Publications on the DTSQ
Diabetes Treatment Satisfaction Questionnaire: status (DTSQs) and change (DTSQc)

Updated 17.02.25

Chapter on the current DTSQs and its development

Bradley C (1994) 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.

Original development work on the DTSQs

Bradley C and Lewis KS (1990) Measures of psychological well-being and treatment satisfaction developed from the responses of people with tablet-treated diabetes. *Diabetic Medicine* **7**, 445-451.

Relationship between the DTSQ and the ADDQoL measure of the impact of diabetes on quality of life

Bradley C and Speight J (2002) Patient perceptions of diabetes and diabetes therapy: assessing quality of life. *Diabetes Metabolism Research and Reviews* 18: S64-S69.

Commentary on FDA draft guidance on patient reported outcome measurement

Bradley C (2006) Feedback on the FDA's February 2006 draft guidance on Patient Reported Outcome (PRO) measures from a developer of PRO measures. *Health and Quality of Life Outcomes* **4** (1) 78, http://www.hqlo.com/content/4/1/78.

Response to review of diabetes-specific patient reported outcome measures

Brose LS, Mitchell J and Bradley C (2009) Comments on Speight et al.'s 'Not all roads lead to Rome – a review of quality of life measurement in adults with diabetes'. *Diabetic Medicine* **26** (9) 1076-1077.

World Health Organisation/ International Diabetes Federation Guidelines

Bradley C and Gamsu DS for the psychological well-being working group of the WHO/IDF St. Vincent Declaration Action Programme for Diabetes (1994). Guidelines for encouraging psychological well-being: Report of a working group of the World Health Organisation Regional Office for Europe and International Diabetes Federation European Region St. Vincent Declaration Action Programme for Diabetes. *Diabetic Medicine*, **11**, 510-516.

Development of the DTSQc (change version)

Current Change Version Articles

Bradley C (1999) The Diabetes Treatment Satisfaction Questionnaire (DTSQ): change version for use alongside status version provides appropriate solution where ceiling effects occur. *Diabetes Care* **22,** 3, 530-2.

Bradley C, Plowright R, Stewart J, Valentine J and Witthaus E (2007) The Diabetes Treatment Satisfaction Questionnaire change version (DTSQc) evaluated in insulin glargine trials shows greater responsiveness to improvements than the original DTSQ. *Health and Quality of Life Outcomes* **5** (5) 57, http://www.hqlo.com/content/5/1/57

Howorka K, Pumprla J, Schlusche C, Wagner-Nosiska D, Schabmann A and Bradley C (2000) Dealing with ceiling baseline treatment satisfaction level in patients with diabetes under flexible, functional insulin treatment: assessment of improvements in treatment satisfaction with a new insulin analogue. *Quality of Life Research* **9**: 915-930.

Early Change Version Article (now superseded)

Lewis KS, Bradley C, Knight G, Boulton AJM and Ward JD (1988) A measure of treatment satisfaction designed specifically for people with insulin-dependent diabetes. *Diabetic Medicine* **5**, 235-242.

Validation of translations (See **www.healthpsychologyresearch.com** [Information] for list of available language versions)

Dawsey R, Sweeney E, Plowright R, Wilson A and Bradley C (2014) Linguistic validation of the DTSQ: challenges with Arabic and French for Algeria. *Value in Health* **17 (**in press).

Felici A, Plowright R, Wilson A and Bradley C (2011) Diabetes Treatment Satisfaction Questionnaire (DTSQ) for Spain and Latin America: are Multiple Language Versions Really Necessary? Patient Reported Outcomes (PRO) Newsletter **45** (Spring), 19

Howorka K et al (2000) referenced above. (Validating German DTSQs and c).

Ishii H, Bradley C, Riazi A, Barendse S and Yamamoto T (2000) The Japanese Version of the Diabetes Treatment Satisfaction Questionnaire (DTSQ): translation and clinical evaluation. *Journal of Clinical and Experimental Medicine* **192**, 7, 809-814. (A Japanese Journal publishing in Japanese).

Plowright R, Witthaus E and Bradley C (2000) Psychometric evaluation of Diabetes Treatment Satisfaction Questionnaire in 8 languages. *Proceedings of the British Psychological Society* **8** (2) 43.

Witthaus E, Stewart J and Bradley C (2001) Treatment satisfaction and psychological well-being with insulin glargine compared with NPH in patients with Type 1 diabetes. *Diabetic Medicine* **18**, 619-625.

Wredling R, Stalhammar J, Adamson U, Berne C, Larsson Y and Ostman J (1995) Well-being and treatment satisfaction in adults with diabetes: A Swedish population-based study. *Quality of Life Research* **4**, 515-522.

Comparison of standard and computerised versions of the DTSQ

Pouwer F, Snoek FJ, van der Ploeg HM, Heine RJ and Brand AN (1998) A comparison of the standard and the computerized versions of the Well-Being Questionnaire (WBQ) and the Diabetes Treatment Satisfaction Questionnaire (DTSQ). *Quality of Life Research* **7** (1), 33-38.

Review papers including the DTSQ

Bradley C and Gilbride CJB (2008) Improving treatment satisfaction and other patient-reported outcomes in people with Type 2 diabetes: the role of once-daily insulin glargine. *Diabetes, Obesity and Metabolism* **10** (Suppl.1), 50-65. http://www.blackwell-synergy.com/toc/dom/10/s2 http://eprints.rhul.ac.uk/712/

Speight J, Reaney MD and Barnard KD (2009) Not all roads lead to Rome—a review of quality of life measurement in adults with diabetes. *Diabetic Medicine* **26** (4), 315-327.

Crossectional and audit studies of diabetes using the DTSQ

Petterson T, Lee P, Hollis S, Young B, Newton P, and Dornan T (1998) Well-being and treatment satisfaction in older people with diabetes. *Diabetes Care* **21**, 930-935.

Ward, J, Lin M, Heron, G and Lajoie V (1997) Comprehensive audit of quality-of-care and quality-of-life for patients with diabetes. *Journal of Quality in Clinical Practice* **17,** 91-100.
[Note: the authors have misinterpreted the scale (and the patients' responses to it) for the perceived frequency of hyper- and hypoglycaemia items: it is not actual number of episodes but a more general indication of frequency that these items measure]

Wredling R, Adamson L, Berne C, Dahlen M, Ostman J, Larsson Y and Stalhammar J (1993) Quality of life among a representative sample of people with diabetes mellitus in Sweden. *Diabetes, Nutrition and Metabolism* **6**, 393-395.

Use of DTSQ in comparison of different treatment regimens for type 1 diabetes

Ashwell SG, Bradley C, Stephens JW, Witthaus E and Home PD (2008) Treatment satisfaction and quality of life with insulin glargine plus insulin lispro compared with NPH insulin plus unmodified human insulin in people with type 1 diabetes. *Diabetes Care* **31** (6) 1112-7.
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Johansson UB, Adamson UCK & Lins PES and Wredling RAM (2000) Improved blood glucose variability, HbA_{1c} and less insulin requirement in IDDM patients using insulin lispro in CSII. The Swedish multicenter lispro insulin study. *Diabetes & Metabolism (Paris)* **26** (3), 192-196.

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Kawamori R, Kadowaki T, Ishii H, Iwasaki M and Iwamoto Y (2009) Efficacy and safety of insulin glulisine in Japanese patients with type 1 diabetes mellitus. *Diabetes, Obesity and Metabolism,* **11**, 891-899.
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[This paper is an example of a study that shows, appropriately, no change in treatment satisfaction or in perceived frequency of hyper-or hypoglycaemia, when patients switch between two treatments which are used in the same way and have similar effects on blood glucose control.]

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[Note: error in reporting of DTSQ scores (all 8 items in DTSQ combined instead of 6 items that should form the treatment satisfaction score) pointed out by Bradley C (1999) On Calculating Treatment Satisfaction. *Diabetes Care* **22**, 10, 1760, and corrected figures supplied by Pfützner A (1999) Response to Bradley. *Diabetes Care* **22**, 10, 1760. Letters also discuss substantial and interesting carryover effects observed when patients switch back from Lispro to standard soluble in crossover trials and show marked reductions in satisfaction with standard soluble]

Silvestre L Bradley C and Witthaus E (2003) Improved treatment satisfaction and perceived metabolic control with insulin glargine, regardless of whether injected before breakfast, dinner or bedtime, in patients with Type 1 diabetes. *Diabetes* **52**, suppl 1, A456, Abstract 1977-PO.

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Use of DTSQ in comparing treatment regimens for Type 2 diabetes

Best JH, Boye KS, Rubin RR, Cao d, Kim th and Peyrot M (2009) Improved treatment satisfaction and weight-related quality of life with exenatide once weekly or twice daily. *Diabetic Medicine* **26** (7) 722-728.
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Use of DTSQ in evaluating educational interventions

DAFNE Study Group* (2002) Training in flexible, intensive insulin management to enable dietary freedom in people with type 1 diabetes: the dose adjustment for normal eating (DAFNE) randomised controlled trial. *British Medical Journal*, **325**, 746-749 (full 6 page version of paper published on BMJ website http://bmj.com/cgi/content/full/325/7367/746).

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Insulin delivery systems

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Adaptations of the DTSQ for teenagers and for parents of children with diabetes (DTSQ-Teen and DTSQ-Parent)

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Adaptations of the DTSQ for inpatients with diabetes (DTSQ-IP)

Bradley C, Singh H, Walden E, Jones C, Dhatariya K and Sampson MJ (2008) Psychometric evaluation of the Diabetes Treatment Satisfaction Questionnaire for Inpatients (the DTSQ-IP) and investigation of predictors of satisfaction. ISOQOL Conference Abstracts Issue October 2008, *Quality of Life Research*, A-86, Abstract 1204.

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Adaptations of the DTSQ for other conditions

HIV

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Renal Failure

Barendse SM, Speight J and Bradley C (2005) The Renal Treatment Satisfaction Questionnaire (RTSQ): A Measure of Satisfaction With Treatment for Chronic Kidney Failure. *American Journal of Kidney Diseases* **45** (3) 572-579.

Diabetic Retinopathy

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Woodcock A, Plowright R, Kennedy-Martin T, Hirsch A, ffytche T and Bradley C (2005) Development of the new Retinopathy Treatment Satisfaction Questionnaire (RetTSQ). *Proceedings of Vision 2005; International Congress Series,* Vol 1282, 342-346.

Macular Disease

Mitchell J, Brose LS, Bradley C (2007) Design of a measure of satisfaction with treatment for Macular Degeneration (MacTSQ). *ISOQOL 14th Annual Conference. Quality of Life Research 2007:A-120*.

Eye Diseases generally - including cataract and glaucoma as well as retinopathy and macular disease

Brose LS, Plowright R, Mitchell J and Bradley C Individualised Quality of Life (QoL) and Treatment Satisfaction Questionnaires for People with Eye Conditions: EyeDQoL and EyeTSQ Design. *Accepted by ISOQOL 2009 as Abstract 1361.*

Genital Herpes

Taback NA and Bradley C (2006) Validation of the Genital Herpes Treatment Satisfaction Questionnaire (GHerpTSQ) in status and change versions. *Quality of Life Research* **15** (6): 1043-1052.

Hypothyroidism

McMillan CV, Bradley C, Woodcock A, Razvi S and Weaver JU (2004) Design of new questionnaires to measure quality of life and treatment satisfaction in hypothyroidism. *Thyroid* **14** (11) 916-925.

Fertility

The Frozen Embryo Replacement Treatment Satisfaction Questionnaire: FERTSQ (FERTSQ) is currently under evaluation.