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Review Article

Osteoarthritis Self-Management and Awareness: Potential Relevance and Consequences

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Abstract

Osteoarthritis, a painful widespread joint disease involving multiple joint structures and psychological impacts is not readily reversed or ameliorated. This brief explores if certain health beliefs and behaviors along with an impaired degree of self-awareness of their importance in joint and health protection realms can possibly heighten or partially explain the rapidly growing osteoarthritis burden among the older population. It asks whether: a degree of thoughtful attention to one's disabling health situation can be harnessed and actively directed towards the initiation and pursuit of some degree of desirable self-management practices with a high degree of consistency versus a more passive or fatalistic disease perspective of inaction, that can evoke reactive cognitions that are disease provoking, such as possible anxiety. Based on peer reviewed data drawn from the PUBMED, APA PsycNet, and Google Scholar data bases results show that while this issue is very sparsely addressed to date it may one worthy of future study in efforts to ameliorate osteoarthritis pain and the multiple pathogenic clinical processes that currently disrupt so many lives from early adulthood in some cases through advanced adulthood.

Keywords: Awareness; Beliefs; Expectations; Motivation; Osteoarthritis; Prevention; Protection; Self-Management

Introduction

Osteoarthritis, a chronically disabling joint disease is an immensely costly disease, and one where emergent and rising osteoarthritis prevalence estimates will possibly exceed one billion cases among older adults worldwide by 2050 [1,2]. An incurable and oftentimes progressive chronically painful disease involving one or more freely moving joints, osteoarthritis is often compounded by additional suffering as a result of chronic health conditions that co-exist, such as obesity [1,3] as well as mechanical insults that exceed the joint safety threshold. As well, osteoarthritis may have multiple emotional and cognitive disease associations, and non-invasive treatments once implemented are often deemed suboptimal or ineffective despite decades of dedicated research and increasingly advanced modes of intervention. In addition, the disease may be poorly understood and its burden underestimated because very few studies to date have explored joints other then the hip – knee- and hands and strategies that take all key possible determinants of the disease into account and that can possibly help to reverse, prevent, or mitigate this disabling condition [4]. Drugs that form the mainstay of non operative interventions for example and used to quell pain may not only have modest to negative symptomatic effects, but rarely appear to impact the disease process effectively, safely and directly. In addition, despite the importance of disease self-management interventions that have been alluded to quite frequently, the mode of imparting this directive may fail to embrace or address those possible mental and emotional underlying health correlates that may be compounded by disease misperceptions, a lack of acknowledgement thereof, a deficit in the moderating role of self-awareness in chronic health situations, a belief in medical and surgical interventions alone, and leading to high degrees of excess disablement and distress [5]. Surgery too, while often successful, is not always indicated or optimally successful in all cases, and is not an option in many developing countries, and among older adults with multiple health conditions, including frailty and cardiovascular conditions.

However, clinic-based support for various forms of physical therapy and weight loss-where indicated [6]-that tentatively offer some hope for alleviating the burden of osteoarthritis suffering are often not readily implemented with fidelity or in a tailored manner or adhered to by the individual requiring this line of intervention. For example can efforts to advance patient self-awareness of how they can potentially control their disease impacts account for some of the high rates of osteoarthritis in the United States and other venues, beyond the well established age, social and genetic explanations. More specifically, is some of the current and predicted osteoarthritis burden likely to be impacted or explained by the degree of either positive or negative perceived self awareness of the importance of self-protection and behavioral management and choices, os-

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teoarthritis mitigation options, knowledge plus the importance of treatment extent, frequency, and intensity, outcome expectations, self-efficacy for controlling the disease, and coping abilities [7-10].

Indeed, contrary to popular belief, osteoarthritis is not caused solely by ageing and does not necessarily deteriorate [11]. Once present however, an osteoarthritis damaged joint is vulnerable to a variety of changeable factors such as micro or macro traumas and diet excess or deficits that may profoundly joint status and impact risk [12]. Conceivably, if ignored, misunderstood or not duly contemplated as salient controllable pathogenic factors one's own behaviors or thoughts or both could hasten the osteoarthritis joint destruction process, as well as health issues including depression, the degree of inflammation that presides, and a vicious cycle of suboptimal functional abilities, client self-efficacy beliefs and self-care abilities, and declining life quality [13-15].

This paper was undertaken to discern if there is reasonable data pointing to a need to expand current osteoarthritis clinical research and intervention efforts in the sphere of obtaining a more comprehensive understanding of the role played by client cognitions such as self-awareness as this applies to the role of non biological osteoarthritis disease explanatory and deterministic factors. It asks if is there a role for measuring and possibly fostering a sense of awareness of the older adults with osteoarthritis regarding their perceived understandings of the importance of engaging in certain oftentimes multiple self-directed and regulated, active, carefully titrated and protective health behaviours.

Using the 2024 PUBMED database and others thought to best represent this health topic, the present scoping review provides a snapshot of how the themes of self perception, self awareness, self beliefs, attitudes, and efficacy cognitions either positive or negative may be important cumulative health determinants that can influence the outcomes of osteoarthritis and its self-management practices including the ability to cope with its chronic and progressive persistence markedly and significantly. Premised on the view that heightening or eliciting a vision of self as an active agent in the disease trajectory, rather than one of being a passive recipient of external thoughts and strategies, including firm beliefs regarding the degree to which one's own actions can determine outcomes data to support this was sought. As such, despite a limited focus on this cognitive concept of self-awareness, it was conjectured that studies in this realm would point to the importance of adopting a balanced and evidence based stance where a role for fostering proactive self-awareness attributes was indicated rather than a perpetuation of erroneous or negative disease reactive beliefs, and general self-awareness deficits in this regard.

That is, having examined what can be done to retard the burgeoning osteoarthritis epidemic and its attendant costs for some time, an effort was made to explore a possible unacknowledged role for the concept of self awareness in fostering efforts to reduce unwarranted or exaggerated fears, poor diets, stress, or disease inducing damaging movements - all strong pathogenic determinants. Alternately, it was felt cases acutely aware of the influence of thoughts and actions on their disease outcomes and progression may be willing to play a more active role in determining their own outcomes. On the other hand, it was expected research would allude to the negative influence of a lack of self awareness on the possible degree of exercise participation, excess fears and pain sensitivity, bone fragility, negative outcome expectations and experiences [19]. A deficit in self awareness has been shown to conceivably foster hyper or exaggerated emotional and disease interpretations such as fear and that may undergird both motivations to be active disease managers versus passive recipients of interventions and a possible reliance on unsafe narcotics that can obviate joint protection stimuli.

Indeed, it may hence be a noteworthy variable in multiple respects and one of future interest to examine and apply in osteoarthritis care-based efforts.

Rationale

In addition to mechanical and aging factors, deficits in the role that might be played by adopting health promoting self directed behaviours such as relaxation and stress control are likely to play a role.

At present, however, a large array of evidence shows no matter where and how chronic osteoarthritis disease management approaches are deemed desirable, actual levels of adherence are often suboptimal at best. At the same time, even if affected adults have sufficient 'intellectual' disease knowledge, the older adult with osteoarthritis may hold or continue to hold inaccurate normative beliefs that fail to motivate them to act affirmatively to minimize one or more disease provoking attributes, where possible. It was felt a high degree of unacknowledged self-responsibility along with the lack of know 'how' and motivations to modify possible multiple interactive physical, neurological, and cognitive challenges may well explain suboptimal outcomes in the face of both conservative as well as surgical osteoarthritis management and the overall failure of many forms of disease management to abate the condition optimally. As such, among the steps that may be valuable for advancing osteoarthritis self care is a role for carefully articulated provider-patient communications, explanations and encouragement designed to sensitise and reaffirm the importance of an individual's appreciation of the numerous personal control factors that can impact their disease prognosis, such as beliefs, thoughts and actions.

Methods

To obtain insight in this realm, we examined the electronic data sources PUBMED, APA PsycNet, and Google Scholar housing most of the world's peer reviewed medical data sources using the key words Osteoarthritis, Self Awareness. Health Beliefs, Behaviors, and Chronic Disease. The initial focus was on 2024 literature and available reports. In this regard, after scanning the data it was felt only a descriptive overview and commentary could be provided. Excluded were non English publications, and abstracts, and proposals for future study, but all research formats were deemed acceptable. However, the article does not discuss a possible influence of provider awareness or whether it is those with heightened self awareness of the role of emotions on overall health that have received directives accordingly. The term self-awareness refers to the ability of an individual to reflect and/or attend to or elicit thoughts about one's health situation and others that may be activated or modified through inward as well as outward factors, including reflections of the self compared to others, attributes health both desirable and undesirable, events or the state of being and its uncertainty.

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General findings

As indicated by almost 2500 current 2024 PUBMED references obtained when using the key word osteoarthritis as of November 2024, it is clear this topic is of high relevance to those involved in the medical and public policy spheres. In this regard, in light of past mitigation failures, and rising disease rates and costs, considerable attention is clearly devoted to novel ways of intervening in the disease cycle as well as basic studies that reveal disease mechanisms and intervention efficacy, and a focus on cartilage repair and stem cell applications and that can all prove fruitful. Less evident however, are papers discussing possible cognitive disease pathways or related behavioral factors that may independently or collectively influence possible biological and molecular pathways and outcomes adversely.

For example, cases exhibiting and evoking excess dismay at their changing body or social image and function and their possible influence that may extend to feelings of depression and pessimism, excess stress, weight issues, and unwanted comorbid health issues [16] may increase their distress as well as their degrees of anxiety. In addition, although amenable to change if suboptimal, diet that is not always considered relevant by the mainstream osteoarthritis provider and of which the sufferer is unaware may greatly add to the disease burden. As well, an inability to appreciate that the awareness of pain can be mitigated to some degree through cognitions, may lead to a state of exaggerated pain perception and experience along with a declining functional and socially restrictive awareness that may thwart the rehabilitation process [17]. Older adults with osteoarthritis may also experience a structural based degree of disease associated impaired muscle and joint movement alterations and aberrations that need to be factored in to joint protection efforts. Also, unaware may be those who are over medicated with narcotics or anaesthetic injections and who continue to damage their joints inadvertently [18-20]. In addition, biological cell-based therapies that do not account for the overall potency of individual beliefs, and behaviors on the damaged joint are also likely to prove suboptimal at best in clinical terms, no matter how carefully these are construed in the laboratory or tested on non human samples.

Moreover, health care systems that fail to account for the importance of assuring patients are aware of their obligations in the disease management provider partnership, may fail to reconstruct some undesirable behaviors and thoughts or initiate these so as to effectively manage their health challenges in an optimal and cost-effective manner. They may also have challenges making sound health decisions such as choosing medications or following multi-pronged self-care instructions, thus possibly incurring higher levels of physical as well as psychological distress. If unaware in this regard, the motivation of the older adult to seek and employ health information and engage fruitfully and optimally in sound physical and social behaviors and in line with their providers may go unheeded. They may experience less progress than anticipated if their lack of awareness prevents them from avoiding any preventable negative impacts on their health, such as weight gain, pain, and being sedentary or exercising to excess with limited options for handling pain and life situations [21,22].

In addition, their self-care may be detrimentally impacted even among those cases with mild symptomatic osteoarthritis if they are excessively focused on their predicament including being overwhelmed by self image changes that have been overlooked and increasing stress reactions and their ramifications. As per 2005 study treatments that were rated highly (such as surgery) were not necessarily those that were the most widely experienced. Conversely, those therapies that were the most widely accessed (such as analgesics) were not necessarily those that provided the maximum perceived benefit. It was concluded that in the continued absence of specific disease-modifying therapies for osteoarthritis- multiple therapeutic options need to be explored to address the individual patient's functional and symptomatic needs [23].

In this regard, although not studied to any degree, it is possible that appropriate self-management strategies and behaviors in patients with osteoarthritis can improve treatment effectiveness, quality of life, and reduce medical costs, however a lack of awareness of how actions, thoughts, and behaviors affect or moderate or mediate their health status may restrict the attainment of optimal intervention successes and overall health and wellbeing [24, 25].

Additional observations

A distinctive and essentially human and important cognitive trait [26], the attribute of self-awareness or ability to self reflect on one's behaviors and thoughts with heightened pro active self-directed degrees of contemplation may be harnessed to evoke favorable health outcomes even under dire conditions.
Indeed, even if excess self-focused attention on several negative disease associations may prove detrimental, research stimulated by Duval and Wicklund's self-awareness theory has shown that self-focused attention can be harnessed to influence a wide range of favorable rather than unfavorable attitudes, attributions, and behaviors. Moreover, although it appears the manipulation of self-awareness once triggered can actually activate self-relevant thoughts and actions [27], it can be extended towards those attributes of self-regulation – essential for maximizing osteoarthritis outcomes and its conceptualization and in our view warrants careful consideration. This is because perceptions of self as either a victim or an active disease control agent can have multiple health implications, and one with a heightened awareness of osteoarthritis associated behavioral antecedents and value of adopting evidence based protective personalized strategies for its improvement are considered impactful [28].

Moreover, this ability to appreciate that even if osteoarthritis is irreversible, one can yet play a role in one's own osteoarthritis outcomes both physical and psychological, at least to a modest degree is conceptually appealing at the very least. This is because the mobilization of the sufferer's awareness attributes is surely key to efficacious osteoarthritis disease self-management practices and can serve as a possible guiding framework in its own right for evoking and directing health affirming self-regulatory behaviors and thoughts, that if harnessed and maintained as desired, can be predicted to help improve a sufferer's day to day function and future status.

In particular, an active self-reflective stance and weighting of one's behavioral options may also help to buffer against the detrimental effects of persistently negative osteoarthritis associated thoughts or erroneous self-reflections or self-evaluations. For example, osteoarthritis sufferers may not be aware of their ability to actively assist in controlling pain, which can be taught. They may hence be duly depressed, and feel they cannot reach their desired life's goals even if this is not based

on the osteoarthritis state per se. Moreover, they may not understand why they must struggle to adhere consistently to their health directives despite ongoing suffering if this is not brought to their attention and carefully explained [29, 30].

They may similarly feel increased degrees of disempowerment rather than assertiveness, along with a feeling of limited agency to handle or accept daily life challenges, less motivation to move, worse functional status and low energy levels [30], and limited social and functional interactions. To the contrary, the ability to weight one's options may prove highly beneficial [31], reduce stresses and fears, and help in gaining a higher rather than lowered degree of inner peace despite an osteoarthritis presence [32-35].

Additional data reveal that acting-with-awareness, and a form of non-judging mindfulness can have a significant impact on psychological health in its own right [36, 37]. Alternately, a balanced approach is required because an excess negatively oriented self-awareness and conceptualizations [38] may prove harmful [38]. For example, research on fibromyalgia, a chronic pain syndrome that may be linked to osteoarthritis, shows these patients often exhibit a high tendency to note bodily sensations and decreased body confidence and thus a cycle of increasing fear-avoidance modes of behaving [39]. Behaviors not carefully executed may also foster joint pain as well as overall health and self image declines, and perceived self control. A parallel increase in pain in this regard and emotions that are not well controlled may further mitigate against the attainment of a more positive disease outcome [40-43]. Accordingly, it may be helpful to explore if targeting awareness and reward/motivation circuits may provide a path for normalizing the consequences of chronic pain, thus surpassing symptomatic management to promote recovery from chronic pain [44].

In the interim, research in the area of self-awareness theory leads us believe that assessments of various aspects of the self, including attitudes, cognitions, and affective and somatic states, can help osteoarthritis cases in two primary ways: (a) it can help them focus their attention on those aspects of self-care that will be doable and helpful in all likelihood and to avoid those that will be harmful, b) it can help build confidence and a better self image than that of victimhood [45].

Discussion

Considerable research implies that many older adults vulnerable to developing osteoarthritis will suffer excessive disability because they do not always adhere to their management programs as consistently as demanded. In turn, this failure may impact their ability to function physically quite negatively, while promoting their tendency to become sedentary and/or overweight and that are challenging states to reverse.

This well documented failure to adhere to a daily plan of specific potential benefit to the individual, a current topic of high import and interest, may well be due to a variety of specific possibly remediable influences that impact one's behavioural choices- but are not always examined or evaluated, such as self-awareness as well as awareness in general. Both may be relevant because they can both influence health outcomes and may require some degree of post assessment and evaluation intervention in their own right.

Indeed, osteoarthritis, often neglected as a serious health condition, or one touted to have no non physical causes, may yet produce an untold burden and costly outcome for adults of all ages, even if the affected adult has sufficient tangible resources. In the case of those older adults who desire to remain independent, they may fail to have the ability to do this if they are unaware of how they can potentially control their disease or its rate of progression, and limit harmful actions and thoughts that exacerbate pain.

In addition, immense societal costs associated with osteoarthritis may continue to ensue for similar reasons and in light of the adult's health beliefs that may be erroneous or invalid as well as their lack of awareness of their key role in its mitigation as well as its progression. By contrast, education that enhances self awareness and encourages movements to optimize a healthy joint range of motion and facilitate joint nutrition might be expected to promote some degree of cartilage repair or reversal of cartilage catabolism, while relieving pain and enhancing life quality of life, and the ability to function physically.

In this regard, this brief albeit limited clearly implies a lack or deficit of self-awareness, or an exaggerated disease focus may foster osteoarthritis disability and its impact in multiple and costly ways. Interventions in this respect on the other hand, might relieve pain and enhance independence and self image. Moreover, being active and productive, and keeping a healthy weight is likely to prove more useful than not.

To ascertain what might produce the most optimal result for an individual, the clinician can help by undertaking a thorough history and physical examination before ascertaining whether the intervention aim is to achieve: 1) a reduction in joint pain, muscle spasm and/or swelling, 2) an increase in mobility, stability, strength, endurance, balance control and/or gait efficiency, and/or 3) optimal aerobic fitness, emotional well being, stress management, or weight control.

In this respect, it appears providers who screen for and assess their patient's self-awareness concerning their condition before advocating any complex self-care approaches or solutions, or providing patient education that is non-specific can potentially expect satisfactory outcomes and high degrees of patient satisfaction and researchers can examine this with the expectation that their findings will prove fruitful. This is because, it is highly probable most patients do not actually realize they have a somewhat treatable array of osteoarthritis symptoms, and can avert others, but that this may require their vigilance and commitment. Those cases with limited self-awareness, poor health decision making ability in general and no understanding of their role in their ongoing care should be preferentially targeted even if surgery is the only remedy for them and especially if they believe solely in its efficacy.

In particular, educating the patient to appreciate that their ability to assert control over their disease can have a highly beneficial impact on the patient's life and disease associated outcome expectations. Fostering more self-awareness and self-recognition that they can assert control can favour 1) the adoption of opportunities for maximizing optimal health outcomes; 2) a decline in a patients' distress and dissatisfaction with the health care provider, plus multiple health costs and inequities; 3) better self-regulation; 4) possible reductions in emotional over-reactions to distress [48], binge eating [49], self-focused attention, a heightened negative affect, depres-

sion [50] interoreceptive awareness deficits [51], and negative health self-awareness thoughts and reflections [52].

Clinicians can help by consistently evaluating their client's understandings and thereafter providing them as indicated with-

- Mutually agreeable and realistic achievable personal goals and flexible goal setting
- Plans for relapse, overcoming obstacles to self-directed management goals
- Periodic re assessments and adjustments, as indicated
- Resources, as required

Anticipated benefits are many, including, a reduced gap between the degree of despair and one's personal aspirations and desires and a positive self-image and heightened degree of self-agency and motivation for securing positive outcomes despite a formidable osteoarthritis presence.

Conclusion

Despite increasing efforts over time to unravel the causes of osteoarthritis and its varied outcomes, modern medicine has not been quite as successful in this regard as desired. Indeed, it 2024 futuristic and current analysis appears to imply that the projected burden of this disease will steadily increase along with its costs for years to come. Indeed- the health ramifications of osteoarthritis cannot be underestimated. However, in our experience, those afflicted may be completely unaware of their ability to either exacerbate or attenuate multiple disease impacts such as pain. Many may have exaggerated emotional reactions on the other hand, when they reflect on their condition.

As such-we believe that even if there is no real basis for addressing self-awareness as an osteoarthritis mediator or moderator-

1. Osteoarthritis will continue to affect up to one billion older adults by 2050 especially if efforts to mitigate its onset and progression remain suboptimal, including a failure of the sufferer to be an active and disease moderator and change agent are not forthcoming.
2. In particular, a failure to advance its behavioural and cognitive disease beliefs and a failure to act on controllable emotional, nutritional, and mechanical factors will prove costly in multiple ways.
3. To minimize the risk of osteoarthritis disablement the importance of personalized and understandable high quality culturally specific health provider communications plus public health messaging that conveys a positive set of affirmative messages about what can be done by the individual to control their osteoarthritis is strongly advised, if not imperative.
4. Training health care professionals to be reflective of their own biases about osteoarthritis, as well as enhancing taking the time to provide a clear sense of direction for the patient that does not overwhelm them, but is targeted to promoting a realistic self-concept and image and the importance of carefully construed self-directed behaviours, and limiting fear-avoidance activity cycles, sedentary practices, and excess narcotic use.
5. Fostering awareness that poor nutrition and social deficits may heighten pain and increase their disability along with a failure to practice energy conservation and stress reduction strategies is also essential.
6. Efforts to study attitudes, beliefs, and perceptions among older adults with osteoarthritis may reveal a greater need for a focus on active upstream rather than passive downstream health care practices.

In the interim, and until more research is forthcoming, we believe applying empathy and compassion, and instilling a realistic sense of confidence in the client using the Stages of Change theoretical model of behavior along with self efficacy training may provide an additional means of addressing this issue.

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