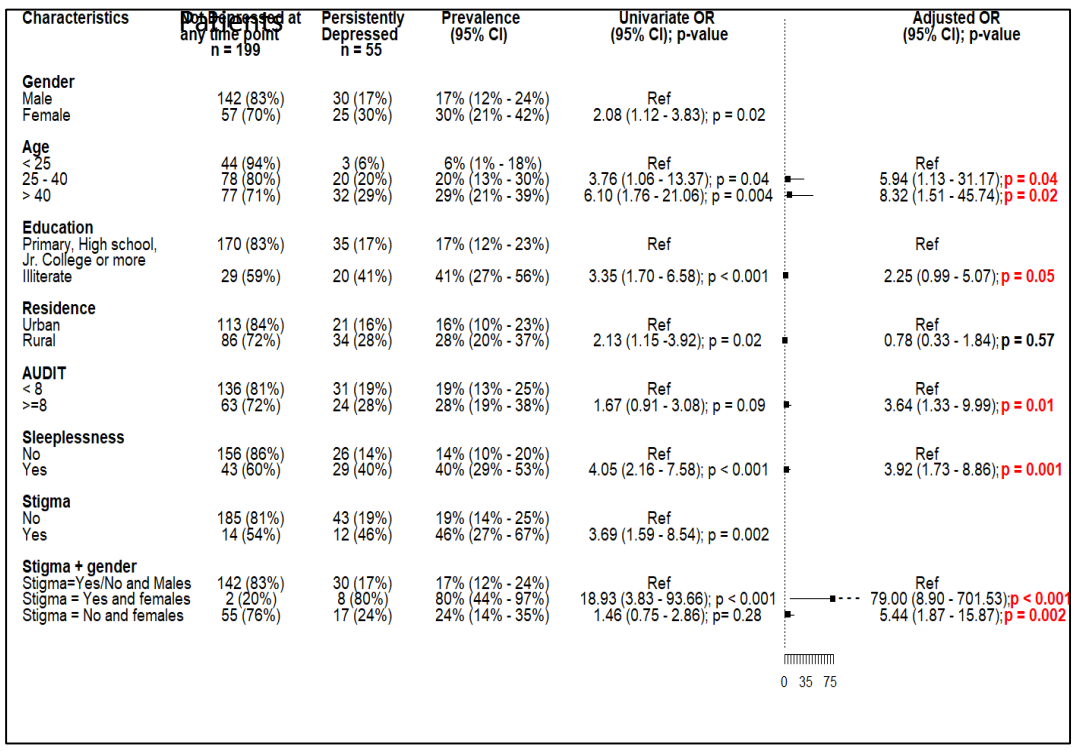
- The study was approved by the Institutional Review board (IRB) at both National Institute for Research in Tuberculosis, Chennai and Byramjee Jeejeebhoy Government Medical College, Pune, India and Johns Hopkins IRB

Results

- Of 421 participants 200 (47.5%) were depressed at baseline and depressive symptoms disappeared for 145 (72.5%) at the end of the treatment leaving 55 depressed at the end of the treatment. 254 participants included in ananlysis;199 (78%) were never depressed and 55 (22%) were persistently depressed.
- Most common symptoms of depression were feeling lonely, depressed, unhappy and fearful > 3-4 days a week on CESD-10 scale.
- Multivariable analysis showed older age, alcohol dependence and sleeplessness were independently associated with PD.
- Females with stigma were more likely to be persistently depressed (aOR=5.44; 95% CI 1.87–15.87); p-value=0.002.

Figure 1: Factors associated with PD among PTB

Characteristics	Not Depressed at any time point n = 199	Persistently Depressed n = 55	Prevalence (95% CI)	Univariate OR (95% CI); p-value	Adjusted OR (95% CI); p-value
Gender					
Male	142 (83%)	30 (17%)	17% (12% - 24%)	Ref	
Female	57 (70%)	25 (30%)	30% (21% - 42%)	2.08 (1.12 - 3.83); p = 0.02	
Age					
< 25	44 (94%)	3 (6%)	6% (1% - 18%)	Ref	Ref
25 - 40	78 (80%)	20 (20%)	20% (13% - 30%)	3.76 (1.06 - 13.37); p = 0.04	5.94 (1.13 - 31.17); **p = 0.04**
> 40	77 (71%)	32 (29%)	29% (21% - 39%)	6.10 (1.76 - 21.06); p = 0.004	8.32 (1.51 - 45.74); **p = 0.02**
Education					
Primary, High school, Jr. College or more	170 (83%)	35 (17%)	17% (12% - 23%)	Ref	Ref
Illiterate	29 (59%)	20 (41%)	41% (27% - 56%)	3.35 (1.70 - 6.58); p < 0.001	2.25 (0.99 - 5.07); **p = 0.05**
Residence					
Urban	113 (84%)	21 (16%)	16% (10% - 23%)	Ref	Ref
Rural	86 (72%)	34 (28%)	28% (20% - 37%)	2.13 (1.15 -3.92); p = 0.02	0.78 (0.33 - 1.84); **p = 0.57**
AUDIT					
< 8	136 (81%)	31 (19%)	19% (13% - 25%)	Ref	Ref
>=8	63 (72%)	24 (28%)	28% (19% - 38%)	1.67 (0.91 - 3.08); p = 0.09	3.64 (1.33 - 9.99); **p = 0.01**
Sleeplessness					
No	156 (86%)	26 (14%)	14% (10% - 20%)	Ref	Ref
Yes	43 (60%)	29 (40%)	40% (29% - 53%)	4.05 (2.16 - 7.58); p < 0.001	3.92 (1.73 - 8.86); **p = 0.001**
Stigma					
No	185 (81%)	43 (19%)	19% (14% - 25%)	Ref	
Yes	14 (54%)	12 (46%)	46% (27% - 67%)	3.69 (1.59 - 8.54); p = 0.002	
Stigma + gender					
Stigma=Yes/No and Males	142 (83%)	30 (17%)	17% (12% - 24%)	Ref	Ref
Stigma = Yes and females	2 (20%)	8 (80%)	80% (44% - 97%)	18.93 (3.83 - 93.66); p < 0.001	79.00 (8.90 - 701.53); **p < 0.001**
Stigma = No and females	55 (76%)	17 (24%)	24% (14% - 35%)	1.46 (0.75 - 2.86); p= 0.28	5.44 (1.87 - 15.87); **p = 0.002**



Design/Methods

Study design: This study is part of a DBT-NIH funded RePORT India Consortium study called Prospective Observational Study Cohort for Tuberculosis Research by the Indo-US Medical Partnership **(CTRIUMPH)** .

Setting and population: National Institute for Research in Tuberculosis, Chennai and Byramjee Jeejeebhoy Government Medical College, Pune, India. Adults with active TB enrolled between 2014 and 2017, were assessed at treatment initiation and treatment completion (6 months).

Data Collection tools: Depression was assessed using a validated Centre for Epidemiological Scale-Depression-10 scale (CESD-10).

Participants having cut off score of >9 were considered depressed.

Outcome: To identify risk factors associated with persistent depression.

Statistical analyses:

- Proportion of Persistent Depression and corresponding 95% exact confidence interval was estimated overall, and also for specific risk groups (e.g. by gender).
- Comparison of differences by participant characteristics in the proportion of persistent depression was compared using Fisher's exact test.
- Univariable and multivariable logistic regression analysis was done to assess independent risk factors associated with persistent depression .

Conclusions

- In our study prevalence of PD was high and was correlated with more disadvantage and vulnerable group ; those with lower income, AUDIT $\geq$ 8 and older patients.
- Our study also showed evidence of correlation between stigma and persistent depression among female TB patients.

Limitation: We used only 1 question to capture stigma

Recommendations:

- TB programs need to determine the best approach in providing mental health screening and care to vulnerable TB patients at the initiation of the TB treatment to improve TB treatment outcomes.
- Studies focusing on stigma and depression among women TB patients using culturally adapted tools would provide stronger evidence for the burden of this syndemic.

Funding:This project has been funded in whole or in part by the Government of India's (GOI) Department of Biotechnology (DBT), the Indian Council of Medical Research (ICMR), the United States National Institutes of Health (NIH), National Institute of Allergy and Infectious Diseases (NIAID), Office of AIDS Research (OAR), and distributed in part by Civilian Research Development Foundation (CRDF) Global.

References

1. Purohit DR PS, Dhariwal ML et al. Incidence of depression in hospitalized tuberculosis patients. Indian J TB. 1978; 25:147-51.
2. Kunal Kumar AK, Prakash Chandra, Hari Mohan Kansal. A study of prevalence of depression and anxiety in patients suffering from tuberculosis. Journal of Family Medicine and Primary Care. 2016;5(1).