

Commentary

Research on coping with chronic pain: The importance of active avoidance of inappropriate conclusions

Contemporary models of chronic pain hypothesize that psychological variables influence both pain and its impact [3,10]. Research in this area has focused mostly on the psychological variables of beliefs and coping. Beliefs refer to the thoughts that people have about pain. Thoughts such as the perceived controllability of pain, perceptions of oneself as disabled, and the belief that pain signals physical damage have been shown to be associated with measures of psychological functioning and disability [8,11,13]. Moreover, changes in these beliefs have been shown to be significantly associated with improvement following pain treatment [4,5,9].

Coping refers to the strategies people use to manage pain and its impact. Research has shown that the use of coping strategies such as guarding, resting, and asking for assistance is associated with important functioning variables in samples of individuals with chronic pain [11,12], and that changes in these coping responses are associated with treatment outcome [4,5,9]. Catastrophizing may be defined as excessive and unrealistic negative thoughts about pain and its impact on functioning. It can be viewed as either a cognitive [6] or a coping response [13]. Either way, research consistently demonstrates strong associations between catastrophizing and measures of dysfunction [2,11,12], and longitudinal studies show that decreases in catastrophizing over time are associated with improvement in patient functioning [4,5]. Although the results from these studies demonstrate that psychological variables are associated with pain and disability, research has not yet confirmed that these variables necessarily have a causal influence on pain or its impact.

Karsdorp and Vlaeyen [7], in this issue, present the findings from a study examining the associations among psychological variables in a large sample of patients with fibromyalgia. Their analyses indicated that two avoidance coping responses made independent contributions to the prediction of disability when controlling for the other study variables. Karsdorp and Vlaeyen's paper provides further support for the conclusion that what people think and do about chronic pain predicts disability. Their findings may also be used to highlight two difficulties that are often encountered in studies that involve multivariate analyses of cross-sectional data: (1) a pervasive temptation to draw causal conclusions from correlational data and (2) a tendency to use the results of multivariate analyses to draw conclusions regarding the potential *unimportance* of psychological factors.

As authors should do when presenting the findings using cross-sectional data, Karsdorp and Vlaeyen pointed out that it is not possible to draw causal conclusions from their findings. Despite this

observation, however, there remains language in the paper that hints at causal conclusions. In the abstract, for example, they write that the findings "...suggest that specifically active avoidance behaviours are *detrimental* [italics added] in FM". This tendency towards causal language is very common in many, if not most, correlational studies. It also makes it even more important for readers to constantly guard themselves against drawing causal conclusions from the findings of these studies – despite what authors may at times imply.

Psychological models of pain often hypothesize causal and mediational associations between different psychological factors or domains. For example, the fear-avoidance model cited by Karsdorp and Vlaeyen in their paper posits that catastrophizing leads to fear of pain, which then contributes to avoidance behaviour and disuse, and ultimately then to disability and more pain [1]. One might also hypothesize the existence of significant associations among psychological variables even if they do not directly influence each other. For example, depression could potentially influence catastrophizing cognitions as well as how people cope with pain (e.g., depression may lead to avoidance coping responses such as rest), so significant associations between measures of catastrophizing and coping could be expected due to their likely shared association with depression, even if coping has no causal influence on catastrophizing or vice versa. Given the likely associations between psychological variables, a multivariate analysis that (1) estimates the associations between these variables and important criterion variables that also (2) controls for other psychological variables, will likely underestimate the importance of the psychological factor(s) being examined.

The results presented by Karsdorp and Vlaeyen [7] illustrate this point. They found that the association between pacing and disability, when other psychological factors were controlled, was not significant. They then concluded that pacing was therefore unimportant to disability in their sample. However, a close inspection of their findings shows that catastrophizing was not significantly associated with disability when coping responses were controlled (see Tables 4 and 5 of their paper). Does this mean that catastrophizing is not important to disability in their sample? Or does this reflect the possibility that catastrophizing and coping are associated with each other, so that controlling for one will reduce the ability of the other to predict disability? Either conclusion is consistent with the data – catastrophizing, like pacing (or any other psychological variable) may still be important to patient functioning, even if it no longer contributes to the prediction of disability

when controlling for other psychological variables such as coping. In short, negative results from studies that use analyses that control for psychological variables should not be used to draw strong conclusions about the *lack* of importance of any one variable.

Like most of the other published correlational studies examining psychological correlates of disability, Karsdorp and Vlaeyen's findings confirm the importance of coping as a significant correlate of adjustment to chronic pain. Moreover, their finding that active avoidance is uniquely important in the prediction of disability when controlling for other psychological factors is an important one. At the same time, one must be constantly vigilant to avoid viewing the findings from correlational studies as suggesting the presence of causal associations. One should also be careful, when interpreting the results of multivariate analyses of cross-sectional data, to not necessarily rule out a factor that could potentially be important to helping a patient improve. The true (causal) importance of a psychological variable is best identified by experiments that systemically alter the variable in question, and then determine the subsequent effect of a change in the variable on measures of important outcomes.

References

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