Health utilities of patients with multidrug-resistant tuberculosis and its influencing factors: A cross-sectional study based on EQ-5D-5L in China
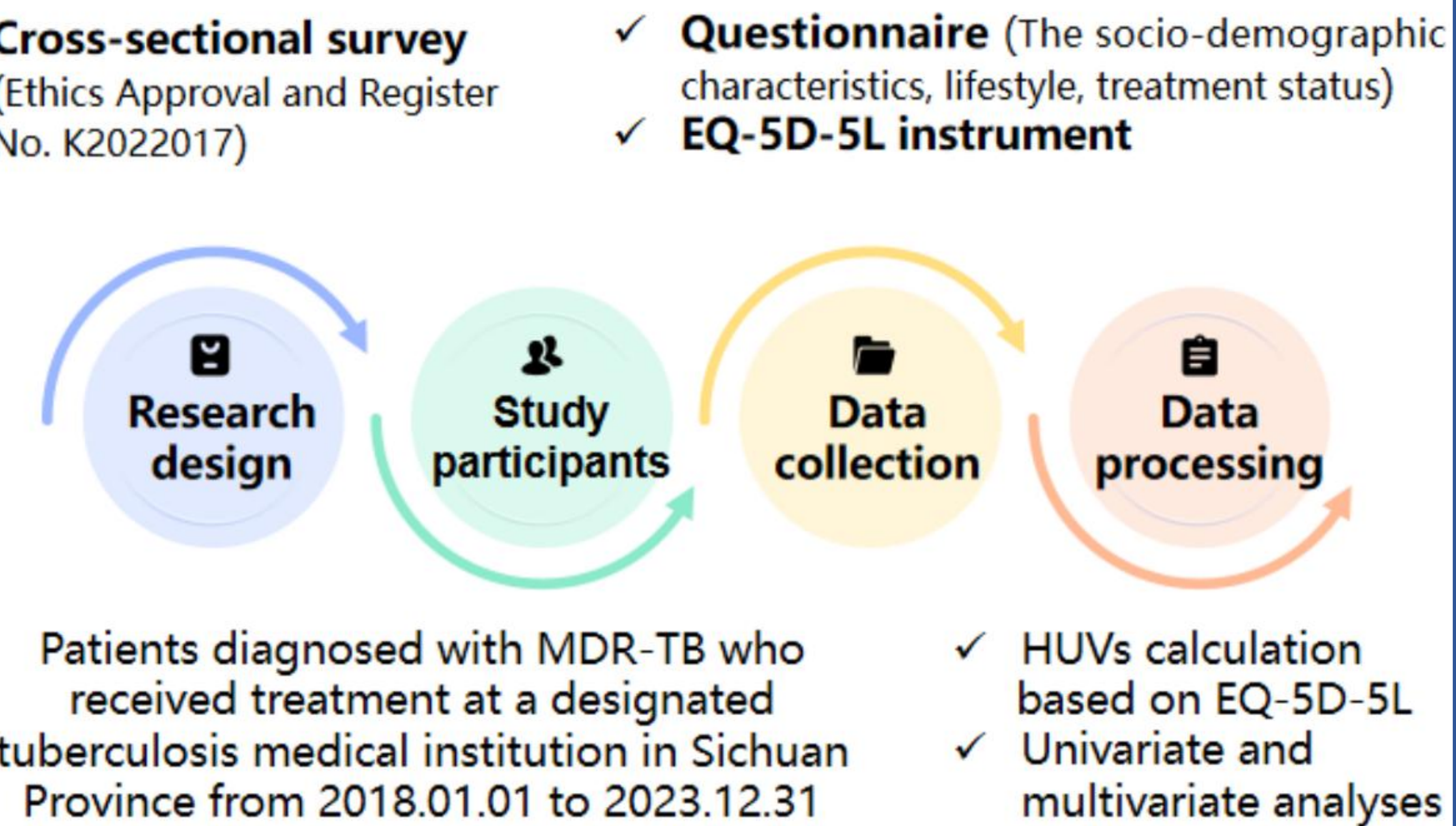
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Objectives

Multidrug-resistant tuberculosis (MDR-TB) affects the health-related quality of life (HRQoL) of patients, this study aims to provide health utility values (HUVs) for MDR-TB patients in China and to identify the factors influencing HUVs.

Methods

Cross-sectional survey (Ethics Approval and Register No. K2022017)

✓ **Questionnaire** (The socio-demographic characteristics, lifestyle, treatment status)
✓ **EQ-5D-5L instrument**

Research design → Study participants → Data collection → Data processing

Patients diagnosed with MDR-TB who received treatment at a designated tuberculosis medical institution in Sichuan Province from 2018.01.01 to 2023.12.31

✓ HUVs calculation based on EQ-5D-5L
✓ Univariate and multivariate analyses

Conclusion

The study provided the HUVs of MDR-TB patients in China which is a lack of evidence for the economic evaluation of interventions. The identified factors could also contribute to healthcare management and improving the HRQoL for MDR-TB patients.

Results

● A total of 195 participants were finally included. The mean age was 34.85±11.99 years, with male being 60.0%.
● The most frequently reported difficulty were '**pain/discomfort**' (56.92%) and 'anxiety/depression' (52.82%).
● The mean HUV of all patients was **0.857±0.182.** And the HUV was 0.893±0.157 in patients who had completed treatment, which was higher than that of 0.822±0.198 in patients undergoing treatment (p<0.001), as shown in table 1.

Table 1. The HUVs of MDR-TB patients. ***$p<0.001$.

Groups	n(%)	HUV		p
		Mean	SD	
All patients	195(100%)	0.857	0.182	/
Undergoing treatment	98(50.26%)	0.822	0.198	0.000237
Completed treatment	97(49.74%)	0.893	0.157	***

● The univariate analysis (Table 2) showed that age, occupation, labor intensity, treatment status, treatment effects, adverse reactions, medication and perceived discrimination were the main factors affecting HUV. The multivariate analysis (Table 3) further suggested that patients with unemployment, depression and anxiety, feelings of discrimination, and patients need for family care when taking medication were statistically significantly related to lower HUVs.

Table 2. The univariate analysis results

Factors	Groups	p
Age	≤24; 25-35; 36-55; ≥55	0.0117*
Occupation	Farmer/Worker/Freelancing; Service industry; Self-employed; Government/Corporate/Public institutions employee; Student; Healthcare professionals; Retiree; Unemployed; Others	0.00154**
Labor intensity	Light; Moderate; Heavy	0.0496*
Treatment status	Undergoing; Completed	0.000237 ***
Treatment effects	Cured; Improved; No significant change; Recurrence later	0.000546
Adverse reaction	Yes; No	0.000323 ***
Medication	Self-medication; Family care; Both	0.00355 **
Perceived discrimination	Absolutely no; No; A little bit; Yes; Very much	9.25E-06 ***

Table 3. The multivariate analysis results

Factors	Coefficients	p
Occupation (ref. = Farmer/Worker/Freelancing)		
Unemployed	-0.161	0.00449**
Depression and anxiety (ref. = No)		
Yes	-0.108	0.0146*
Medication (ref. = Self-medication)		
Family care	-0.305	2.74E-06***
Both	-0.520	0.00172**
Perceived discrimination (ref. = Absolutely no)		
No	-0.105	0.0605
A little bit	-0.195	0.000535***
Yes	-0.202	0.000606***
Very much	-0.264	9.67E-05***

ref.:reference; *p<0.05, **p<0.01, ***p<0.001.