

Closing the gap between research and practice in health psychology: Examples from the area of paediatric pain

Rachel Horton, M.A. and Nicole Racine, M.A.,
Clinical Developmental Psychology, York University

Source: Horton, R., & Racine, N. (2012). Closing the gap between research and practice in health psychology: Examples from the area of paediatric pain. *Psynopsis: Canada's Psychology Magazine*, 34(1), 34-35.

Arguably one of the greatest challenges in health research is bridging the gap between evidence-based research and primary care. While large bodies of research point to methods and treatments that ameliorate health, the translation of knowledge to practice is often slow and cumbersome. This is no truer than in the field of paediatric pain where it has taken decades to demonstrate that infants feel pain, let alone require treatment for pain. A growing number of health psychology researchers, however, are striving to make changes to the health care system so that infants' pain is acknowledged and ultimately alleviated. As doctoral students in the Opportunities to Understand Childhood Hurt (OUCH) laboratory at York University, under the supervision of Dr. Rebecca Pillai Riddell, we are members of a team of researchers whose goals are to investigate the ways in which infants express pain as well as effective methods to help reduce pain-related distress associated with medical procedures. In the following paragraphs, we illustrate the challenge of knowledge translation using examples from our research in the area of paediatric pain and discuss four strategies that members from our team have undertaken in pursuit of these goals.

Identifying the Problem. It is hard to imagine that people once believed that infants did not feel pain. However, as recently as 30 years ago, the belief that infants could not feel pain, or that pain

would not have a negative, long-term impact, was prevalent. Analgesics, even during open heart surgeries, were often avoided for infant patients due to the unknown effects of analgesics on the infant body and the belief that pain would not lead to long-term adverse outcomes. Today, it is well established that the infant in pain is markedly vulnerable. Infants cannot predict, manage, understand or verbalize their pain and are wholly dependent on caregivers (which can include parents, nurses or doctors) to recognize pain signals and to respond to these signals with appropriate care. The emotionally negative experience that infants and parents undergo, as a result of undermanaged pain, can lead to maladaptive health behaviours such as avoidance of health care, pre-procedural anxiety, and needle phobias. Research has demonstrated that under-managed pain in infancy (e.g., circumcision without analgesia) is associated with maladaptive mental health outcomes later in life including lower pain thresholds. Despite the known health problems related to under-managed pain in infancy, pain from acute paediatric medical procedures continues to be poorly managed. For example, although infants in Canada receive up to 15 immunizations prior to their second birthday, standards of care do not include the use of analgesia or non-pharmacological strategies to minimize the pain of inoculation.

Assessing the Problem. Prior to endorsing the standard use of interventions for paediatric pain, a solid foundation of research pertaining to pain expression in healthy, typically-developing infants was needed. Research from our lab and across Canada (e.g., leading experts in the field of infant pain from the University of British Columbia, McGill University, Dalhousie University and the University of Toronto) has shown that the age of the infant (e.g., 2 months versus 12 months) affects the way in which infants express pain, the specific strategies that are effective in managing pain, and the successful timing of implementing these strategies during medical procedures. It has also been well-established that caregivers (parents, in particular) play a key role in soothing infants in distress and in advocating for infants in pain and that caregivers (e.g., nurses versus doctors) interpret infant pain differently.

Evaluating Interventions. We collaborated with others in the field to conduct a broad meta-analysis of non-pharmacological strategies for infant procedural pain. Our team recently published these findings in a Cochrane Review (Pillai Riddell et al., 2011) in which we reviewed 51 randomized controlled trials involving 13 different types of commonly investigated nonpharmacological treatments of infant pain (e.g., rocking/holding the infant) during medical procedures while accounting for infant age and the timing of interventions. We found that kangaroo care (i.e., skin-to-skin contact), sucking-related interventions (e.g., using a pacifier) and swaddling/facilitated tucking were efficacious in relieving both pain reactivity (right after the procedure) and immediate pain-related regulation (at least 30 seconds after the procedure) for preterm infants (i.e., born at 36 weeks gestation or less). For neonates (i.e. infants

born at 37 weeks until one month of age), sucking-related interventions were found to be efficacious for pain reactivity and immediate pain-related regulation, while rocking/holding was found to be efficacious for immediate pain-related regulation only. There were no non-pharmacological treatments reviewed that demonstrated sufficient evidence for pain relief in older infants (i.e., over one month to 36 months of age), however, more research is needed for this group. The conclusions from this meta-analysis are important for guiding health-care practitioners on evidence-based interventions for infant pain and when to implement these strategies.

Implementing Evidence-Based Interventions. With the knowledge that parents play a key role in advocating for their infants in pain and in soothing their infants in pain, members of our lab are working within a multidisciplinary team that includes international leaders in infant pain research such as Dr. Anna Taddio (Leslie Dan Faculty of Pharmacy, University of Toronto) and Dr. Moshe Ipp (Division of Paediatric Medicine, The Hospital for Sick Children) to conduct a randomized-controlled trial of pharmacological and nonpharmacological interventions for the management of infant pain in a community context. The aim of this trial is to involve numerous stakeholders (e.g., parents, paediatricians) and to provide definitive evidence with regards to which pain interventions should become part of the standards of care for immunizations across Canada.

Like many health psychology trainees, the overarching aim of our research is that it will lead to advances in health care practices that will ultimately improve the health of Canadians. Researchers have made great strides towards alleviating the distress and pain that infants experience as a result of

medical procedures. Our efforts in translating knowledge to practice, however, are far from over. With progress towards the identification of effective strategies for managing infant pain, numerous knowledge translation strategies will need to be undertaken to ensure that pain management is the rule rather than exception for Canadian infants.

References

Pillai Riddell, R., Racine, N.M., Turcott, K., Uman, L., Horton, R. E., Din Osmun, L., Ahola Khut, S., Hillgrove Stuart, J., Stevens, B, Gerwitz-Stern, A. (2011a). Non-pharmacological management of infant and young child procedural pain. *Cochrane Database of Systematic Reviews*, 10.