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Illness beliefs predict disability in rheumatoid arthritis

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Abstract

Objective: This study examined the relationships between patients' beliefs about rheumatoid arthritis (using Leventhal's Common Sense Model) and their levels of disability, health-related quality of life, and disease activity. A proposed illness beliefs construct of "seriousness" was also investigated, combining beliefs about illness identity (symptoms), consequences, and timeline. **Method:** A cross-sectional study evaluated 125 patients with rheumatoid arthritis from two South East London hospitals. Questionnaires assessed their illness beliefs, disability, and quality of life. An objective measure of disease activity was also obtained. **Results:** Higher disability scores were associated with beliefs about identity (r=.31, P<.01) and consequences (r=.28, P<.01). Stronger control beliefs were associated with lower disability (r=−.40, P<.01) and better physical (r=.20, P<.05) quality of life. Disease activity scores, although positively related to disability scores (r=.39, P<.01), showed no associations with illness beliefs. Multivariate analysis resulted in models accounting for 45.5%, 27.3%, and 19.3% variance in disability, "physical quality of life" scores, and "mental quality of life" scores, respectively. The hypothesis for a proposed "seriousness" construct was not supported. **Conclusion:** Patients' beliefs about their rheumatoid arthritis are associated with disability and quality of life and cannot be explained by disease status. Longitudinal research is needed to assess the stability of beliefs.

Keywords: Disability; Illness beliefs; Quality of life; Rheumatoid arthritis; Self-regulation; Common Sense Model

Introduction

A purely medical model is insufficient to explain adjustment to a chronic illness such as rheumatoid arthritis (RA) and a biopsychosocial framework, incorporating patients' beliefs, may be more appropriate [1–3]. There is no cure for RA and treatments are only partially effective [4], so exploring individual differences that mediate between RA, adjustment and subsequent quality of life (QoL) is a priority. The uncertain course of the illness involves loss of function, considerable discomfort, and possible disability and deformity, placing a significant burden upon the individual and their family [5]. This, in turn may impact on perceived QoL, commonly used as a measure of adjustment to chronic disease.

During recent years, it has become clearer that patients' response to illness and their QoL are strongly influenced by the way in which they perceive their condition [6,7]. Illness perceptions are a core part of Leventhal's Common Sense Model (CSM) of illness behavior [8,9], which postulates that these beliefs lie along five dimensions: identity (label of the disease and symptoms), timeline (perceived illness duration —acute chronic or cyclical), cure/control (beliefs about treatment or potential for cure), consequences (likely repercussions of living with the illness), and cause (etiology). These illness beliefs are a framework for interpretation of the illness threat; they guide future illness-related behaviors and determine coping, appraisal of outcomes, and adjustment.

Illness beliefs have been associated with physical and psychological functioning in a range of chronic conditions [10–16]. There is a scarcity, however, of studies directly

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applying the CSM to the measurement of beliefs in RA patients. Most research has focused on patients with osteoarthritis, and this, together with existing data from RA samples, shows that beliefs (particularly perceived consequences) play a significant role in adjustment. Research suggests that perceiving serious negative consequences is common among patients [17–19], and studies show associations between these beliefs and aspects of well-being including life satisfaction, physical symptoms, and depression [20]. Strong beliefs in negative consequences have also emerged to predict poor physical functioning [21] and low mood [22,23].

Patients' perceptions of personal control have also shown associations with physical and psychological functioning [23–27], which suggests that perceiving more control may be more adaptive. Stronger control beliefs correlate negatively with objective measures of disease severity such as erythrocyte sedimentation rate (ESR), grip strength, and length of morning stiffness [25] and explain substantial amounts of variance in physical functioning, over and above that accounted for by medical variables [28]. In addition, patients' beliefs about their RA have been related to outcome when clinical measures have not. For example, one study [29] found that patients with stronger beliefs in a chronic timeline and negative consequences (perceiving RA as more serious) experienced more disability, psychiatric morbidity, and pain and those with lower perceived control experienced less. No relationships were found between these outcomes and objective disease measures such as ESR, surgery, or number of present second-line medications.

Although previous studies have highlighted the importance of investigating beliefs of patients living with arthritic conditions, most have measured beliefs of patients with osteoarthritis; a common, degenerative condition of later life, which does not usually require specialist care [30]. RA on the other hand, is a severe, prolonged, systemic illness causing significant disability, with intensive treatments [31]. Individuals living with RA are therefore likely to hold very different illness beliefs.

More data about these beliefs are needed in order to develop a broader, biopsychosocial approach to meet complex, long-term needs [32]. It has been suggested that beliefs about consequences, together with symptom attributions (number of symptoms ascribed to the illness) and perceived timeline, may form an intensity, or "seriousness" construct, which may play an important role in self-management [18,33–36]. Of the studies that have focused on beliefs among RA patients [19–21,23,28], none have empirically investigated the proposed construct of seriousness.

We aimed to empirically examine the importance of perceived seriousness as a higher-order construct (not a reduction in the number of existing dimensions) and to confirm the importance of beliefs about consequences and control in subsequent adjustment. Studies focusing on other chronic illness groups have been used to inform interventions, which have shown promising results [37,38].

We therefore predicted that disability (ability to perform aspects of daily living) would be positively related to beliefs in the seriousness of RA (higher identity, timeline, and consequences scores) and negatively related to control beliefs (personal and treatment control). We predicted that QoL (physical and psychological functioning) would be negatively associated with beliefs about the seriousness of RA and positively associated with beliefs about control. Finally, we predicted that illness beliefs would add significantly to the proportion of variance in disability and QoL explained by demographic and clinical factors (these include age, disease duration, and disease activity, which may affect disability levels and QoL). As the person ages, experiences longer disease duration, or greater disease activity, there will be an expected decline in level of functioning).

Method

Design

This was a cross-sectional study for which patients were recruited consecutively during attendance at outpatient clinics in two South East London hospitals. Potential participants were referred to the researcher by clinic doctors, specialist nurses, or approached directly during waiting time. Ethical approval was obtained from the St. Thomas' Hospital Research Ethics Committee.

Participants

We recruited 125 participants (King's College Hospital, n=101; University Hospital Lewisham, n=24) from 143 approaches, with a participation rate of approximately 87%. Patients were eligible to take part if they had a confirmed diagnosis of RA, were aged over 18 years, able to understand and speak English, and were currently prescribed medication for RA. Patients were excluded if they had any serious communication, learning or hearing difficulties, any significant comorbidity (e.g., advanced cancer), serious mental health problems, or if they would be in any anticipated discomfort if required to fill out a questionnaire (e.g., breathless). Clinic doctors and specialist nurses made this judgment.

Demographic information is shown in Table 1. The majority of the sample was female (73%), reflecting the gender distribution of RA in the general population [31]. Participants varied widely in the duration of their illness from <1 year to 65 years with a median of 10 years. Around half (51%) of participants were registered as disabled due to the severity of their illness.

Method

The details of the study were explained to each patient in a private room, where signed consent was obtained. Participants