

Does chronic pain run in families?

July 6 2016

Can an increased risk of chronic pain be transmitted from parents to children? Several factors may contribute, including genetics, effects on early development, social learning, and more according to a report in the journal *Pain*, the official publication of the International Association for the Study of Pain (IASP).

Amanda L. Stone of Vanderbilt University, in Nashville, Tenn., and Anna C. Wilson of Oregon Health & Science University, in Portland, Ore., present a conceptual model of transmission of [chronic pain](#), including potential mechanisms and moderating factors. The researchers write, "Such a framework highlights chronic pain as inherently familial and intergenerational, opening up avenues for new models of intervention and prevention that can be family-centered and include at-risk children."

Proposed Explanations for Familial Transmission of Chronic Pain Risk

Knowing that offspring of parents with chronic pain are at [increased risk](#) of developing chronic pain, as well as the adverse mental and physical health outcomes associated with chronic pain, Drs. Stone and Wilson developed an "integrative conceptual model" to explore possible explanations for this risk.

The researchers identify five "plausible mechanisms" to explain the transmission of chronic disease risk from parent to child:

- *Genetics.* Children of parents with chronic pain might be at increased genetic risk for sensory as well as psychological components of pain. Research suggests that genetic factors may account for roughly half of the risk of chronic pain in adults.
- *Early Neurobiological Development.* Having a parent with chronic pain may affect the features and functioning of the nervous system during critical periods in [early development](#). For example, a baby's development might be affected by the mother's stress level or health behaviors during and after pregnancy.
- *Pain-Specific Social Learning.* Children may learn "maladaptive pain behaviors" from their parents, who may act in ways that reinforce those behaviors. Catastrophizing—exaggerated responses and worries about pain—might be one key factor.
- *General Parenting and Health Habits.* Chronic pain risk could be affected by parenting behaviors linked to adverse child outcomes—for example, permissive parenting or lack of consistency and warmth. The parents' physical activity level and other health habits might also play a role.
- *Exposure to Stressful Environment.* There may be adverse effects from growing up in stressful circumstances related to chronic pain—for example, financial problems or parents' inability to perform daily tasks.

The model also identifies some "moderators" that might explain when and under what circumstances children are at highest risk of developing chronic pain. These include chronic pain in the other parent; the timing, course, and location of the parent's pain; and the children's characteristics, including their personal temperament.

"The outlined mechanisms, moderators, and vulnerabilities likely interact over time to influence the development of chronic pain and related outcomes in offspring of parents with chronic pain," Drs. Stone and Wilson note. They hope their model will provide a framework to

guide future research—toward the goal of developing effective prevention and treatment approaches for children of [parents](#) with chronic pain.

More information: Amanda L. Stone et al. Transmission of risk from parents with chronic pain to offspring, *PAIN* (2016). [DOI: 10.1097/j.pain.0000000000000637](#)

Provided by Wolters Kluwer Health

Citation: Does chronic pain run in families? (2016, July 6) retrieved 5 May 2024 from <https://medicalxpress.com/news/2016-07-chronic-pain-families.html>

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