Agreement and psychometric properties of the interviewer-administered, self-complete and proxy-report versions of EQ-5D-Y-3L in Tigrinya.

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Objective

- To assess agreement and psychometric properties between the self-complete (SC), interviewer-administered(IA) and proxy-report versions of EQ-5D-Y-3L in Tigrinya.

Methods

- Adolescents and children aged 8-18 years, with and without health conditions, were recruited in Mekelle, Tigray, Ethiopia.
- SC and IA modes of administration (MoAs), along with proxy-report (parents/legal guardians), were completed with repeated measures to assess test-retest reliability (for unchanged health status) and responsiveness (for changed health status) after ten days and one month, respectively, using a one-item global rating scale.
- SC and IA were administered in a randomized order, with an age-appropriate cognitive task in between.
- MoAs were compared by analyzing: a) agreement of dimension scores between MoAs (using Cohen's Kappa and Gwet's AC); b) reliability (using ICC); c) known-group validity (using the level sum score–LSS and the Kruskal-Wallis test), and; d) responsiveness (using standardized response mean– SRM).

Results

- A total of 623 participants (211 healthy school children/adolescents, 89 with HIV, 15 with exacerbation of asthma, 101 with diabetes mellitus, 96 with congestive heart failure, and 102 with acute injury) were recruited, with a mean age of 13 years (SD = 3.01).
- Cohen's Kappa and Gwet's AC showed moderate to almost perfect agreement across all dimensions and EQ-VAS, with scores ranging from 0.56-0.91 (**Figure 1**).
- SC, IA and proxy-report test-retest reliability ranged from moderate to excellent across dimensions and the EQ-VAS score (**Table 1**).

Results *continued*

- Both SC and IA showed large responsiveness, with SRM values of 1.20 and 1.59, respectively, while the proxy-report showed moderate to large responsiveness with SRM of 0.77, (P <0.001).
- The LSS of all MoAs (SC (X^2 =289.2 , p=0.001), IA (X^2 =302, p=0.001), and proxy-report (X^2 = 256.7, p=0.001) were able to differentiate across known disease groups.
- Pairwise comparison showed significant difference between the general school group and those living with chronic and acute illness.
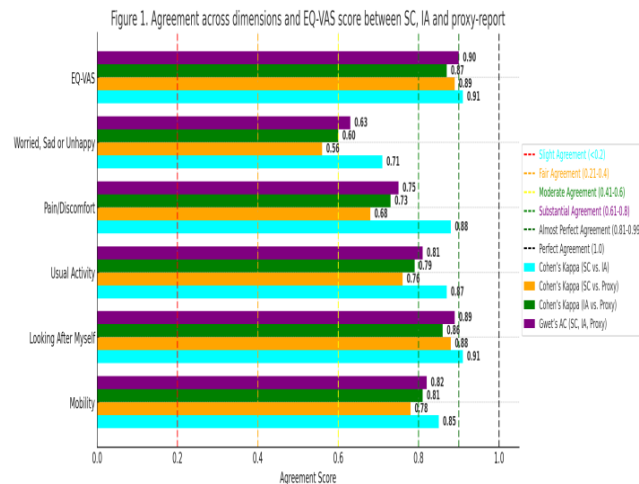

Figure 1. Agreement across dimensions and EQ-VAS score between SC, IA and proxy-report

Table 1. Test-retest reliability **(ICC)** across dimensions and EQ-VAS score in each MoA

Dimensions	SC	IA	Proxy
Mobility	(0.86)*	(0.95)*	(0.93)*
Looking After Myself	(0.93)*	(0.86)*	(0.86)*
Usual Activity	(0.92)*	(0.87)*	(0.75)*
Pain/Discomfort	(0.89)*	(0.87)*	(0.68)*
Worried, Sad or Unhappy	(0.71)*	(0.89)*	(0.56)*
EQ-VAS	(0.91)*	(0.97)*	(0.89)*

Where * indicates a *p -value of* < 0.05 - showing statistical significance.

Conclusion: The different MoAs of the Tigrinya version of EQ-5D-Y-3L showed substantial to almost perfect agreement, moderate to excellent test-retest reliability, moderate to large responsiveness, and significant known-group validity indicating that all MoAs are likely to be appropriate for use in Tigrinya-speaking populations, though the self-complete versions should be preferred.

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