

Assessing whiplash recovery

The Whiplash Disability Questionnaire

BACKGROUND

General practitioners often need to track outcomes of whiplash patients, and a disability questionnaire may be useful.

METHODS

Whiplash patients who attended primary care clinics in Edmonton, Canada were interviewed 3 months postcollision. Subjects were asked a global recovery question: 'Do you feel you have recovered fully from your accident injuries?' Subjects then completed the Whiplash Disability Questionnaire (WDQ).

RESULTS

A total of 131 subjects participated. Of these, 52 (39.7%) reported that they felt they had recovered. Those who reported complete recovery had a mean WDQ score of 2.5 and those who reported they had not recovered had a mean WDQ score of 29.9. All who responded 'yes' to the recovery question had a WDQ score below 13, while all those responding 'no' to the recovery question had a WDQ score of 13 or more.

DISCUSSION

The WDQ as an outcome measure may be useful in clinical practice.

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General practitioners often encounter and manage whiplash patients. They are also often asked to provide insurance and other medicolegal reports on patient outcomes. Disability questionnaires can assist as they focus on global functioning rather than just symptoms. Hoving et al¹ conducted semi-structured interviews of 83 patients with whiplash associated disorders (WAD) to identify any of the following problems and activity limitations: pain, anxiety, depression, anger, fatigue, limitation of personal care, role activities (work/study/housework), driving, sleeping, nonsport leisure activities, sport leisure activities, and social activity. Based on this work, Pinfold et al² proposed the Whiplash Disability Questionnaire (WDQ), a modified version of the Neck Disability Index³ (NDI) with 13 items designed to evaluate whiplash related disability. Willis et al⁴ then continued the validation of a WDQ that was developed from the NDI using self reported disabilities in a group of participants experiencing whiplash associated disorders, demonstrating that the WDQ has excellent short and medium term reproducibility and responsiveness in a population seeking treatment for WAD.

Rather than using questionnaires, primary care patients with whiplash injuries are usually asked how they are doing, or asked in a global way about their sense of overall recovery. For a disability questionnaire to be useful to GPs reporting on their patient's recovery, there should be good correlation between the disability scores and the patient's global sense of recovery. In order to determine if the WDQ is useful in this respect, we designed a simple head-to-head comparison of the responses of patients presenting to primary care clinics after a motor vehicle collision on two measures: the patient's response to: 'Do you feel you have recovered fully from your accident injuries?' and their total scores on the WDQ.

Methods

This study was a telephone based interview study comparing two outcome measures, with approval from the Research Ethics Board of the University of Alberta, Canada. It took place through a group of walk-in primary care centres owned and operated by one company in Edmonton, Canada. These clinics serve a catchment area of 1 million people. There are 15 such clinics in Edmonton spread throughout the city. They serve a

wide demographic and are among the most common primary care centres to receive whiplash patients.

Patients who attended one of these clinics in the spring of 2005 were identified through the daily diagnostic codings of consenting physicians, with the aim of contacting these patients approximately 3 months postinjury. Through the International Classification of Diseases coding of the billing, motor vehicle collision victims were identified. Consecutive patient encounter billing codes on each day of billing in all clinics were examined until at least 250 potential subjects were identified. Those subjects were then contacted and interviewed by telephone survey. Prospective subjects were further assessed for inclusion and exclusion criteria at the time of interview. WAD grade 1 or 2 patients were included if they were seated within the interior of a car, truck, sports/utility vehicle, or van in a collision (any of rear, frontal or side impact), had no or less than 5 minutes of loss of consciousness, were 18 years of age or over, and presented within 72 hours of their collision. Patients were excluded if they were told they had a fracture or neurological injury (ie. grade 3 or grade 4 WAD), refused to give consent, had no fixed address or current contact information, were unable to communicate in English, had nontraumatic pain, were injured in a nonmotor vehicle event, or were admitted to hospital.

The primary outcome measure was the patient's response to the question: 'Do you feel you have recovered fully from your accident injuries?' Recovery was defined as answering 'yes' to the recovery question; other choices being 'no' and 'not sure'. The total score on the WDQ was also measured and correlated to recovery question responses to test the agreement between these two measures. The lowest score possible for the WDQ is 0 (indicating no disability) and the highest 130 (indicating maximum disability).

Of the nearly 250 subjects identified from billing records, we found that many reported nontraumatic neck pain. It appears there was wide variance in diagnostic coding by physicians, with more than one in 3 potential subjects not reporting an injury, despite their code indicating one.

Results

A total of 147 subjects remained eligible, and were interviewed by telephone. After initial questioning, 16 chose not to participate (89% participation rate). The mean age of participating subjects was 35.9 (SD=10.9, range 18–71 years, 68 of 131 subjects [52%] were female). Of these subjects, 52 (39.7%) reported that they felt they had recovered from their injuries. For the cohort as a whole, the mean WDQ score was 19.2 (SD 17.4, range 0–82). Those who reported complete recovery had a mean WDQ score of 2.5 (SD=3.6, range 0–12) and those who reported they had not recovered had a mean WDQ score of 29.9 (SD=13.9, range 13–82). All subjects who responded 'yes' to the recovery question had a WDQ score below 13, while all those responding 'no' to the recovery question had a WDQ score of 13 or over. Like Pinfold et al² we also found a high internal consistency, with Cronbach's alpha = 0.95.

Discussion

The results of this study suggest that the global recovery question correlates well with a WDQ score below 13. As the maximum score on the WDQ is 130 (maximum disability), a score of 13 or less is expected to be associated with a high level of functioning. Conversely, the WDQ captures the patient's global sense of recovery well. The WDQ is thus useful in detecting recovery, and in those not recovered it identifies specific areas of concern for the patient (ie. their sense of a lack of recovery may be related not so much to pain itself but to, for instance, a limitation in returning to their normal leisure activities). We suggest that the WDQ may be a useful outcome measure for GPs following whiplash patients and reporting their recovery to others.

Conflict of interest: none declared.

References

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