

Hypopituitary patients prefer a touch-screen to paper quality of life questionnaire

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Abstract

Health Related Quality of Life questionnaires are frequently used for research, however only recently has their use been recommended in the routine clinical management of pituitary patients. Questionnaires frequently have complex scoring systems, and may be cumbersome, limiting widespread application. Touch-screen technology can overcome these limitations. We have developed a touch-screen 'Questions on Life Satisfaction-Hypopituitarism' QLS-H (Flash 5 Action script, program design by IG) questionnaire and compared its use and accuracy with a paper version questionnaire in 50 pituitary patients who were attending routine clinics. The HRQoL Z-score for the patient group was lower than the average for the normal UK population, as might be predicted for this patient group. There was no statistically significant difference between scores obtained by the touch-screen and paper questionnaires; mean (SD) Z score was -1.33 (1.4) for touch-screen and -1.26 (1.5) for paper. The touch-screen was preferred by 80% of patients, and quicker to complete (<5 min). Additionally, there were significant errors in 14 (28%) of manually scored paper questionnaires. In conclusion: Touch-screen QLS-H questionnaires have advantages over the paper version for the routine clinical assessment of patients with hypopituitarism.

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1. Introduction

Measuring health related quality of life (HRQoL) is important when evaluating new therapies and questionnaires are now being recommended for routine use in the clinic. For example, a HRQoL questionnaire is required by the UK National Institute for Clinical Excellence (NICE) when evaluating patients on growth hormone (GH) replacement [1]. Apart from very simple yes/no questionnaires most HRQoL tools require a complex

scoring system making routine clinical use difficult, if not impossible.

There are two disease-specific HRQoL of life tools currently validated for use in pituitary patients; 'Quality of Life Assessment of Growth Hormone Deficient Adults (AGHDA) [2] and 'Questions on Life Satisfaction-Hypopituitarism' QLS-H [3]. The AGHDA is a 25 item yes/no questionnaire and the QLS-H is a weighted nine item HRQoL questionnaire designed to test the importance of, and satisfaction with, physical and psychological HRQoL factors in GH-deficient patients. At present both questionnaires are only available in paper format. Recent advances in computer technology allow translation of traditional paper questionnaires into novel touch-screen versions [4–6]. Before touch-screen questionnaires can be used,

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their equivalence to traditional methods must be established.

2. Method

We have developed a touch-screen QLS-H (Flash 5 Action script, program design by IG) questionnaire and compared its use and accuracy with a paper version.

The touch-screen questionnaire was designed with the aim of improving patient accessibility and streamlining data analysis, while maintaining the validity of the questionnaire and ensuring data security. The touch-screen questionnaire divided the 18 questions into four pages. Simple demographic data was collected allowing the results for individual patients to be collated. Clinic staff could access individual printable results sheets via the questionnaire software and review the results databases using Excel™.

Adult pituitary patients attending routine follow-up completed both paper and touch-screen questionnaires following randomisation to one of two groups: “A” completed paper first and “B” touch-screen first. Randomisation was performed using computer generated random numbers. Patients were given a thirty-minute break between questionnaires.

The time taken to complete the paper questionnaires was recorded manually, and for the touch-screen questionnaire automatically. After completing both versions

of the QLS-H, a supplementary questionnaire was administered to examine patient preference and previous computer experience. The touch-screen data was scored automatically and clinic staff could immediately print a report (Fig. 1). The 50 paper questionnaires were collected, duplicated and one copy sent to each of two sites. Nursing staff familiar with QLS-H scored the paper questionnaires using dedicated computerised scoring software. The results from the touch-screen and paper questionnaires were compared using methods described by Bland and Altman [7]. The paired t-test was used to compare scores and the time taken to complete questionnaires. The study was approved by the South Sheffield Research Ethics Committee and patients gave written informed consent.

3. Results

Fifty patients completed both questionnaires (29 male, mean age 51.4 y, range 23 y to 77 y), 25 in each group. The HRQoL Z-score for the patient group was lower than the average for the normal UK population, as might be predicted for this patient group. There was no statistically significant difference between scores obtained by the touch-screen and paper questionnaires; mean (SD) Z score was -1.33 (1.4) for touch-screen and -1.26 (1.5) for paper, and the mean Z-score difference between the two questionnaires was 0.06 (95% CI

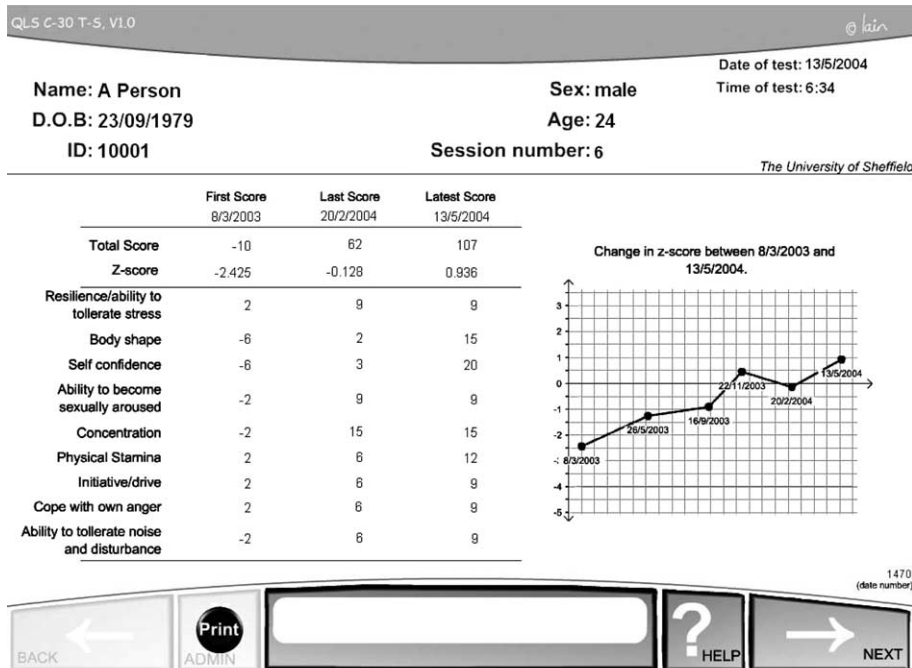


Fig. 1. An example results sheet, automatically generated by the touch-screen questionnaire, showing a potential patient who initially improves on growth hormone treatment dips and then improves again. On the left are shown the scores for individual items of the questionnaire and their change from baseline. This provides the possibility of seeing what aspects of QOL are changing. On the right a graph shows the change in overall Z score plotted against the normal UK population.

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