When prevention is dangerous: perceptions of isoniazid preventive therapy in KwaZulu-Natal, South Africa

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Setting: In 2011, the South African government began to offer isoniazid preventive therapy (IPT) through the public health system to presumptively treat latent tuberculous infection (LTBI) among people living with human immunodeficiency virus.

Objective: To describe IPT perceptions and experiences in three Zulu communities in KwaZulu-Natal Province, South Africa.

Design: Using a combination of community-based research and ethnographic methods, we undertook 17 individual and group interviews between October 2014 and May 2015. Interviews transcripts were analysed using qualitative content analysis and validated with grass-roots community advisors.

Results: Participants reported multiple ways in which IPT was perceived as dangerous: when costs related to pill collection or consumption were unsustainable, or when daily pill consumption resulted in stigma or was seen to introduce excess dirt or toxins, 'ukungcold', in the body. Theories on dirt are evoked to describe how IPT was perceived as 'matter out of place' when given to people who believed themselves to be healthy, suggesting that under the current TB aetiological model in Zulu culture, 'prevention as tablet' may not fit.

Conclusion: Implementing IPT without understanding the realities of community stakeholders can unintentionally undermine TB control efforts by worsening the situation for people who already encounter numerous daily problems.

The use of tuberculosis (TB) preventive therapy is an integral part of global strategies to end TB.^{1,2} At present, isoniazid preventive therapy (IPT) is the only regimen recommended broadly for use in low-resource settings with high burdens of TB and human immunodeficiency virus (HIV) infection.³ In 2011, the World Health Organization (WHO) released guidelines to expedite access to IPT in such settings.⁴ Policymakers in South Africa, where the incidence of TB and TB-HIV are among the highest in the world, were quick to implement local guidelines to facilitate access to IPT.⁵

Isoniazid (INH) is one of four drugs used in the regimen to treat active TB disease. Due to its sterilising effects, it has also been used alone or in combination with a rifampicin derivative to treat dormant bacilli among the latently infected to prevent the development of active TB. South African guidelines, which informed the 2011 WHO guidelines, recommend that a 6-month regimen of daily INH in the form of a 300

mg tablet be offered to all people living with HIV (PLHIV), once active TB has been ruled out through a symptoms screen (current cough, fever, night sweats or unintentional weight loss).⁵ PLHIV who have chronic liver disease, suspected hepatitis or alcohol intake over 21 (female) or 28 (male) units per week are ineligible.⁶ Children aged <5 years who are household contacts of a person with recent active TB are also eligible for IPT through the public health system.⁵ According to guidelines, IPT is self-administered, with refills provided through the clinic once a month to enable routine TB screening and assessment for severe side effects such as hepatotoxicity or severe peripheral neuropathy.^{5,6} Daily pyridoxine 25 mg is routinely given along with IPT to reduce the risk of neuropathy.^{5,6}

Despite the change in guidelines, IPT uptake in high TB burden settings remains low,⁷ although South Africa accounts for the highest proportion of uptake in high-burden settings (39%), with an estimated 53% of newly diagnosed PLHIV initiated on IPT in 2017.⁸ The use of IPT remains contentious,⁹ with difficulty ruling out active TB in low-resource settings, especially among PLHIV with low CD4 counts.^{10,11} Despite recently published data suggesting that INH resistance has not increased in KwaZulu-Natal (KZN), South Africa, since community-wide IPT implementation,¹² the biological actions of IPT in anergic immune-compromised adults are still unclear.¹³ For some, it may mean unnecessary treatment, while for others it may sterilise recently or distantly acquired latent tuberculous infection (LTBI). Of key concern is the potential for inadequate and inappropriate treatment of preclinical or undiagnosed active TB.¹³

With a high burden of TB and HIV, uMgungundlovu Health District in KZN Province began to offer IPT free of charge to PLHIV through the public health system in early 2011. In the present study, we aimed to describe the acceptability of IPT in uMgungundlovu District during early implementation. Our study took place alongside a retrospective cohort study of community-wide IPT effectiveness among PLHIV in a community health centre catchment of uMgungundlovu District. Among those who completed at least 80% of the regimen, IPT significantly reduced TB incidence rates by 100% among women (97.5% confidence interval [CI] 78–100), and 54% among men (95%CI 0–85).¹⁴ Nonetheless, the uptake and completion of IPT was limited to 461 people among thousands of PLHIV who would have been eligible during the enrolment period.¹⁴ While prescription practices,

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FIGURE Overview of study design. — = primary data source; - - - - = secondary data source. IPT = isoniazid preventive therapy, GRAT = Grassroots Research Advisory Team.

drug stock-outs and system inefficiencies identified in other studies likely contributed to the low uptake,^{9,11,15} we wanted to understand the perceptions about IPT implementation from a community perspective. To do so, we used a hybrid of ethnographic and community-based participatory methods to learn about general perceptions of tuberculous infection, disease and IPT, as well as IPT experiences and decision-making among those offered IPT in three communities of uMgungundlovu.

STUDY POPULATION, DESIGN AND METHODS

Study population

An estimated 70% of TB diagnoses in KwaZulu-Natal are HIV-related.¹⁵ uMgungundlovu District reports an ante-natal HIV prevalence of 41% and a TB notification rate of 894 per 100 000 population.^{16,17} Multidrug resistance to first-line bactericidal drugs, INH and rifampicin is 7% among all people with TB and 15% among PLHIV.¹⁸ With a population of one million people, uMgungundlovu has an unemployment rate of 33%, with more than 25% of people living on <US\$1 per day.^{17,19} The study population consisted primarily of South Africans of Zulu heritage accessing peri-urban and rural primary care clinics in a district hospital catchment.

Design

A doctoral student (JB) and a knowledgeable and well-respected community member (SN) engaged regularly with the members of three randomly selected communities whose primary care clinics belonged to a district hospital catchment area in uMgungundlovu District between March 2012 and December 2016. Following the selection of communities, the primary sampling units of interest were individual participants (key informants, advisory team members and interview participants), and places and events (observation). To begin engagement, we used guided walkabouts and institutional mapping as described by Rifkin and Pridmore.²⁰ Based on these data, we identified key infor-

ants and key subpopulations to include in ongoing community engagement and group interviews (see Figure for an overview of study design).

Grassroots Community Advisory Teams (GRATs), made up of appointed community representatives as described in community-based research best practices,^{21–23} were created in each of the three selected communities. We engaged with key informants and community leadership for GRAT nominations. Members met with JB and SN quarterly to participate directly in the research process; key informants were trusted and knowledgeable members of the community who were interested and willing to reflect on their own experiences and perspectives of life in the community using a less regimented schedule.²⁴

We used a pro-poor approach when requesting GRAT membership recommendations,²⁵ with an emphasis on recruiting individuals who were concerned about the health of their community and had diverse community networks, but no formal clinical training or advanced degree. Each GRAT was made up of eight or nine community members to encourage depth of interaction and active involvement from all participants.²⁶ There was no a priori limit to the number of key informants with whom we engaged during the project, and informants were added throughout the process as new dimensions of community life became apparent.²⁷

Group interviews were facilitated by SN in isiZulu, while individual interviews were facilitated by JB with real-time isiZulu to English translation provided by SN. Although interview tools were semi-structured, we refer to group and individual interviews collectively as ‘structured interviews’ within the text. To strike a balance between depth of enquiry and feasibility for data collection and analysis, we aimed to collect three individual and three group interviews in each community according to subgroups. Group interviews included 4–10 people in line with standard practices,^{26,28} and were held to ascertain the overall familiarity with IPT in the community. Group interview participants were purposively selected from key subpopulations with the

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TABLE Participant demographics

	GRATs (<i>n</i> = 28) <i>n</i> (%)	Key informants (<i>n</i> = 23) <i>n</i> (%)	Structured interviews	
			Individual (<i>n</i> = 9) <i>n</i> (%)	Group (<i>n</i> = 54) <i>n</i> (%)
Sex				
Female	15 (54)	14 (61)	9 (100)	37 (69)
Male	13 (46)	9 (39)	0	17 (31)
Age group, years				
<18	1 (4)	3 (13)	0	0
18–34	9 (32)	6 (26)	2 (22)	18 (33)
35–64	11 (39)	9 (39)	5 (56)	25 (46)
>64	7 (25)	5 (22)	2 (22)	11 (20)

GRAT = Grassroots Research Advisory Team.

assistance of community health workers and taxi rank managers. Individual interviews occurred among people declining, discontinuing or completing IPT to find out about their lived experience. Participants were purposively selected according to status on IPT registers. All structured interviews occurred with adult participants.

METHODS

From October 2014 to May 2015, we facilitated eight group interviews with a total of 54 community members to ascertain general perspectives on tuberculous infection, TB disease and IPT, and undertook nine individual interviews with people who accepted, discontinued or declined IPT (see Table for participant demographics). In addition, JB maintained field notes from ethnographic observation and JB and SN interacted regularly with 28 GRAT members and 23 key informants across the three communities to inform the findings. GRAT members also contributed to the analysis and verification of results.

Ethics approvals were granted by the Universities of Alberta (Edmonton), Calgary (Calgary, Canada) and KwaZulu-Natal (Durban, South Africa). We also received administrative and community approvals. Transcripts and field notes were coded in NVivo 10.0 (QSR International, Melbourne, VIC, Australia) and analysed using qualitative content analysis as described by Mayan.²⁹ We used the International Journal of Tuberculosis and Lung Disease guidelines for qualitative research to ensure the quality of data reporting.³⁰

We employed several additional mechanisms to ensure scientific rigour. During development, we piloted both group and individual interview tools in a workshop format with patients at an antiretroviral therapy (ART) clinic at a large community health centre on two separate occasions. Minor revisions were made to the tools each time to clarify terminology. We then vetted the questions in English and isiZulu through GRAT members to ensure that language was appropriate to all three communities.²¹ Informed consent forms and interview guides were also back-translated from isiZulu to English by an independent translator to improve construct validity.³¹ Data collection and analysis were dynamic and concurrent as a means of constructive validation.³² GRATs and key informants were consulted throughout the process to ensure accurate descriptions of cultural concepts.^{21,23,33} Negative or deviant examples were included in the sample.^{32,34} Regular reflections were documented by the primary researcher in field notes and reviewed throughout analysis and discussions to consider how

her participation and worldview may have shaped or altered cultural exchange.²¹ Categories were member-checked by a sample of participants and peer-checked with health care providers working in South Africa to ensure credibility.²³ Theories were developed in relation to the data and compared to existing theory,³² a process which was also negotiated with and approved by GRATs.²¹

RESULTS

IPT was interpreted by some as dangerous when the costs related to pill collection or consumption exacerbated poverty, the stigma associated with HIV and ART were conflated with its use or it was seen as dirty or toxic.

Category 1: IPT may exacerbate issues of poverty

For many participants, each day involved making difficult choices with limited resources. Participants described general feelings of powerlessness about meeting basic needs. One participant described job insecurity and feeling expendable in a farm-based community:

Participant (P) 5: The Whites, especially on the farms, are used to [thinking of Blacks only in terms of work capacity]. Point at a Black and they should work hard.

P2: Work [comes] first, [the farm owner] doesn't care about life because he knows that when you die he will hire another Black person. [To him] a Black person doesn't think for himself; even his brain is black. (Group Interview [GI] number 8)

Participants described how adding IPT for prevention required additional clinic visits for monthly prescription renewals, an added cost and hardship under already difficult circumstances. One older participant who lived 2 km from the clinic described her commitment to the regimen thus:

If I don't have money, I have to walk and ask [my assigned community care giver] if they're going to accompany me. If I have money [US\$1.60], I take the transport. (Individual Interview [II] 4).

For others, public transport was not routinely available:

If I am not well, I still have to wake up very early in the morning and go to wait for the transport... when I'm finished at the clinic, I have to wait for the transport which will come from [another town] (II3).

Another participant explained that she had to miss 2 days of work each month, once to collect her IPT and a second to collect

medication for her son who was sick with TB. When asked how this impacted her job, she indicated, '[my employer] doesn't like it, but I have to force it' (II3).

Some participants described weekday clinic hours as prohibitive for day labourers, citing the need to work. One participant explained that, 'it's because these days people don't have enough money' (P3, GI1), while another responded, 'in our community we go to the doctor only when we are sick' (P4, GI1). A third participant explained that it is difficult for labourers because 'we don't have health facilities on weekends' (P1, GI1).

Some also described difficult financial situations when children may be at risk and eligible for IPT:

...maybe... the grandmother is sick [with TB] and she is supposed to encourage the kids to [go to clinic]. The kids are at school, they can't go to the clinic; they can't go because there is no money. The money they have is for food and it disappears quickly. (P1, GI8)

Lack of food also complicated adherence to IPT, which is recommended to be taken with food to minimise potential stomach upset or diarrhoea. For some, this expectation was difficult to meet:

I am trying to follow the diet, but I'm struggling since I don't have money, as I was only able to find a job recently (II3).

Two participants described an increase in appetite that they associated with the regimen, which they could not accommodate. One explained that she felt she should, 'eat now and again, now and again, but [in her household] there [was] no one... employed and that was very hard for [her]' (II9). The second described her experience as follows:

I felt hungry and I'm staying with my mum and my mother is the only... breadwinner, and she has to [pay] rent as well as buy food, pay for funeral [insurance], and sometimes she would complain about the amount of food that we are taking... Eventually I decided to quit [IPT] because I couldn't take that anymore. (II5)

Category 2: daily tablet use leads to disease stigma

Although the IPT regimen was the focus of interviews, many participants entered into discussion of daily tablet use in relation to TB and HIV as well. Many participants described daily pill use as an indication of disease. For some, an absence of pills indicated wellness, e.g., 'Health is feeling happy... [not] taking tablets' (IPT9). Others were exasperated by the thought of having to take tablets long-term,

Maybe I find that I have TB, I feel like *uish* [exasperated], I'm going to be on treatment for 6 months, or you find you have HIV and you have to take treatment for life. This is a problem (P1, GI3).

Others described the discomfort of pill taking:

They are big. If you swallow them, you want to vomit (P7, GI3).

For many participants, the concept of 'disease' was synonymous with HIV due to its spread in the community, referring to HIV as simply 'the virus' or 'the disease'. One participant described sickness as 'when you are not feeling well and... you think 'maybe it's HIV'' (P1, GI1). Others described how easily community members might suspect someone of having HIV, for example:

...let's say maybe you are limping, you have a knee injury, and you pass people. They will say 'you have the disease' (P1, GI8).

For many participants, fears about HIV were related to the accompanying stigma: '[people] are afraid of being discriminated...

at home and in the community' (P1, GI5). Stigma was related particularly to assumptions about sexual promiscuity, being 'dirty', or falling prey to addictions, what one participant summarised as 'not living in a correct way' (P2, GI4).

Stigma attached to having HIV was also transferred to IPT. Often participants talked about ART for HIV treatment and IPT regimens simply as 'treatment', and discussed the two interchangeably. One participant who initiated IPT and ART concurrently recalled instructions characteristic of ART adherence counselling when asked what she was told about IPT:

They told me that I have to take care of myself. I have to take precautions. I have to clean the environment where I am. I have to wash my clothes, don't wear the dirty clothes. I have to open the windows. I have to clean everything, even the bed linen. (II3)

When asked to clarify if this information actually related to ART, she replied, 'they said they go along. When there is TB, HIV is there' (II3). Others described TB and HIV as 'siblings' or 'twin diseases'. In one group interview, a participant explained the meaning of 'TB Plus', a local idiom:

If [the neighbours] hear that you have TB, most people here will gossip... once [a person] said to me 'oh, your husband has TB?' I said, 'yes' and she said, 'no mum, go for a check-up for the virus. You will find that you have the virus too. (P4, GI8)

The implications of this were described by a second participant:

If you are told you have TB, keep it to yourself and take pills and don't tell people, because they will go around talking about you (P3, GI8).

Another participant described some people's preference to 'use suppositories of traditional medicine to try to heal themselves' (P4, GI1), instead of taking tablets to treat TB disease.

Furthermore, IPT use was identified as a matter to be kept secret, perhaps because of the conflation with ART. In one instance, a participant indicated she did not know of anyone else on the regimen 'because people are so secretive' (II9). Another participant, who declined IPT because she had recently been treated for active TB, was surprised to find her sister had started IPT without telling her:

I went to the clinic on Monday to collect my sister's medication. On the medication there was that [isoniazid] and as she kept quiet, I didn't say anything... I just gave it to her and I kept quiet (II1).

Category 3: pills can introduce ukungcola Ukungcola as dirt

Although some participants described TB and HIV as diseases that 'didn't exist in our parents' time' or 'coming from nowhere', TB was often described as a result of exposure to 'dirt' (*ukungcola*) in the environment or practicing 'dirty' habits. Examples of dirty environments included proximity to pigs, living in a shack or unclean home or the use of coal or wood indoors. Dirty habits included failure to bathe regularly, smoking or drinking caffeinated beverages. The word *ukungcola* is distinct from the isiZulu word for virus or germ, '*igciwane*.' In one group interview, *ukungcola* and *igciwane* were equated when a participant explained how smoking might cause TB:

...maybe your chest is dirty where it all started and it's spreading. Then when you cough, you are coughing *ukungcola* [dirt] and you pass it to the next person. Because it's always said that you cough *igciwane* [germs] (P5, GI8).

Ukungcola as toxin

The word '*ukungcola*' can also be used to describe a toxin. In this way, intensive pill regimens were also linked to *ukungcola*. Daily tablets were thought to '[build] up the amount of *ukungcola* [poison] in the stomach' (P2, G11). One participant described a foul body odour while on IPT, postulating that 'the body is releasing *ukungcola*' (P8, G18). She further explained, 'it becomes so bad that even your urine smells unlike before.'

Resolving *ukungcola*

Cleansing practices were described to resolve *ukungcola*—either as 'dirt' or as 'toxin'—in the body. Some participants practiced routine vomiting (daily or weekly) as a general bodily cleanse, but when disease or long-term medications were deemed to build up excess *ukungcola*, a regimen of cleansing may be sought with the aid of herbs prescribed by an ancestral healer (*sangoma*) or herbalist (*nyanga*). One participant described the process,

...we would take some ground herbs boiled with water and we drink a whole jug of that and then you stick your two fingers in and you vomit it out to clean the immune system (P6, G11).

One key informant described an encounter with his brother who sought a herbal cleanse to resolve an uncomfortable feeling in his chest:

He said he could feel the tablets burning him here [indicates mid-chest] like they were stuck. He wanted to go to the *sangoma* to get herbs to help him vomit them out (Key Informant interview 12).

Herbal suppositories and water enemas could also be used for cleansing, particularly among members of African Indigenous Churches, which combined traditional African practices with Christianity. One participant described that

...if you can see that the tablet doesn't help, and I can feel that there is a part of me that needs to be healed, then I would use the traditional herbs as a suppository. Because tablets won't come out (P2, G11).

DISCUSSION

Despite the growing global and national impetus for the use of IPT in low-resource settings with a high burden of HIV-related TB, perceptions of 6-month IPT during early implementation in uMgungundlovu District, KZN, suggest that IPT can be viewed as dangerous. In this context, dangers of IPT included the exacerbation of poverty, introduction of stigma and the belief that it was toxic.

Some participants described struggling with the IPT regimen during economic hardship. These hardships align with barriers to gaining access to health. Guillford et al. explained that a person can be seen as having access to health when the infrastructure exists to provide health services, e.g., clinics, staff and a reliable supply of medicines; however, a person only gains access when the services provided are affordable, accessible and acceptable given their circumstances.³⁵ Participants described barriers in the form of opportunity costs (e.g., transport, unpaid leave) and organisational obstacles (e.g., limited clinic hours, monthly prescription renewals). While many of these barriers related to the need for routine clinic visits, increased food consumption when on the regimen and the potential to have to return to clinic more often due to problematic side effects also contributed to new economic hardships that were too much for some participants to withstand. These findings are consistent with poverty-related factors re-

ported in studies of IPT barriers from South and sub-Saharan Africa, including the financial burden of food to accompany the regimen,³⁶ travel to the clinic^{36,37} and lost wages.^{15,36,38}

Acceptability was also a barrier when IPT use introduced stigma similar to that found with HIV. Participants revealed that IPT and ART were often thought of interchangeably, and TB and HIV were known to be closely linked, suggesting a transfer of stigma. Reports of secrecy concerning IPT were consistent with this finding. A study from Tanzania also reported that 58% of patients who discontinued IPT reported that stigma was the primary factor contributing to this decision.³⁶ Two other studies reported that 'the denial of HIV status'³⁹ and 'the belief that HIV is incurable'³⁷—which we believe to be possibly related to stigma—were primary factors given for discontinuing IPT, while acceptance of HIV status³⁹ and viewing IPT as similar to ART³⁶ were identified as facilitators to completion. These findings suggest that IPT uptake may be undermined in resource-constrained settings if care is not taken to mitigate these barriers to gaining access for the most vulnerable.

Furthermore, the difference between tuberculous infection and TB disease did not appear to be well-integrated into culturally derived explanatory models of health, as treatment for tuberculous infection vs. TB disease were often conflated. As we reported previously, no isiZulu equivalent for tuberculous infection was reported during early community research.⁴⁰ This is not surprising, given that before the introduction of updated South African guidelines recommending IPT initiation even in the absence of active TB symptoms, treatment for LTBI was not widely practiced outside of clinical trials. Moreover, before the introduction of Xpert® RIF/MTB (Cepheid, Sunnyvale, CA, USA), pulmonary TB disease at primary clinics outside of major cities was generally diagnosed using sputum smear microscopy, which has a very low sensitivity for paucibacillary disease.⁴¹ Recent genomic and radiographic studies have challenged the standard dichotomy of TB as latent or active, suggesting that medical researchers also struggle with differentiating TB at various stages.^{42–46} The use of the term *ukungcola*, which means both 'dirt' and 'toxin,' may serve to propagate stigma, even when it is used to describe potential side effects (e.g., 'even your urine smells unlike before') due to its common use to describe the dirty environments or contexts in which some believe the disease spreads.

As early as 1969, Mary Douglas detailed how, across cultures, the term 'dirt' or 'dirty' was used to describe concepts or objects that do not fit with the existing understanding of the world.^{47–49} A dichotomy is created between that which fits as 'pure' and that which does not as 'dangerous'.⁴⁸ Douglas explained that the term 'dirt' has inconsistent definitions, but invariably links to 'matter' which is interpreted by a subject or society in a particular context as 'out of place'.⁴⁷ Her theory fits well in the context of uMgungundlovu where HIV and TB resurgence are perceived as diseases that 'come from nowhere' and tablet regimens are described as *ukungcola* in the body. This assessment is echoed in the findings of Pascoe et al. in a study of perceptions of HIV and other sexually transmitted infections (STIs) in KZN and Gauteng Provinces of South Africa.⁵⁰ The authors reported that while traditional health practitioners and their patients acknowledged risk-based factors and biological modes of transmission, HIV and other STIs were explained as 'pollution' or 'dirt in the blood' that arose when ancestral practices were not respected.⁵⁰ Based on our findings, we argue that IPT in this setting was at times perceived as matter that was out of place when given to people who identified as otherwise healthy, suggesting that under the present aetiological model for

TB in Zulu culture, 'prevention as tablet' does not fit within the existing classification system. Vernooij et al. reported similar findings in a Southern African trial that investigated early ART initiation to prevent HIV transmission, noting that the framing of treatment as prevention 'did not fit in well with local biomedical knowledge, kinship dynamics and secrecy'.⁵¹

It is interesting to note that Douglas also discussed the role of ritual in resolving matter out of place.⁴⁸ Similarities can be drawn to the practice of cleansing when a perceived build-up of medication becomes quite literally a matter to be purged from the body in order to return to a state of equilibrium. Implementing IPT without adequate engagement and understanding of localised aetiologies can unintentionally introduce excess burden for people who already encounter a number of daily struggles related to health, access, safety and basic needs. Prevention thus becomes toxic, and cleansing is the ritual response.

Limitations

Data saturation was limited by the number of interviews ($n = 9$), which was further divided by uptake and completion status for the purposes of analysis. We triangulated data on community perspectives (group interview participants, key informants) by including additional people eligible or offered IPT during analysis, which contributed to theory building. Nevertheless, given the small number of interviewees, there may be other barriers that did not arise within the analysis.

Relying on IPT registers and community health workers to identify many of the interview participants also meant the generalisability of our findings are largely limited to those who already seek care through clinics. In particular, we had much fewer male participants than female, despite specific attempts to enrol men. Male participation was constrained by a few factors, including fewer men on IPT registers, inability to reach them based on the information provided in the register and the hours during which data was routinely collected—primarily during daylight hours on weekdays, when more men were likely to be at work. Although group interviews with taxi drivers provided helpful insight into the challenges of IPT uptake and general clinic use among men, the small number of participants and absence of individual interviews with men meant that we were unable to adequately reflect on differences in this group.

It is also important to note that culture is not static, but constantly in flux.⁵² UMgungundlovu District is no exception, as the lines between urban and rural areas become increasingly blurred, and global information platforms reach further distances. Ethnography by definition is situated in a particular place and time, from a particular perspective.^{33,52,53} Acceptability of IPT may shift and change over time as new information becomes available or as cultural dynamics shift within the community.⁵² That said, lessons on IPT drawn from this research are also applicable more broadly to South and Southern Africa, given similar belief systems and political and economic conditions. Findings may also extend to members of the Southern African diaspora outside of the region, and apply to other cultures in response to similar economic circumstances. Policymakers, health care practitioners, and non-governmental organisations and government programme implementers may wish to consider the ways in which seemingly disparate cultures overlap—and ways in which they do not—in order to transfer the lessons learned from one context to another.

It should also be noted that there remain many IPT barriers through the health system which our study did not consider. As the study occurred in resource-constrained environments, drug

stock-outs, nurse workloads and other health system issues may affect the ability to routinely screen for eligibility and offer IPT to patients. Future research is needed in the region to understand the implications of both patient and health system factors collectively.

Based on our findings, future research is also needed to assess and mitigate impediments to gaining health access. Some ideas that emerged in our discussion with GRATs included linking at-risk patients to existing food programmes, providing free text messaging services to alert health workers about transport issues, and developing novel partnerships with taxi associations, private pharmacies and faith-based institutions to offer support to those who are hardest to reach. Existing networks of community care givers can play an important role. It is also critical to understand the mechanisms of stigma and seek local ideas to overcome them. Finally, future research might also seek local equivalents to preventive therapy or treatment of latent diseases. As the implementation of ART for prevention continues worldwide, there are bigger implications for prevention in general. If few people are willing or able to initiate or sustain ART regimens from the time of HIV diagnosis, test-and-treat policies could fail soon after implementation or lead to increased drug resistance among those who discontinue.

CONCLUSION

Our findings suggest that despite the potential of IPT to prevent TB in high-burden settings, community members in KZN's uMgungundlovu District encountered dangers that can prove challenging to implementation. In particular, access barriers persist among those who live in poverty, and stigma related to TB, HIV and pill taking may deter some from taking the regimen. Furthermore, the complexity of distinguishing tuberculous infection and TB disease is already a topic of much scientific debate. Participant references to *ukungcola* as either 'dirt' or 'toxicity' relating to TB suggest that more engagement is needed with high TB burden communities to clarify the existing complexities of tuberculous infection vs. TB disease and to distinguish preventive from therapeutic regimens.

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Contexte : En 2011, le gouvernement d'Afrique du Sud a commencé à offrir le traitement préventif par isoniazide (IPT) à travers le système de santé publique pour traiter de manière préventive l'infection tuberculeuse latente parmi les personnes vivant avec le virus de l'immunodéficience humaine.

Objectif : Décrire les perceptions et les expériences relatives au traitement préventif par isoniazide dans trois communautés Zulu de la province du KwaZulu-Natal.

Schéma : En utilisant un hybride de recherche en communautés et de méthodes ethnographiques, nous avons réalisé 17 entretiens individuels et en groupe entre octobre 2014 et mai 2015. Les transcriptions des entretiens ont été analysées par analyse qualitative du contenu et validées par des conseillers communautaires de base.

Résultats : Les participants ont fait état de nombreuses occasions où l'IPT a été perçu comme dangereux : quand les coûts liés à la collecte

des comprimés ou à leur consommation n'ont plus pu être assumés, ou quand la consommation quotidienne des comprimés a entraîné une stigmatisation ou a été considérée comme introduisant un surplus de saleté ou des toxines, « *ukungcola* », dans le corps. Les théories relatives à la saleté sont évoquées afin de décrire comment l'IPT a été perçu comme « matière déplacée » quand il a été administré à des personnes considérées comme étant en bonne santé, ce qui suggère que dans le contexte du modèle étiologique de la TB dans la culture Zulu, la « prévention sous forme de comprimés » n'est peut-être pas congrue.

Conclusion : Mettre en œuvre l'IPT sans comprendre les réalités de la communauté peut involontairement saper les efforts en ajoutant un fardeau supplémentaire à des personnes qui font déjà face à de nombreuses difficultés quotidiennes.

Marco de referencia: Desde el 2011, el gobierno de Suráfrica ofrece el tratamiento preventivo con isoniazida (IPT) en el sistema de salud pública, como tratamiento presuntivo de la infección tuberculosa latente a las personas con infección por el virus de la inmunodeficiencia humana.

Objetivo: Describir la percepción y las experiencias relacionadas con el IPT en tres comunidades Zulu de la provincia KwaZulu-Natal.

Método: Mediante métodos híbridos de investigación comunitaria y etnográfica se emprendieron 17 entrevistas individuales y en grupo entre octubre del 2014 y mayo del 2015. En la evaluación de las transcripciones de las entrevistas se aplicó el método de análisis cualitativo de contenido y fue validada por asesores de investigación en las comunidades de base.

Resultados: Los participantes refirieron diversas circunstancias en las cuales el IPT se percibe como peligroso, a saber: cuando los

costos relacionados con la recogida de los comprimidos o su consumo resultaban insostenibles o cuando la toma diaria de los comprimidos daba lugar a estigmatización o se percibía como la introducción al organismo de un exceso de impurezas o toxinas '*ukungcola*'. Se evocan las teorías de la impureza con el fin de describir la percepción del IPT como 'materia fuera de su sitio', cuando se administra a personas consideradas sanas, lo cual indica que el concepto de 'prevención en forma de comprimido' no se adapta al modelo etiológico vigente de la tuberculosis en la cultura Zulu.

Conclusión: Introducir el IPT sin comprender las realidades de los interesados directos en las comunidades socava sin intención los esfuerzos, al generar cargas excesivas a personas que ya afrontan numerosas dificultades en su vida diaria.