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Editorial comment

Aspects of pain attitudes and pain beliefs in children: Clinical importance and validity

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In this issue of the *Scandinavian Journal of Pain*, Jordi Miró and coworkers report on the development of a revised version of the paediatric Survey of Pain Attitudes (Peds-SOPA-R) and demonstrate improvements in the internal consistency of several of the seven scales by use of factor analyses [1].

1. Validation of the Peds-SOPA-R

The paediatric version of the Survey of Pain Attitudes (the Peds-SOPA) is a revision from the adult version and is developed and validated by Joyce M. Engel and coworkers [2] and evaluated regarding psychometric properties by Jordi Miró and coworkers [3]. The primary aim of the present study by Jordi Miró and coworkers [1] was to further develop the Peds-SOPA into the Peds-SOPA-R in order to increase its validity and reliability. The goal were to (1) increase the internal consistency of the seven scales; (2) create scales with a more balanced number of items; and (3) replace redundant items in order to increase content validity.

When revising the Peds-SOPA to Peds-SOPA-R, the authors preserved 24 of the 29 items and created 49 items. A total of 73 items were evaluated according to the correlation with its parent scale and 35 items were chosen and stratified into 7 scales for the Peds-SOPA-R. The seven scales that all illustrate different pain attitudes and pain beliefs were Control, Medical cure, Solicitude, Medication, Emotion, Exercise and Disability. The score was subsequently investigated for internal consistency and criterion validity by use of factor analysis, Crohnbach's Alpha and Pearson's correlation compared to both the Functional Disability Index (FDI) and the Numerical Rating Scale (NRS-11). Three-hundred and seven children and adolescents between 12–20 years of age were included from 8 secondary schools in the province of Tarragona, Catalonia. Internal consistency was established with a Cronbach's Alpha ranging from 0.65 to 0.87 in the 7 scales. In other words the results show that the scales in the newly created Peds-SOPA-R are sufficiently correlated and measure the same construct, which in present case are pain beliefs. The evaluation of the psychometric property of internal consistency of a Health-Related Patient Reported Outcome (HR-PRO) such as the Peds-SOPA-R is in accordance with the COSMIN guidelines as reported by Mokkink and coworkers [4].

2. Assessment of pain attitudes and pain beliefs in children

In a study by Mikael Thastum and coworkers [5] beliefs are defined as an assumption of reality through which events are interpreted and consequently pain beliefs may be defined as the beliefs on how a stressor such as pain, influences an individual's coping response including psychosocial and physical functioning. Mikael Thastum and coworkers [5] hypothesized that in a group of children with juvenile idiopathic arthritis, the subgroup known to have a high level of chronic pain, would also use more catastrophizing pain coping strategies and would see themselves as more impaired and having less control over their pain assessed with higher scores on a child version of the SOPA. The study showed that cognitive health beliefs were inversely associated with pain in paediatric patients with juvenile idiopathic arthritis, even after controlling for age, sex, disease duration, disease activity, parent assessment of the child's health and pain coping.

In present study, Jordi Miró and coworkers found positive relationships between pain beliefs thought to be maladaptive and pain intensity and disability exemplified by the belief that one is unable to function because of pain. Furthermore, negative relationships were found between pain beliefs thought to be adaptive and pain intensity and disability exemplified by the belief that exercise is beneficial for pain management.

In a study by Kelsey T. Laird and coworkers [6], the predictions of the Attachment-Diathesis Model of Chronic Pain in adolescents and young adults with a history of childhood functional abdominal pain were investigated. Results showed that among children with functional abdominal pain, the ones with anxious attachment were at a higher risk for poor physical and mental health. Furthermore, it was discussed if pain beliefs and coping were mediators for the relation between anxious attachment and health outcomes and hence would be an effective target for intervention in chronic pain in children and adolescents.

Soumitri Sil and coworkers [7] investigated psychosocial and functional outcomes in youth with chronic sickle cell pain using, among others, the Peds-SOPA developed by Joyce M. Engel and

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coworkers [2]. It was stated that pain catastrophizing and pain-specific beliefs may play a central role in maintenance of chronic pain in adolescents and results showed that children with chronic sickle cell disease had high levels of pain catastrophizing. In addition, it seems as pain chronicity might contribute to a poorer functional and psychosocial outcome in adolescents with sickle cell disease.

The Peds-SOPA-R is now validated through the work of Jordi Miró and coworkers [1] and appear to be an excellent tool for the assessment of children's pain beliefs and therefore would be an effective tool in interventional treatment of chronic pain in children and adolescents.

3. Clinical implications and perspectives

Children might suffer from chronic, acute or procedural pain in relation to a range of different conditions. In recent years, the body of evidence regarding pain assessment and treatment of pain has increased. The increased knowledge and awareness aids the clinician in diagnosing children with pain and improves pain management strategies for the child in question and hence increases quality of life. However, little is known about the thoughts and beliefs children may encounter regarding their pain.

The additional knowledge that Miró and coworkers [1] brings forth provides important information on the pain beliefs of children and adolescents. In clinical cases with paediatric chronic pain, attention should not only be put on valid assessment on pain levels and accurate pain management strategies, but also on the specific pain attitudes of the child. Knowledge of the manner of which the child deals with chronic pain and labels the pain in a social, personal and relational framework may define the effect of a treatment better than the amount of analgesia or other given intervention. In addition, the Peds-SOPA-R may monitor changes in pain beliefs, acceptance of interventions and adaptability to pain during a course of pain treatment. In conclusion, studies on the subject of pain beliefs indicate that treatment of chronic pain in children and adolescents may be improved if psychosocial treatment protocols not only is focused on coping strategies but also includes modification of the child's pain beliefs [5]. The improved psychometric properties of the Peds-SOPA-R results in a clinical useful tool for the understanding of the pain beliefs of children and adolescents and may improve quality of life in children with chronic pain. Interesting future perspectives include validation of the Peds-SOPA-R in children with known chronic pain disorders, testing of the intra-observer reliability by test-retest measurements and assessment of responsiveness over time.

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