Validation of the HIV treatment satisfaction questionnaire

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Objective:To validate a new patient-completed measure of satisfaction with treatment for HIV, for clinical use.

Background: Combined therapies to control HIV progression involve taking several tablets or capsules daily for many years, and side-effects are problematic. It is important to improve the acceptability of treatment regimens to patients.

Methods: A ten-item HIV Treatment Satisfaction Questionnaire (HIVTSQ) was designed using the format of the Diabetes Treatment Satisfaction Questionnaire (Bradley 1994), and modifying content for HIV treatments. The HIVTSQ was then evaluated within a sample of 150 HIV-1 sero-positive individuals (127 from USA and 23 from Canada). Participants had been randomised to receiving one of two protease inhibitors as part of combined therapy to control HIV progression. Frequency distributions, principal components analysis and Cronbach's alpha were used to assess comprehension, factor structure and internal consistency reliability, and determine scoring.

Results Patient ratings of nine of the ten HIVTSQ items can be summed to compute a single total satisfaction scale, which had good reliability and validity within both nationalities and both treatment types, as well as within the full sample of 150. One item (concerning how demanding the treatment was considered to be) needs further modification before inclusion. Principal components and reliability analysis suggested that the nine items could usefully be divided into two subscales, which were also found to be more sensitive to treatment differences than the single scale. The first subscale related to general satisfaction / clinical satisfaction (including perceived HIV control and side-effects) and the second to lifestyle / ease of taking the treatment.
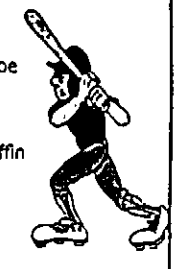
Conclusion: The HIVTSQ has good internal consistency-reliability, clear structure and preliminary evidence of validity. Inclusion of a subscale concerning lifestyle / ease of taking medication allows for separate consideration of how easily a treatment can be incorporated into daily life. Both general satisfaction and lifestyle issues are critical to adherence amongst patients prescribed complex medication regimens over many years and the HIVTSQ will be useful in evaluating new treatment regimens.

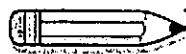# Validation of the HIV Treatment Satisfaction Questionnaire HIVTSQ

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Acknowledgements

The measure

- Format of Diabetes Treatment Satisfaction Questionnaire DTSQ (Bradley & Lewis 1990)
- Adapted for HIV with GlaxoWellcome UK
- Self-completion: 10 items
- Circle a number 6-0
- One side of paper
- Flesch reading ease 69.6
  - (normal population range 60-70)

HIV Treatment Satisfaction Questionnaire: HIVTSQ

a. How satisfied are you with your current treatment?

very satisfied 6 5 4 3 2 1 0 very dissatisfied

9 more items concerned with:

control of HIV   side-effects   how demanding*
convenience   understanding   flexibility
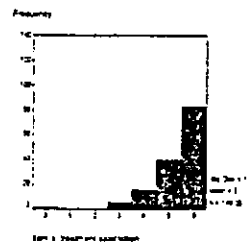fit in with lifestyle   recommend   satisfaction to continue.

* d. How demanding is your present method of treatment
(in terms of time, effort, thought, etc.)?

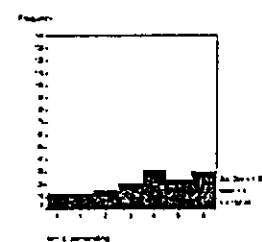very demanding 6 5 4 3 2 1 0 very undemanding

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150 study patients on combined therapy

		USA Wk 8	Wk 16	Canada Wk 8	Wk 16	TOTAL
Treatment	A	33	28	8	5	74
	B	35	31	7	3	76
		127			23	150
Male	134					
Female	16					
Mean Age in years (sd)	37.3	(8.4)				
Mean viral load (sd) copies HIV-1 RNA/ml (log₁₀)	4.1	(0.76)				
Ethnicity	White	98	Black 39	Hispanic 12	Other	1

Distribution of HIVTSQ items

9 items
-skewed towards high satisfaction
-correlate positively
-factors clear

The demanding item
-does not correlate negatively with others as expected
-factor analysis unsatisfactory

Principal components analysis

- Combined data
- Results presented here:
  - raw data
  - correlation matrix
  - varimax rotation
  - excluding *demanding* item
- Factors extracted
  - Eigenvalues >1
  - two factors
  - single factor

Principal components

- 3 factors Eigenvalues>1 (69.2% of variance)
  - *side-effects* and *lifestyle* loaded >0.4 on two factors
- 2 factors (57.8% of variance)

general satisfaction/clinical		lifestyle/ease	
treatment satisfaction	.82	convenient	.75
control	.66	flexible	.74
side-effects	.51	understanding	.67
recommend	.77	lifestyle	.71
continue	.85		
Cronbach's α = 0.80		Cronbach's α = 0.74	

- Single factor (43.7% of variance)
total satisfaction
loadings from .42 (*understanding*) to .73 (*continue*)
Cronbach's α =0.82