

**NOTES FROM THE FIELD****Training social workers to enhance patient-centered care for drug-resistant TB-HIV in South Africa**J. R. Zelnick,^{1,2} B. Seepamore,^{2,3} A. Daftary,^{2,4} K. R. Amico,⁵ X. Bhengu,⁶ G. Friedland,⁷ N. Padayatchi,² K. Naidoo,² M. R. O'Donnell^{2,8,9}<http://dx.doi.org/10.5588/pha.17.0114>

KwaZulu-Natal, South Africa, is the epicenter of an epidemic of drug-resistant tuberculosis (DR-TB) and human immunodeficiency virus (HIV) co-infection, characterized by low rates of medication adherence and retention in care. Social workers may have a unique role to play in improving DR-TB-HIV outcomes. We designed, implemented and evaluated a model-based pilot training course on patient-centered care, treatment literacy in DR-TB and HIV coinfection, patient support group facilitation, and self-care. Ten social workers participated in a 1-day training course. Post-training questionnaire scores showed significant overall gains ($P = 0.003$). A brief training intervention may be a useful and feasible way to engage social workers in patient-centered care for DR-TB and HIV coinfection.

KwaZulu-Natal, South Africa, is the epicenter of an epidemic of drug-resistant tuberculosis (DR-TB) and human immunodeficiency virus (HIV) co-infection in South Africa.¹ This epidemic is characterized by nosocomial and community spread, amplification of anti-tuberculosis drug resistance over time, and low rates of medication adherence and retention in care.²

Poor outcomes among patients with DR-TB and HIV coinfection are driven in part by harsh treatment demands and psychosocial issues.³ Patient-centered care that incorporates counseling and support is increasingly being recognized as an approach to improve outcomes.⁴⁻⁶ Social workers, who are often staff at hospitals and clinics that treat DR-TB patients, may be an overlooked resource.

In South Africa, social workers must have a 4-year bachelors' degree in social work (BSW) and be registered with the South African Council for Social Service Professions.⁷ South African public sector social workers are primarily community-based and employed by the Department of Social Development; however, the Department of Health (DoH) employs social workers in hospitals and clinics, including those offering specialized TB services. Hospital social workers assess patient psychosocial issues, including mental health, substance abuse, food insecurity, housing needs, family issues and poverty. They assist with applications for social grants, such as disability, pensions, and child support. They also counsel and educate patients prior to 'pass-outs' (temporary visits home) or discharge, focusing on how patients will manage their health is-

ues once they leave the hospital. If social issues are determined to be a factor in patient care, especially in non-adherence to treatment, patients are often referred to hospital social workers by medical staff.

The objective of this pilot training workshop was to strengthen social worker skills to motivate patients' active engagement in the care of DR-TB and HIV coinfection, improve understanding of DR-TB treatment, and identify barriers and challenges to patients' sustained engagement in treatment. The workshop adapted an information, motivation, behavioral skills model,⁸ and used a range of methods to promote active participation, including role play, break-out sessions for small group discussions, and brainstorming. Social workers employed by the KwaZulu-Natal DoH in the eThekweni metropolitan municipality and who were working with DR-TB patients were invited to participate.

The 1-day training curriculum was delivered by social work facilitators, one US-based and one South African, with research and practice experience with DR-TB and HIV. Training was delivered in English and isiZulu, allowing social workers to engage in role play and brainstorming in the languages primarily used with their patients. Curriculum topics included patient-centered care, barriers to treatment success and the role of social work (1.5 h); treatment literacy for DR-TB medications (1.5 h); support group skill-building (2 h); and resources and referrals, advocacy, self-care, and infection control (1.5 h).

A standardized pre- and post-training questionnaire was administered to evaluate the social workers' knowledge, attitudes, and intended practices following training. The post-training questionnaire was re-administered at a follow-up meeting 6 months later. The pre- and post-training responses were compared using paired samples *t*-test (Statistical Package for the Social Sciences, v 24; IBM Corp, Armonk, NY, USA). Qualitative data, derived from facilitator notes, were analyzed using standard qualitative methods.

The ethics committees at the University of KwaZulu-Natal approved the study protocol (UKZN Biomedical Research Ethics Committee, BF005/09). Written informed consent was obtained from all participants.

ASPECT OF INTEREST

Ten of 12 eligible KwaZulu-Natal DoH social workers attended the training. The majority of the trainees

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TABLE 1 Pre- and post-training comparison of social workers' knowledge, attitudes and intended practices related to treatment literacy and patient support groups for patients with DR-TB and HIV coinfection

	Agreement with statement (n = 10) mean ± SD*				
	All participants (n = 10)			6-month follow-up (n = 8)	
	Pre-training	Post-training	P value	Post-training	P value
Perceived knowledge and attitudes*					
Confident about knowledge of medications	3.60 ± 0.84	4.40 ± 0.52	0.01	3.88 ± 0.64	0.45
Confident about knowledge of medication side effects	3.80 ± 0.92	4.40 ± 0.70	0.19	4.25 ± 0.460	0.23
Know which side effects are serious	3.40 ± 0.97	4.80 ± 0.42	0.004	4.0 ± 0.76	0.17
Can advise patients about medication side effects	3.90 ± 0.57	4.30 ± 0.48	0.10	4.0 ± 0.93	0.78
Have skills to facilitate patient support groups	4.50 ± 0.53	4.60 ± 0.70	0.68	4.75 ± 0.46	0.31
Perceived and intended practices†					
Discuss medication side effects with DR-TB-HIV patients?	3.50 ± 0.850	4.60 ± 0.52	0.02	4.13 ± 0.991	0.17
Help patients plan for medication side effects?	3.50 ± 1.08	4.50 ± 0.71	0.02	3.88 ± 0.991	0.45
Discuss barriers to medication adherence and care?	4.50 ± 0.527	4.90 ± 0.32	0.04	4.38 ± 0.744	0.69
Discuss patient's personal goals for treatment?	4.70 ± 0.482	4.80 ± 0.42	0.59	4.75 ± 0.463	0.83
Organize a patient support group?	3.60 ± 0.699	4.80 ± 0.42	0.003	4.88 ± 0.354	0.0002
Overall change in perceived knowledge, attitudes and practices	38.70 ± 4.72	46.10 ± 3.67	0.003	42.88 ± 4.09	0.065

*Score: strongly disagree (1) to strongly agree (5).

†(Pre-training) 'How frequently?' Never (1) to very often (5) (Post-training) 'How likely?' Very unlikely (1) to very likely (5). DR-TB = drug-resistant tuberculosis; HIV = human immunodeficiency virus; SD = standard deviation.

were female (8/10), and were employed in a centralized TB hospital (4/10), decentralized TB treatment hospital (4/10), or TB clinic (2/10).

Following the training course, participants showed significant improvement in the post-test survey scores, particularly with regard to treatment literacy and intention to discuss treatment literacy topics with patients and to conduct patient support groups. However, gains in treatment literacy had deteriorated at the 6-month post-training test (Table 1).

During the group discussions, social workers identified barriers to medication adherence and retention in care in the health care system, individual patient situa-

tions, and patient motivation (Table 2). Health care system barriers included structural impediments to adherence (e.g., drug stock-outs, staff and bed shortages); policy impediments (e.g., poorly functioning DOTS system and lack of adequate rewards); and social impediments (e.g., disrespectful treatment of patients and language barriers).

Patient situational barriers identified by social workers included factors intrinsic to treatment for DR-TB and HIV coinfection (e.g., long hospital stay and treatment course, pill burden, loss of income), material hardship (e.g., poverty and homelessness), and psychosocial problems (e.g., lack of family support,

TABLE 2 Social worker perspectives on barriers to medication adherence and retention in care for DR-TB and HIV co-infected patients in KwaZulu-Natal, South Africa

Health care system barriers	Patient situational barriers	Patient motivation barriers
<ul style="list-style-type: none"> Health care worker staff shortage Health care workers do not speak isiZulu Negative/disrespectful treatment of patients Drug stock-outs Shortage of in-patient beds Poorly functioning DOTS system Occupational health/infection control No additional pay for working in a hazardous workplace 	<ul style="list-style-type: none"> Unemployment/financial issues/poverty Homelessness and unstable housing Distance to clinic Transition between in-patient and out-patient care Stigma and discrimination Lack of family support Lack of referrals Loss of income due to illness Substance abuse (<i>whoonga</i>,* marijuana, alcohol, heroin) Length of hospital stay Duration of treatment Number of daily medications (pill burden) 	<ul style="list-style-type: none"> Lack of ownership or agency over treatment decisions Low level of treatment literacy Poor communication Lack of disclosure of disease status to family Denial/lack of acceptance Stress Lack of hope regarding the possibility of cure Lack of belief in the need for a healthy lifestyle Social isolation

*A street drug that has come into widespread use in the impoverished townships of South Africa, and is a cocktail of various ingredients, the principal active ingredient of which is heroin. Often smoked with cannabis.

DR-TB = drug-resistant tuberculosis; HIV = human immunodeficiency virus; SD = standard deviation.

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substance abuse, depression). Stigma and discrimination were described as being interrelated with other situational barriers.

Social workers identified a web of factors, including denial, social isolation, lack of hope, and poor communication, which contributed to patients' motivation to take an active role in their treatment, although paternalism in the health care system was also identified as hindering patients' active engagement. Low levels of treatment literacy and lack of disclosure to family were also seen as impediments to patient motivation to adhere to difficult treatment, and remain in care over the long course of treatment (Table 2).

DISCUSSION

This brief, focused training course significantly improved the perceived knowledge, attitudes and intended practices of social workers around the treatment of DR-TB and HIV in South Africa, although the weak 6-month retest results suggest a need for follow-up activities to consolidate any training gains.

Despite their vast experience working with DR-TB and HIV co-infected patients, most participants lacked the confidence to comfortably discuss topics related to patients' TB care and treatment. As social workers discuss patients concerns and challenges and, unlike most doctors, most often communicate in the patient's first language (typically isiZulu), this gap in treatment literacy suggests a need for training/materials specifically designed for social workers. Treatment literacy advocacy campaigns among HIV/AIDS (acquired immune-deficiency syndrome) activists serve as an excellent model,⁹ although the complexity of the DR-TB medications and their variability based on individual resistance patterns is a challenge.

Training social workers to assist in care and treatment for DR-TB and HIV coinfection may have important public health implications. Newly introduced medications to treat DR-TB in South Africa, including bedaquiline and linezolid, show promising results.¹⁰ However, this advance underscores the need to find

new, effective ways to support patients as well as protect the medicines against community-acquired resistance.

CONCLUSION

While limited by the small sample size and design, our evaluation of this brief, targeted training course for social workers suggests that it may be an efficient, effective, and potentially cost-effective component of a patient-centered approach.

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Le KwaZulu-Natal, en Afrique du Sud, est l'épicentre d'une épidémie de coinfection par la tuberculose pharmacorésistante (TB-DR) et le virus de l'immunodéficience humaine caractérisée par des taux faibles d'adhérence aux médicaments et de rétention en soins. Les travailleurs sociaux pourraient avoir un rôle unique dans l'amélioration des résultats de la coinfection TB-DR et VIH. Nous avons conçu, mis en œuvre et évalué une formation pilote basée sur un modèle de soins centré sur le patient, de connaissance du

traitement de la coinfection TB-DR et VIH, de facilitation des groupes de soutien aux patients et de soins auto-administrés. Dix travailleurs sociaux ont participé à une formation d'un jour. Les scores des questionnaires après la formation ont montré des gains d'ensemble significatifs ($P = 0,003$). Une brève intervention de formation pourrait être une façon utile et faisable d'engager les travailleurs sociaux dans la prise en charge centrée sur le patient coinfected par la TB-DR et le VIH.

KwaZulu-Natal, en Suráfrica, es el epicentro de una epidemia de coinfección por el virus de la inmunodeficiencia humana (VIH) y la tuberculosis farmacorresistente (TB-DR), que se caracteriza por bajas tasas de cumplimiento terapéutico y una deficiente retención en la atención. Los trabajadores sociales pueden cumplir una función muy útil en el mejoramiento de los desenlaces clínicos de estos casos. En el presente artículo se describe el diseño, la ejecución y la evaluación de un curso experimental de capacitación a partir de un modelo, sobre la atención centrada en el paciente, la divulgación terapéutica

relacionada con la coinfección por el VIH y la TB-DR, la facilitación en grupos de apoyo de pacientes y la autoasistencia. Diez trabajadores sociales participaron en un curso de capacitación de un día de duración. La puntuación de los cuestionarios posteriores a la capacitación reveló progresos notables en general ($P = 0,003$). Una intervención breve de capacitación puede representar un medio útil y viable para fomentar la participación de los trabajadores sociales en la atención centrada en el paciente de los casos de coinfección por el VIH y la TB-DR.