Commentary: A Worldwide Call for Multimodal Inpatient Treatment for Children and Adolescents Suffering from Chronic Pain and Pain-related Disability

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Children and adolescents presenting to clinicians with chronic pain and severe interferences in their daily life, such as school absence, reduced contact to peers, and emotional, sleep, and eating problems (Palermo, 2000) are not very well cared for worldwide. In contrast to children, a recent review illustrated the therapeutic network for affected adults in Germany with 18 centers in Bavaria alone providing multidisciplinary treatment programs (Arnold et al., 2009). For children, there are only four multimodal inpatient programs worldwide that have been described and evaluated in terms of their effectiveness, despite the fact that a noteworthy number of children and their families are severely affected by chronic pain and in need of multimodal inpatient treatment. Across studies from the USA (Perquin et al., 2000), Europe (Huguet & Miro, 2008; Kröner-Herwig, Heinrich, & Morris, 2007), and Canada (Shiff et al., 2009), ~3% of children and adolescents suffering from chronic pain demonstrate significant pain-related disability leading to widespread negative consequences for the adolescent and family that may be difficult to treat in an outpatient setting. These children are faced with a desert of centers offering multimodal inpatient treatment which in turn, may aggravate the child’s situation. A recent Delphi Poll on predictive factors of chronic pediatric pain and disability (Miro, Huguet, & Nieto, 2007) identified the excessive use of health care services as one factor with great influence on the chronicity of the pain experience. In accordance, Shiff et al. (2009) have recently shown that a median of five visits prior to treatment in a specialized pain clinic of Canadian children. In a German sample, >70% had consulted more than three physicians prior to specialized inpatient treatment (Hechler, Blankenburg, Dobe, Kosfelder, Hübner, & Zernikow, 2009).

The study of Maynard, Amari, Wieczorek, Christensen, & Slifer (2009), therefore, adds to our knowledge on the effectiveness of urgently needed multimodal inpatient programs for this specific group of children and adolescents. However, some issues need clarification to carefully interpret the results presented by Maynard et al. (2009):

In light of the previous studies, some of which were conducted prospectively over a period of 1–2 years (e.g. Dobe, Damschen, Reiffer-Wiesel, Sauer, & Zernikow, 2006; Sherry, Wallace, Kelley, Kidder, & Sapp, 1999), the retrospective chart analysis conducted by Maynard et al. (2009) seems to be a drawback. In line with that, the number of children included in previous studies range from 103 (Sherry et al., 1999) to 200 (Hechler, Blankenburg, et al., 2009). Hence, the sample size of 41 (of which 19 were reassessed at 3 month follow-up (Maynard et al., 2009) seems rather small.

Until recently, the definition of core outcomes in clinical trials remained a matter of discussion. However, with the publication of the PedIMMPACT recommendation for assessment of core outcomes in clinical trials (McGrath et al., 2008), guidelines were established and have already been included in previous studies (Dobe et al., 2006; Eccleston, Malleson, Clinch, Connell, & Sourbut, 2003; Hechler, Blankenburg, et al., 2009; Hechler, Dobe, et al., 2009). Maynard et al. (2009) chose not to assess pain intensity in their study. However, their argument against its assessment—such as defocusing patients from the pain experience and little variability in patients’ pain scores—can be critically discussed given the recent findings. We
demonstrated in our study that up to 73% demonstrated clinically significant changes in pain intensity 3 months following multimodal inpatient treatment (Hechler, Dobe, et al., 2009). We agree to the question as to the sequence of occurrence, i.e. does a decrease in pain intensity lead to a decrease in disability? Or, in accordance with the philosophy of the majority of programs (Eccleston, Connell, & Carmichael, 2006; Hechler, Blankenburg, et al., 2009), does a decrease in disability result in decrease of pain intensity? Not assessing the experience of pain, however, does not seem to be an appropriate solution.

We do not only need multimodal inpatient programs worldwide, but we also need to determine their effectiveness. Recent studies have already provided a profound basis to conclude that these programs may be valuable in the long- and short-term affected children (Dobe et al., 2006; Eccleston et al., 2003; Hechler, Blankenburg, et al., 2009; Hechler, Dobe, et al., 2009; Palermo & Scher, 2001). Apart from reporting statistically significant changes from one time point to the other [such as in the study by Maynard et al. (2009)], we need to determine the clinical significance of these changes as highlighted by Dworkin et al. (2008). Maynard et al. (2009) report on clinical significance; however, they do not imply a theoretical construct such as the clinical significance defined by Jacobson and Truax (1991). They suggest two criteria: (i) the magnitude of change between pre- and posttreatment scores should be statistically reliable; (ii) by the end of the therapy, patients should move from a dysfunctional- to a functional level to render them indistinguishable from healthy people. Until now, the method of clinical significance has been implemented in only few pain therapy effectiveness studies and only one study was conducted in children (Hechler, Dobe, et al., 2009). In line with Dworkin et al. (2008), we recommend careful usage of the word clinical significance. This should only be included if appropriate definitions and statistical analyses have been conducted. A detailed suggestion for definition of cutoff scores for disability is presented in Hechler, Dobe, et al. (2009).

Finally, the definition of chronic pain and pain-related disability still remains a matter of profound discussion as recently demonstrated by an intensive discussion on the Pediatric-Pain Mailing List (http://www.pediatric-pain.ca; January 2009). We suggest investigating patient profiles including a description of symptoms (the duration, intensity, and location of pain), behaviors (pain-related disability and school absence), and pain-related cognitions (catastrophising). Vowles, Jordan, & Eccleston (2009) have made first steps in this direction. Investigating patient profiles and possibly, differences in treatment outcomes may help us to allocate patients to a given treatment according to their specific needs. Hence, the study by Maynard et al. (2009) raises issues for discussion such as summarizing patients with a variety of diagnoses (ranging from chronic regional pain syndrome (CRPS) to Ehlers–Danos syndrome) under the concept of pain-related disability syndrome. However, we suggest refraining from any generalizations regarding their findings until future studies including larger sample size, standardized questionnaires, assessment at multiple time points, and sophisticated statistics have replicated their findings.

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**References**


