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Intro

- Evidence of the acceptability by patients of urine sampling for urine-based tuberculosis (TB) testing remains limited.
- Aim:** To describe patients' experiences, perspectives and perceptions of urine sampling and urine-based TB testing.

Methods

- Study design:** Qualitative descriptive inquiry.
- Participants and Sampling:** HIV-positive adult (>18) patients from Kenya and Uganda, enrolled in the FujiLAM diagnostic study, were selected purposively.
- Data collection:** Participants were interviewed using a semi-structured interview guide. Each interview was audio-recorded, translated and transcribed.
- Data Analysis:** Data were analyzed using content analysis.
- Ethics:** All participants provided written informed consent.

Results

- A total of 32 participants consented to participate and were interviewed (Gender and age distribution in Table 1

Table 1: Study Participants' gender and age group, by site

| Participants characteristics | | Homa Bay, Kenya | Mbarara, Uganda | Total |
|------------------------------|--------------|-----------------|-----------------|-----------|
| Gender | Female | 9 | 8 | 17 |
| | Male | 7 | 8 | 15 |
| Age Group | 18-24 | 5 | 4 | 9 |
| | 25-44 | 7 | 8 | 15 |
| | 45 and older | 4 | 4 | 8 |
| Total | | 16 | 16 | 32 |

- Data were fitted into three domains, and illustrative quotes were selected (See text box to the right).

A. Urine sampling perspectives and urine-based TB testing perceptions

- Urine sampling is **viewed as easy, natural, fast and painless**, with the main reported challenge being not having the urge to urinate.
- It is **preferred to sputum sampling** in terms of simplicity, comfort, stigma-reduction, convenience, and practicality.
- Trust in the plausibility and accuracy of urine-based TB testing is associated with beliefs on TB's etiology and the function of the urinary system.
- Urine-based TB testing is favored as an **additional method** of testing and is believed to allow for **early diagnosis**.
- Participants are willing to wait for several hours for **same day results** to allay the emotional, physical, and financial burden of having to return, and **prefer not to have to pay for the test**.

"The urine sample is very easy, because even if you don't have urine, you will take water and the urine will have to come out. But the sputum way is difficult"

Participant, Kenya

"The urine test is good because tuberculosis can be detected earlier before it destroys many things and you develop a cough; Sometimes [TB] has no symptoms. "

Participant, Kenya

"I would wait for the results because I want to go home knowing exactly what I am suffering from (...) sometimes you do not have the energy to walk to the health facility and there is no money for the transport fare"

Participant, Uganda

"When you go to the toilet and you find that it is dirty, it does not give you the morale to do what you have to do there. But if it is clean, then you do what you have to do without any worries"

Participant, Uganda

"Sometimes someone is close to you, and you cannot start urinating when people are observing you"

Participant, Kenya

B. Facilitators of urine sampling

- Cleanliness and perceived privacy** of sampling spaces influence participants' willingness to provide urine for TB testing.
- Other facilitators include **comprehensive sampling instructions and test information**, as well as **supplies to ensure comfort and privacy** when producing and returning samples

"I want to know if I have tuberculosis or not, so if I have it, I can get treatment early. I liked the information on the urine test. It is something which is helping my life"

Participant, Kenya

"The important thing for me is to restore my health. I met health workers who were very supportive. I can never question what the health workers tell me"

Participant, Uganda

C. Motivational factors of urine sampling acceptance

- Participants' **perceived susceptibility to TB**
- the **value they attribute to their health**, especially when experiencing symptoms,
- their **positive interactions with the medical team**
- the perceived advantages of participating in a research study.

Conclusions

- Overall, urine-based TB testing is viewed positively and accepted as a diagnostic method. Acceptability is shaped by
 - Internal perceptions** about the ease, convenience and practicality of urine sampling and the perceived plausibility and accuracy of urine-based TB testing,
 - Motivational factors** such as perceived susceptibility to TB, concerns about one's health, and trust in and positive interactions with health workers,
 - External, supportive aspects**, such as the appropriateness of the sampling environment and supplies to ensure comfort, privacy and safety.
- These results encourage the future implementation and use of urine-based assays.**

Table 2: Recommendations for improvement of patients' experience and acceptability of urine sampling and urine-based TB testing

| | |
|---|--|
| 1 | Providing a standard "package" for urine sampling, including comprehensive instructions on how to sample urine, and set of necessary supplies (for example: envelop to put the urine container, wipes or toilet paper etc.) |
| 2 | Ensuring the availability, relative proximity, cleanliness, maintenance, and privacy of urine sampling spaces as well as the availability of functional handwash points. Whenever possible, assess the relevance and possibility of having an acceptable, dedicated space for TB presumptive patients. |
| 3 | Providing the test free of charge to patients |
| 4 | Ensuring that TB results, diagnosis, and when applicable, on-site anti-TB treatment are obtained on the same day, preferably within three hours, and that they are communicated and provided confidentially to patients to reduce stigma |
| 5 | Ensuring patient/provider collaborative relationship, and confidential, clear, honest communication on urine-based TB testing to support patients' needs for information and assistance |