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Illness representations in patients with hand injury

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Summary *Purpose:* Differences in illness perception about hand injury may partly explain the variation in health behaviours such as adherence to post-operative therapy, coping strategy, emotional response and eventual clinical outcome. This study examined the illness perception of patients with hand injuries in the acute trauma setting.
Methods: The disability and severity of injury were assessed using the Disability of the Arm, Shoulder and Hand (DASH) questionnaire and the Hand Injury Severity Score (HISS). The revised Illness Perception Questionnaire (IPQ-R) was used to explore patients' illness beliefs and perception on hand injury.
Results: Fifty seven patients were recruited over the 2 month period. The IPQ-R showed good internal reliability (Cronbach's alpha, 0.68–0.86). There was no correlation between the DASH or HISS scores and the various components of the IPQ-R scores, suggesting that illness perceptions were not influenced by the recent trauma experience. Patients with dominant hand injuries and females reported significantly higher subjective disability. Younger patients believed their injury would last for a limited duration but reported a significantly higher number of related symptoms. Overall, the cohort was optimistic about their treatment and duration of recovery (high treatment control score and low time line score). Beliefs of negative consequences, chronic/cyclical duration and low illness coherence were linked with negative emotional response. High illness identity was associated with perception of pessimistic outcome (high consequences score) and negative emotional response.
Conclusions: The lack of correlations suggests that illness perceptions of patients do not necessarily relate to the recent trauma experience or the severity of their hand injury.

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Patients in this cohort were optimistic about treatment and their recovery. There was some evidence to suggest that patients with severe injury were over-optimistic about recovery. These findings suggest that there could be a role for psychological intervention in hand injury.

Hand injuries represent one of the most common injuries to the body. They comprise between 6.6% and 28.6% of all injuries[1–3] and have the potential to cause long term physical and functional disability.[4] The onset of a potentially disabling condition such as hand injury brings with it a range of difficulties. These difficulties may show considerable variation in their nature, severity, course and outcome as perceived by the patient. Patients' beliefs and perceptions of an illness or health threat can play a role in determining their health behaviour.[5–7] The difference in beliefs and perceptions of individual patients may partly explain the variation in their compliance to treatment or rehabilitation, their emotional adjustment and their eventual outcome after the injury.

Treatment and recovery from hand injury is not a passive process that relies solely on the technical capability of the operating hand surgeon. The injured patient needs to participate in a post-operative therapy programme where its success is dependent on the individual patient's participation, compliance and adherence. It had been shown that a patient's own expectations about their recovery can predict their eventual outcome, even after controlling for other clinical prognostic factors. In one study, patients with a positive expectation spent less time off work and received worker's compensation benefit for a shorter duration.[8] Surgeons who sustained hand injuries have been shown to return to their operative duties ahead of schedule.[9] This may partly be due to their accurate understanding of their injury, perceived ability to adapt to the injury and their positive motivation to return to work.

Recently, there have been interests in understanding how patients' beliefs and ideas of their illness are associated with their adjustment to illness.[10] According to Leventhal's self-regulatory model, when patients are diagnosed with a condition, they make sense of this health threat by developing their own organised beliefs and ideas (cognitive representations) which influence how the person would respond to the health threat.[11,12] As the patient gains information about their condition, they integrate them into their existing knowledge structure. Such a structure is based upon information received from previous sources which may include their family, friends, clinician, the media and existing cultural notions. If the new information does not fit into what the patient already believes, this information is often altered to fit their existing beliefs. This can lead to distorted conclusions concerning their condition which can influence emotional response (e.g. anxiety) and coping behaviour (e.g. adherence to therapy), possibly leading to poor clinical outcome.[13] Changing these beliefs with simple intervention (such as counselling) may enhance emotional adjustment and adherence to therapy. Early interventions aimed at changing misconceptions, challenging negative beliefs and exploring concerns led to positive changes in the patients' views about their condition, earlier return to work and lower incidence of symptoms in a randomised study.[5]

To our knowledge, the perceptions of patients with hand injury have not been studied. Patients who have unrealistic or negative perceptions about their hand injury may benefit from a brief intervention such as counselling. As the first step towards this goal, we set out to objectively examine the perception of patients who had sustained a hand injury and who were referred to the Department of Plastic, Reconstructive and Hand Surgery. Using the validated revised version of the Illness Perception Questionnaire (IPQ-R)[14,15], we explored the nature and interrelationships between illness perceptions and clinical severity of patients with hand injuries in the acute setting.

Materials and methods

Study design and patient population

A study was carried out over a 2 month period in a tertiary referral University Teaching Hospital. Consecutive patients with acute hand injury which required surgery were recruited. The patients were admitted under the care of one of the three consultants in plastic and hand surgery in our unit. Patients were requested to complete the Disability of the Arm, Shoulder and Hand (DASH) questionnaire and the revised Illness Perception Questionnaire (IPQ-R) at the time of admission from the accident and emergency department. When this was not possible due to practical reasons, the questionnaires were completed on the ward. Informed consent was obtained from the patients. It was explained that the study was purely observational and that their responses would be confidential and would not affect the management of their injury in any way.

Assessment of hand injury disability and severity

The DASH questionnaire is a validated 30-item, self-report questionnaire designed to measure physical function and symptoms in patients with one or several musculoskeletal disorders of the upper limb.[16,17] The DASH score is a self-report measure of symptoms and function. The questionnaire describes the disability related to upper limb disorders from the patient's perspective and it also monitors changes in symptoms and function over time.[18] The DASH has been shown to correlate with health status, injury severity and function.[18–20]

The objective severity of the hand injury was determined retrospectively from the medical notes by calculating the Hand Injury Severity Score (HISS).[21] This objective anatomical assessment scores the injuries