



Editorial comment

The role of catastrophizing in the pain–depression relationship



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In this issue of the *Scandinavian Journal of Pain*, Wood and coworkers [1] investigate the mediating role of catastrophizing in the relationship between changes in pain intensity and changes in depression in older adults. The study has a prospective design, thereby strengthening the same findings that were previously found by the authors in a cross-sectional design. The article addresses a fairly well studied topic, but in an understudied population. Few previous studies have specifically targeted the elderly population when trying to understand chronic pain mechanisms, despite the fact that there appears to be a difference between younger and older adults when it comes to the prevalence and characterization of comorbid depression in chronic pain [2,3]. The study therefore provides much needed knowledge about a topic with obvious clinical implications. More insight into the mechanisms of pain chronification could contribute to intervention development by guiding which elements to target specifically in treatment.

1. The unknown nature of the pain–depression relationship

It has long been known that depression commonly co-occur in patients suffering from chronic pain, but the nature of this relationship is still largely unknown [4]. When it comes to directionality and mediating variables, the scarce literature in study populations of older adults points in different directions. While one study suggests a direct relationship between pain and depression in older adults [5], another study suggests that cognitive–behavioural variables, such as catastrophizing, play a significant role in differentiating between older pain patients with and without comorbid depression [6]. The need for more studies, with robust designs, is therefore much needed. The current study by Wood et al. takes us one step further by replicating their own previous findings with a stronger set of longitudinal data. Still, their current study suffers some of the same shortcomings as their previous study. In fact, these shortcomings are shared by most studies within this particular area, and concern the lack of intermediate measurement points demonstrating that the change in the proposed mediator *precedes* the outcome in time.

2. What is mediation?

Mediation is a hypothesized causal chain in which one independent variable *X* affects a mediating variable *Y*, which in turn, affects the outcome variable *Z*. If the intervening mediator *Y* explains the correlation between *X* and *Z*, we are talking about a full mediational model [7]. However, in order to establish a mediational relationship and make any firm conclusions about causality or directionality, the mediator must precede the outcome in time [8]. In the study by Wood et al., this is not the case. Their dependent and mediating variables are all measured at the same two time points, thereby making it impossible to ascertain the role of catastrophizing as a mediator of the pain–depression relationship. This is, indeed, a limitation also acknowledged by the authors, who themselves suggests that future studies should aim to overcome this shortcoming in their study designs in order to disentangle the causal nature of catastrophizing in the pain–depression relationship.

By learning more about potential mediators of change, better and more targeted interventions can be developed and assessed. If, in fact, catastrophizing is a significant mediator of the relationship between pain intensity and depression, this is important to know when intervening on the patient group of elderly pain patients. Pain intensity is in itself often difficult to modify directly in patients suffering from chronic pain, but catastrophizing is a modifiable risk factor that could easily be targeted in treatment. Whether a reduction in catastrophizing could cause a reduction in comorbid depression remains to be seen in this patient group, but the current finding of catastrophizing as a possible mediator of the relationship is promising.

3. Chronic pain and ageing

With the continuous and rapid increase in people living to experience an old age, chronic pain and depression will become increasingly prevalent and important to address in this particular population. Living with pain bears consequences for both functioning and overall life quality, which again highlights the need for effective and feasible interventions. Older adults are, as previously mentioned, an understudied population when it comes to chronic pain, and so is also true when it comes to the literature on effective pain management interventions. There is, however, increasing evidence that cognitive and behavioural interventions are effective and helpful in the elderly, at least on self-reported pain experience [9]. And the lack of convincing effects on depression and

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medication use only serves to strengthen the rationale for the study aims provided by Wood et al., namely to investigate the mediators of the relationship between pain intensity and depressed mood.

In conclusion, the study by Wood et al. addresses an important topic in an understudied population, namely the role of catastrophizing as a possible mediator of the pain–depression relationship in elderly adults. As the authors themselves emphasize, future studies should continue to pursue the causal nature of catastrophizing in the pain–depression relationship, ideally with stronger study designs. More specifically, such studies should assess, on multiple occasions during treatment, both symptoms and proposed mediator(s) in order to establish with more certainty the presence of cognitive–behavioural variables, e.g. catastrophizing, as mediators of change in CBT treatment programmes.

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