Depression and Suicidality Among People with Pulmonary Tuberculosis in East Africa

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BACKGROUND

Depression is understudied among people with tuberculosis (TB) or TB/HIV co-infection in settings highly affected by these syndemic conditions. We investigated the prevalence of depression and suicidal thinking, and associated clinical and social factors, in people with pulmonary TB in East Africa.

METHODS

This study analyzed prospective cohort data from 3 sites collaborating in the TB Sentinel Research Network of the International epidemiology Databases to Evaluate AIDS.

Individuals beginning treatment for pulmonary TB were assessed for depression symptoms and associated factors using standardized questionnaires.

Eldoret, Kenya
Mbarara, Uganda

- Ages ≥15
- Patient Health Questionnaire-9 (PHQ-9)

Kisumu, Kenya

- Ages ≥18
- Center of Epidemiologic Studies Depression (CESD-10)

Moderate-severe depression	
PHQ-9 ≥ 10	CESD-10 ≥ 10

Suicide risk assessment
Linkage to mental health care

Bivariable and multivariable analysis for Eldoret and Mbarara cohorts to investigate associated factors:

- HIV status
- Viral suppression (<75 copies/mL)
- Previous TB disease
- Substance use (by Alcohol, Smoking and Substance Involvement Screening Test [ASSIST])
- Food insecurity (by Household Food Insecurity Access Scale)
- Poverty (by Simple Poverty Scorecard)
- TB/HIV stigma (by adapted Van Ries scales)

Depression symptoms are common among people with TB in East Africa. Integrated TB services are needed for depression screening, crisis care, and mental health interventions. Validation of screening tools is warranted.

RESULTS

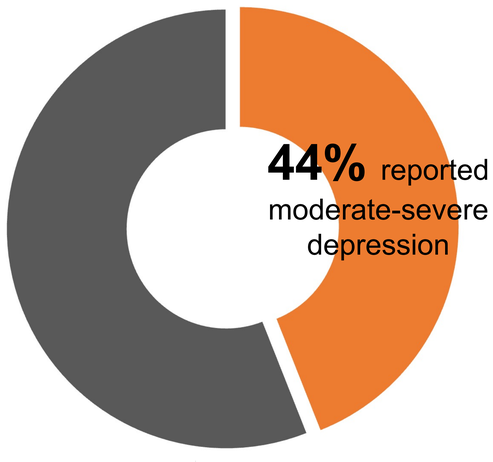
464 Individuals assessed

35.8 Median age, years (IQR 27.1-45.0)

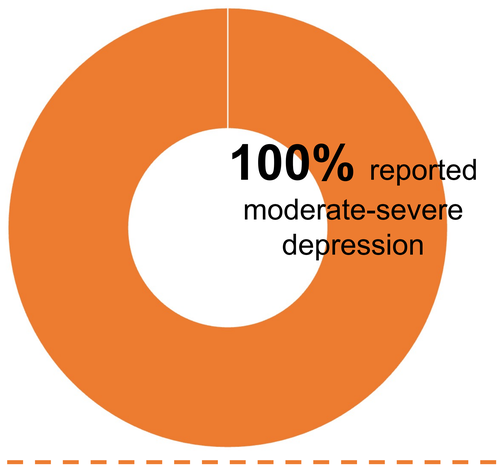
66% male

31% PLHIV

Eldoret and Mbarara
262 individuals



Kisumu
200 individuals



Any suicidal thinking **11%**

Active suicidal thinking **3%**

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Table: Multivariable analysis of factors associated with moderate-to-severe depression and with suicidal thinking among individuals with pulmonary TB, at Eldoret and Mbarara study sites only.

Characteristic	PHQ-9 ≥10		Suicidal Thinking	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Current age	0.98 (0.96-1.01)	0.20	0.99 (0.95-1.03)	0.70
Sex		0.34		0.06
Male	---		---	
Female	1.33 (0.74-2.41)		2.51 (0.95-6.80)	
Residence		0.60		0.63
Urban	---		---	
Rural	1.16 (0.66-2.03)		1.26 (0.49-3.31)	
Study site		**<0.001**		**<0.001**
Eldoret	---		---	
Mbarara	4.28 (2.32-8.11)		7.72 (2.89-22.76)	
HIV status		0.86		0.27
Negative	---		---	
Positive	0.94 (0.49-1.80)		0.55 (0.18-1.60)	
Previous TB		0.38		**<0.001**
No	---		---	
Yes	1.33 (0.70-2.56)		5.50 (2.17-14.39)	
Perceived HIV stigma		0.99		0.24
No	---		---	
Yes	0.99 (0.41-2.52)		3.16 (0.52-62.50)	
Experienced TB stigma		0.23		
No	---			
Yes	2.21 (0.63-10.38)			
Poverty (z-score)	0.97 (0.74-1.27)	0.82	0.78 (0.50-1.21)	0.27
Tobacco use		0.75		0.55
None or low-risk	---		---	
Moderate- or high-risk	1.16 (0.45-2.98)		1.71 (0.28-9.32)	
Alcohol use		**0.016**		0.86
None or low-risk	---		---	
Moderate- or high-risk	2.47 (1.18-5.31)		0.88 (0.19-3.38)	
Other substance use		0.91		0.25
None or low-risk	---		---	
Moderate- or high-risk	0.93 (0.22-3.56)		3.60 (0.36-26.28)	

CONCLUSIONS

Depression is prevalent in people with TB and is associated with site and alcohol use. Suicidality is associated with site and previous TB. There is urgent need for integration of mental health screening, crisis care, and interventions with TB services.

Measurement of depression is complex and may be affected by TB symptoms and/or by language or cultural context. Universal report of depression by CESD-10 suggests that the questionnaire may not perform well in individuals with TB. Mental health measures need rigorous validation in populations with TB across cultural contexts.

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PLAIN LANGUAGE SUMMARY

Depression symptoms are common among people who have tuberculosis in East Africa, and better access to mental health resources is urgently needed. Depression screening tools need to be studied in people with TB across international settings.