

The MacTSQ

The MacTSQ is owned by Health Psychology Research Ltd. (“HPR”). Users must have a licence from HPR, which is contactable either via its website at www.healthpsychologyresearch.com or by email at info@healthpsychologyresearch.com

1. Background

The MacTSQ¹ was developed in 2006/7 and is based on the DTSQ (Diabetes Treatment Satisfaction Questionnaire)^{2,3} and the RetTSQ (Retinopathy Treatment Satisfaction Questionnaire).^{4,5} The MacTSQ was designed with the help of members of several Macular Disease Society self-help groups, using in-depth interviews. The MacTSQ was revised in 2012 and is available in over 15 languages.

The psychometric development was conducted using a dataset from a British clinical trial, the IVAN trial, comparing treatment regimens for an anti-VEGF drug administered by intraocular injection. The scoring algorithm was prepared following psychometric analysis and development.

The MacTSQ follows the RetTSQ format designed for completion by visually impaired people, using Arial 16 bold font and with all text justified to the left (to make it easier to follow the vertical line down the page). Dotted lines guide the respondent to response option tick boxes. An example of an item from the MacTSQ is shown in Figure 1. The measure can also be administered by telephone interview as long as the interview is conducted by someone other than eye clinic staff so that patients feel able to express dissatisfaction as well as satisfaction.

The measure consists of 14 items (Table 1), each with a 7-point scale scored from 6 (e.g. very satisfied) to 0 (e.g. very dissatisfied). For three items (items 2, 3 and 7, see Table 1) there is a further response option with a score of 7 (Figure 1). This option is used when the aspect of satisfaction has not been experienced (e.g. no discomfort experienced). In a final item, respondents are invited to mention any features of treatment, with which they have been either satisfied or dissatisfied, that are not covered by the questionnaire. Responses to this final item may be summarised and verbatim responses to this item may be collated from initial studies to determine whether any further items need to be added to the MacTSQ in future.

Figure 1 Example of an item from the MacTSQ

3. How bothered are you by any discomfort or pain from the treatment for your MD?

7 no discomfort experienced	7	<input type="checkbox"/>
6 not at all bothered	6	<input type="checkbox"/>
5	5	<input type="checkbox"/>
4	4	<input type="checkbox"/>
3	3	<input type="checkbox"/>
2	2	<input type="checkbox"/>

1 1 ☐

0 very bothered..... 0 ☐

Table 1 MacTSQ items and response options

	MacTSQ item	Response options
1.	How satisfied are you with the treatment for your MD?	very satisfied – very dissatisfied
2.*	How bothered are you by any side effects or after effects you experienced with the treatment for your MD?	none experienced, not at all bothered – very bothered
3.*	How bothered are you by any discomfort or pain from the treatment for your MD?	no discomfort experienced, not at all bothered – very bothered
4.	How well do you feel the treatment for your MD is working?	very well - very badly
5.	How unpleasant did you find the treatment for your MD?	not at all unpleasant – very unpleasant
6.	How apprehensive did you feel about your most recent treatment for MD?	not at all apprehensive – very apprehensive
7.*	How satisfied are you with any cost to you associated with the treatment for your MD?	no cost to me, very satisfied – very dissatisfied
8	How satisfied are you with the safety of the treatment for your MD?	very satisfied – very dissatisfied
9.	Were you given information about your MD treatment, e.g. information about procedures, benefits and any risks?	yes/no
9a	Was the information you were given in a form you could take home (e.g. in a leaflet)?	yes/no
9b.	If yes, was the information given to you long enough before your treatment to allow you to make best use of it?	yes/no
9c	How satisfied are you with the information provided about the treatment for your MD?	very satisfied – very dissatisfied
10.	If further treatment for your MD were necessary, how satisfied would you be to continue or repeat the treatment?	very satisfied – very dissatisfied
11.	How satisfied are you with the time spent at the clinic on each treatment day?	very satisfied – very dissatisfied
12.	How satisfied are you with the overall duration of the treatment for your MD?	very satisfied – very dissatisfied
13.	Would you encourage someone else with MD like yours to have your kind of treatment?	yes, I would definitely encourage them – no, I would definitely not encourage them
14.	Are there any other aspects of the treatment for your MD, causing satisfaction or dissatisfaction, that have not been covered already?	yes/no (open text box for description if response is 'yes')

* Item has 8 point scale

2. Recoding

Items 2 (*side effects*), 3 (*discomfort or pain*) and 7 (*cost of treatment*) are scored between 7 and 0. For each of these items the score of 7 indicates that the respondent has not experienced this aspect of treatment. The value 7 is useful for obtaining frequencies of participants not experiencing those aspects of treatment. For the purposes of other analyses involving the MacTSQ scale and subscales, scores of 7 should be recoded as 6. Other values remain unchanged.

3. Scoring

3.1 The MacTSQ has 2 subscales:

- Subscale 1 (*Information provision and convenience*) contains six items (1, 9c, 10 to 13). Each item is scored between 6 (e.g. very satisfied) and 0 (e.g. not at all satisfied). Item scores are summed to give a subscale score of between 0 and 36. The higher the score, the greater the satisfaction with treatment.
- Subscale 2 (*Impact of treatment*) contains six items (items 2 to 6, 8). Each item is scored between 6 (e.g. very satisfied) and 0 (e.g. not at all satisfied) after recoding of items 2 and 3 as described in point 2 above. The scores of the six items are summed to give a total of between 0 and 36. The higher the score, the greater the satisfaction with treatment.

3.2 The MacTSQ as a single scale: The 12 items from the two subscales can be combined to form a single scale with a range of scores between 0 and 72. The higher the score, the greater the satisfaction with treatment.

3.3 Item 7 (*cost of treatment*) is not included in either subscale or in the single scale but, if required, can be scored separately. Item 7 will not apply in regions where a specific treatment being investigated is freely available or where all treatments are freely available but it may have considerable impact if patients have to pay for treatment.

4. Missing data

4.1 Subscale 1: The Cronbach's alpha for the subscale was 0.740 in data from the English for UK version of the questionnaire evaluated. If one item was removed the alpha fell to below 0.70. Therefore cases with any missing data should be removed from analysis of the subscale.

4.2 Subscale 2: The Cronbach's alpha for the subscale was 0.776 with the English for UK version of the questionnaire studied. With one item removed the alpha fell to 0.709. With more than one item removed the reliability of the scale fell below 0.70. Therefore cases with two or more items of missing data should be excluded from analysis of the subscale. Missing data for one item of this subscale may be substituted for with the average of the responses to the other five items in that subscale by the individual concerned.

4.3 Single scale: The Cronbach's alpha for the single scale was 0.815. With three items removed the alpha was 0.716. The alpha fell to below 0.7 with more four items removed. Therefore cases with four or more items of missing data should be removed from the analysis. Missing data may be replaced for up to three items with the average of the score given to the remaining items in the scale by the individual who has the missing data.

4.4 The above missing value calculations have been conducted using data from the *UK English* version. The number of missing values that can be tolerated in other language versions of the questionnaire will need to be checked in other data sets.

5. Instructions

The wording at the beginning of the instructions needs to relate to the particular intervention in your study. Thus it may need to be changed to be suitable for your particular study. We have produced a wording for the beginning of the introduction that is as generic as possible to minimise the need for changes, but you may need to adapt the wording to be suitable for the study duration and type of intervention. The type of treatment being investigated may need to be changed. In the second section (starting 'In this questionnaire please') the first bullet point may be changed to suit the study but the following two bullet points should not be changed or removed. Please discuss any changes requested when you seek a licence to use the MacTSQ. [see Section 6]

6. Availability

The MacTSQ is available to users by formal arrangement with Health Psychology Research Ltd. Requests should be made to info@healthpsychologyresearch.com. A user agreement is necessary to avoid breach of copyright and to ensure that the latest and most appropriate version of the questionnaire is used.

Evidence of licensing may be required by regulators, editors and/or examiners.

7. Contact Information

For permission to use the MacTSQ and to ensure that you have the most up-to-date version, please contact:

E-mail: info@healthpsychologyresearch.com

Website: www.healthpsychologyresearch.com

Selected references

1. Mitchell J, Brose LS, Bradley C. Design of a measure of satisfaction with treatment for Macular Degeneration (MacTSQ). 2007 International Society for Quality of Life Research meeting abstracts [www.isogol.org/2007mtgabstracts.pdf]. *Quality of Life Research supplement* 2007:A-120, Abstract #1150.
2. Bradley C, Lewis KS. Measures of psychological well-being and treatment satisfaction developed from the responses of people with tablet-treated diabetes. *Diabetic Medicine* 1990;7:445-451.
3. Bradley C. The Diabetes Treatment Satisfaction Questionnaire: (DTSQ). In: Bradley C (Ed) (1994) *Handbook of Psychology and Diabetes: a guide to psychological measurement in diabetes research and practice*. Abingdon: Routledge ISBN 9783718655625, formerly published by Harwood Academic Publishers ISBN 3-7186-5562-4: p.111-132.
4. Woodcock A, Plowright R, Kennedy-Martin T, Hirsch A, ffytche T, Bradley C. Development of the new Retinopathy Treatment Satisfaction Questionnaire (RetTSQ). *Proceedings of Vision 2005; International Congress Series* 2005;1282:342-346.
5. Brose LS and Bradley C (2009) Psychometric development of the Retinopathy Treatment Satisfaction Questionnaire (RetTSQ). *Psychology, Health & Medicine*, **14** (6), 740-754.