Self Efficacy Attributes and Arthritis Disability: A Call for More Standardized and Thoughtfully Applied Measurement Approaches

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Background

Although psychological assessments and treatments are less common than physical approaches in the context of treating arthritic conditions, the prevailing literature houses a fairly large volume of studies published over the last three decades or more that shows an important relationship exists between pain and disability as experienced by adults with either inflammatory or non-inflammatory arthritis, and the psychological construct of self-efficacy. Another body of related research shows physical activity participation, often crucial for promoting wellbeing among arthritis patients, can be influenced significantly by the prevailing level of self-efficacy for the desired activity, as can medication adherence, and salient self-management strategies.

However, more commonly than not, self-efficacy, a psychological attribute denoting the confidence an individual may have concerning their ability to carry out a given recommendation may not be routinely assessed, and even if it is, the use of diverse measures reported in the literature, and few guidelines on which to use, fail to provide clinicians with clear directives as to where they should place their emphasis. This situation potentially decreases the possible value of efforts to attain optimal treatment results for any of these chronic incurable conditions given what is known about the potential importance of heightening self-efficacy in this patient population, where it is suboptimal.

Moreover, although considerable progress has been made since 2000 to conduct more specific research on arthritis and self-efficacy, not all measures and their attributes have been deemed reliable and valid, and even where they have, samples may not represent or resemble the diverse array of arthritis cohorts with and without inflammatory disease. As well, several studies focusing on osteoarthritis and self-efficacy have examined various forms of this condition simultaneously, hence the specific associations relevant to one type of osteoarthritis versus another may be hard to discern. Here again, most studies failed to examine joints other than the knee or hip.

In mixed samples of rheumatoid and osteoarthritis, certain aspects of the disease differ, yet conclusions about self-efficacy in these studies are taken to be valid even though one or more aspects of self-efficacy in relation to this condition may differ. As well, even where the same condition is studied, measurement approaches may be inconsistent, or related solely to the questions posed by the study, rather than by any decision making tool.

It is also evident that even where more common self-efficacy domains are studied, authors who have employed well-established tools do not report or synthesize their results in the same way. For example, some may report aggregate scores derived from item scores in a single domain, while others may have synthesized data from multiple domains or converted Likert scale data to bivariate data. None have been deemed more appropriate than another, and very little work has been done in this realm to set up some guiding rules. But clearly, the
measurement approach employed is crucial to unmasking accurately if one or more confidence perceptions are deficient or not, and if so, which specific items are potentially amenable to enhancement. Clarity concerning the degree to which confidence is deficient and realms where it is sufficient may greatly help to strengthen opportunities for success.

In short, given that a person’s confidence perceptions for carrying out one behavior versus another may differ, and if this is not acknowledged, where present, or accurately rated, important potential disease determinants and treatable factors may easily be overlooked, patients may receive less than optimal intervention recommendations, and even if the patient improves-results highlighting the specific role of self-efficacy in this process may be hard to ascertain.

A further set of issues that arises when examining the literature, is the lack of rationale for selecting the self-efficacy tool used, and along with this the attributes examined in the various available correlation or prospective studies. Examples include but are not limited to descriptions of coping self-efficacy, exercise self-efficacy, mobility self-efficacy, self-regulatory self-efficacy, pain self-efficacy, self-efficacy for managing symptoms, self-efficacy for joint protection, task specific self-efficacy, gait self-efficacy, depression self-efficacy, self-efficacy for negotiation, and others which may not be interchangeable or the most problematic domain requiring attention. On the other hand, the assumption that self-efficacy in one domain is generalizable to another is often implied even though it is possible to show these are not directly interchangeable, and generic interventions rather than theory-based interventions dominate the literature.

**Why coping and other self-efficacy attributes may not be optimal in people with arthritis**

The management strategies commonly recommended for people with arthritis who often exhibit intractable pain and progressive disability are often multiple and complex and require the patient to be an active player in their rehabilitation process. These include but are not limited to maintaining joint range of motion, protecting the joints, conserving energy, applying braces or splints, participating in exercise, losing or maintaining weight, using physical modalities, taking medication, each with their own challenges.

The necessity for carrying out one or more of these activities on a daily basis in the face of these irreversible diseases alone may well be very overwhelming to contemplate. Consider too, that many arthritis cases have other comorbid health conditions, they may be depressed, fearful, or anxious, and may have little or no effective social support. When asked to manage their disease when they feel fatigued, anxious, or pessimistic, it seems self-evident that those who feel more confident to do this will be more successful than those who feel limited coping confidence.

Self-efficacy is a strong determinant of motivation to endure, it is aligned with the concept of agency, persistence in the face of negative events, and a strong mediator of adherence to recommendations and pain outcomes, and low levels of confidence may raise the risk for reactive depression and its detrimental health effects. It is thus a vital aspect to consider in the context of arthritis pathology and self-management. Task self-efficacy too may be greatly impacted in people with arthritis as a result of joint pathology and pain and may prove to be a profound barrier to a high life quality and the ability to work in and out of the home, in addition to preventing excess disability.

Yet, even though arthritis disability outcomes may be quite well correlated with self-efficacy attributes, very few studies as a whole report research related to this topic. For example, in August 2017, only 1137 PUBMED reports were extracted using the key words self-efficacy and arthritis, but very few were clinically relevant. Even fewer were the very limited number of reports detailing the assessment process clinicians or researchers should use to make informed decisions as regards the importance of self-efficacy in the rehabilitation process.

Some of the methods used focused on a single domain, others on multiple domains, or selected subscales, or combinations of several subscales, while others described methods that have not been validated even though the tool devised may have helped to fulfill the requirements of a study or its hypothesis. Because very few reports devote time to explaining why one aspect of self-efficacy is studied and not another, results obtained may be hard to apply clinically. As well, if the instrument and domain evaluated are not carefully construed in the context of the individual patient, potentially relevant clinical data may be overlooked, thus accounting for a continuous cycle of
Self Efficacy Attributes and Arthritis Disability: A Call for More Standardized and Thoughtfully Applied Measurement Approaches

poorly selected intervention strategies, low adherence rates, poor outcomes, and a heightened lack of ability to cope, with subsequent despondency, dependency, and excess disability.

Implications

A sizeable number of studies have shown that self-efficacy attributes are important correlates to examine and intervene upon in the context of successfully organizing, implementing, and carrying out specific tasks that promote health and can possibly reduce arthritis disability. However, this all depends on acknowledging this important psychological construct, along with the willingness to assess this attribute with valid and reliable instruments. The quality of the collected data including its specificity and sensitivity to change, along with their correct selection and application during the assessment process are of additional import.

Considering that measures of arthritis self-efficacy are not likely to be completely interchangeable or readily generalizable, and that efforts to employ only one self-efficacy scale or to combine Arthritis-Self-Efficacy subscales may mask the existing relationship[s] between domain specific aspects of self-efficacy and physical function, carrying out carefully construed baseline assessments are clearly essential in efforts to uncover any confidence related clinical correlates. Thereafter, a careful analysis of the perceptions deemed most relevant to the most pressing changeable or manageable problems experienced by the client, and those that can achieve success in the short term can be prioritized and intervened on accordingly. A well designed intervention that accounts for any apprehension to perform an adaptation or task requirement is likely to favorably impact the extent of disability, as well alleviate the impact of common comorbid health conditions, and clinical depression, among other correlates of these chronic illnesses.

In addition to ensuring that accurate baseline assessments that represent the spectrum of behaviors a patient with arthritis may have to undertake on their own, accurate targeted therapy along with periodic assessments of the patient’s progress may be helpful to both clinicians and patients. This approach can help to narrow down and perhaps simplify what is needed to attain results, to guide intervention strategies in a more tailored way, and/or to ascertain whether the intervention requires change or modifications over time. It can also help to pinpoint shortcomings in the overall treatment outcomes, and additional salient points of intervention.

In this regard, theory based strategies for improving self-efficacy including verbal persuasion, small steps, positive reinforcement and modeling opportunities are more likely to provide sustainable outcomes rather than generic approaches due to carefully construed goal oriented step by step approaches to achieving any mutually agreed upon or desired goal[s]. Collaborative efforts in this realm are especially encouraged, along with skills building, problem-solving, and educational interventions stressing the value of self-management and positive outcome expectations of this. By contrast, failure to examine whether the patient can master complex self-management processes can be predicted to prove highly detrimental in the short term, as well as the long term disease outcome. Conversely, pain, disability, and life quality may be positively and significantly impacted, dependency might be reduced, along with medication and health services usage by well construed application of self-efficacy theory where this is desirable.

To highlight the importance of these ideas, the literature reveals a number of medical and non medical factors that might be impacted directly or indirectly by the magnitude of their self-efficacy perceptions as outlined below:

- Pain
- Muscle weakness
- Aerobic capacity
- Joint flexibility
- Fatigue
- Sleep
- Occupational problems
- Obesity

Self Efficacy Attributes and Arthritis Disability: A Call for More Standardized and Thoughtfully Applied Measurement Approaches

- Anxiety
- Degree of disability
- Life quality
- Adherence to health recommendations
- Motivation to invest in self-management processes
- Outcome expectations
- Level of activity
- Analgesic usage
- Coping capacity

Unfortunately, despite the implied importance of careful efforts to routinely ascertain what aspects of any recommended self-management strategies might be obviated due to low self-efficacy perceptions, very few attempts have been made up to the present time to standardize the implementation processes and mode of assessing this attribute. Agreement on the most accurate methods of reducing any related data, and how to determine which of the various self-efficacy attributes might be suboptimal in persons with different forms of disabling arthritis is lacking as well. Yet, concerted efforts among researchers and clinicians to set guidelines and criteria for determining how to examine arthritis specific self-efficacy attributes would be expected to have immense potential impact on disease outcomes given the potency of this variable as an explanatory as well as a potential intervention focus. In particular, future efforts to assess which instruments are most suitable for assessing self-efficacy attributes given their diverse associations with arthritis symptoms and willingness to carry out health recommendations as well as examining their sensitivity to change before employing these as routine outcome measures in arthritis clinical studies are advocated for advancing this underrepresented but highly valuable possible arthritis related intervention component.

In the interim, a clinical assessment followed by a salient discussion and efforts to narrow down behaviors or tasks where confidence is low, along with the degree to which confidence is limited, and possible reasons for this, may yield more favorable outcomes for individuals with arthritis in its various forms and disease stages than not. At present, however, despite a plethora of related literature, the individual associations that may be highly relevant to understanding the disease limitations and where to focus interventions are hard to discern [1-10].

Bibliography


