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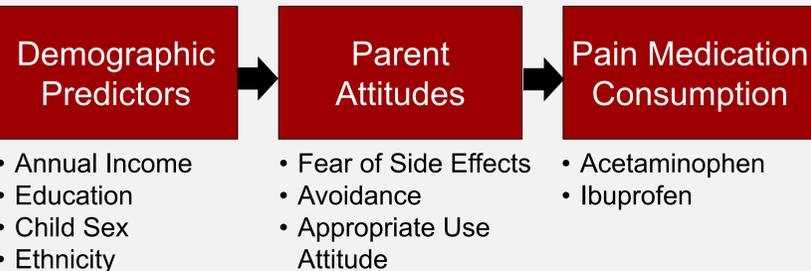
Pediatric Postoperative Pain Medication: Demographic Predictors and Parent Medication Attitudes

Vivian Luong, Michelle A. Fortier, Zeev N. Kain, & Brooke N. Jenkins



INTRODUCTION

- Over 85% of children experience significant pain after surgery, according to parent reports. Despite this presence of pain, a quarter of these children receive very little or even no pain medication at home (Fortier, MacLaren, Martin, Perret-Karimi, & Kain, 2009).
- Poor pain management in children can have harmful long-term consequences, both physically and psychologically. For example, past research concluded that undertreated pain in infants may permanently decrease pain tolerance and increase pain responses later in life (Hatfield, Meyers, & Messing, 2013).
- Previous research indicates that the beliefs and attitudes parents have regarding analgesics significantly impact how much pain medication is administered to children in the home (Rosales, Fortier, Campos, & Kain, 2016).
- In light of the current opioid epidemic, parents might be generalizing common misconceptions about opioids to all analgesics. Common misconceptions include the beliefs that analgesics are addictive and that children should take as little as possible. These misconceptions may explain why parents often administer less than the prescribed dosage or even administer a less potent medication than prescribed to their postoperative children (Zisk-Rony, Fortier, Chorney, Perret, & Kain, 2010).
- In an effort to combat this undertreatment issue, the purpose of the present study is to identify the demographic of parents who are most likely to have misconceptions concerning analgesics.



METHOD

Participants: 112 patients undergoing surgery at the Children's Hospital of Orange County between the ages of 2 and 13 ($M_{age} = 5.79$, $SD_{age} = 2.738$). 59% male and 41% female. 47% Hispanic, 25% White, and 28% other.

Procedures:

- At baseline (before surgery), parents completed online surveys through Qualtrics survey software in the hospital, where they reported medication attitudes and demographics.
- Then, at home (1, 3, and 7 days after surgery), parents were emailed Qualtrics survey links and completed the surveys on their own devices. On each survey, parents reported the names and amounts of analgesic medications their child consumed.

MEASURES

Parent Medication Attitudes

Measured using the Medication Attitudes Questionnaire (MAQ; Forward et al., 1996)
Measures parents' attitudes and beliefs about analgesic use to treat children's pain
Split into 3 subscales:

Fear of Side Effects e.g. "side effects are something to worry about"

Avoidance e.g. "works best when given as little as possible"

Appropriate Use Attitude e.g. "little risk of addiction when given for pain"

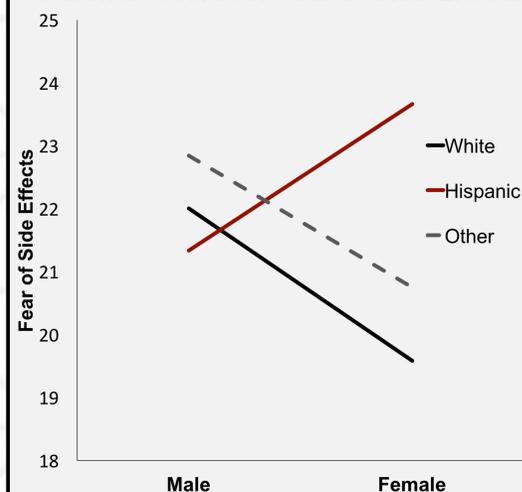
(1 = Strongly Disagree, 7 = Strongly Agree)

Medication Consumption

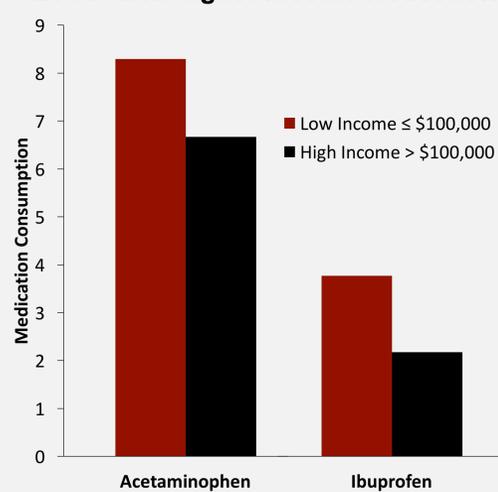
Acetaminophen and Ibuprofen amounts were aggregated for each day and then divided by the child's weight.

RESULTS

Interaction of Child Sex and Ethnicity on Parents' Score for Fear of Side Effects



Children's Medication Consumption in Lower and Higher Income Households



- Ethnicity interacted with child sex to predict parents' fear of side effects, $b = -4.750$, $p = 0.043$. For Hispanic households, parents of daughters expressed a greater fear of side effects from analgesics compared to parents of sons. The opposite trend is seen in White households, where parents of sons expressed a greater fear of side effects compared to parents of daughters.
- Parents of higher income households administered less pain medication to their children than parents of lower income households regardless of medication type, (acetaminophen: $b = -9.41 \times 10^{-6}$, $p = 0.011$; ibuprofen: $b = -1.32 \times 10^{-5}$, $p = 0.017$).
- By Day 3, Hispanic parents administered the least amount of Ibuprofen to their children, compared to White ($p = 0.039$) and Other ($p = 0.025$) parents.
- Contrary to past studies (e.g., Rosales, Fortier, Campos, & Kain, 2016), there were no significant relationships between parent medication attitudes and the child's pain medication consumption at home, $ps > 0.05$.
- There was no main effect of child sex on parent medication attitudes or the child's analgesic consumption, $ps > 0.05$.

CONCLUSION

- There was a significant interaction between ethnicity and child sex, such that Hispanic parents of male children expressed significantly lower fear of side effects compared to Hispanic parents of daughters while the opposite was true for White parents. This sex difference in Hispanic families may have occurred due to the phenomenon *machismo*, a term characterized by the hypermasculine idealization of men. Specifically, Hispanic parents may express a significantly lower fear of side effects for their male children because they are encouraging their sons to be more stoic and "tough." The hypermasculinity principles behind *machismo*, however, may not significantly transcend across other ethnic groups, as showcased by the opposite trend observed in White and Other parents and the lack of a main effect of child sex on parent medication attitudes.
- Controlling for other medication use, Hispanic parents administered the least amount of Ibuprofen to their children on Day 3 compared to all other parents. A fear of side effects expressed by Hispanic parents may explain this finding. Additionally, as suggested by past research, Hispanic parents may be turning to complementary alternative medicine and other nondrug interventions, rather than pharmacologic treatments (Juarez, Ferrell, & Borneman, 2001).
- Parents of higher income may actually be administering the ideal amount of medication, while parents of lower income may be administering too much analgesics. Parents of lower income households may have a weaker understanding of analgesic use, causing them to actually overtreat their child's pain.
- With my findings, we can develop interventions that specifically target and educate parents who are likely to have misconceptions concerning analgesic use while still respecting the family's culture, values, and practices. This is crucial because there is immense variability in the content, amount, and clarity of information currently provided to parents about managing their child's postoperative pain (Tait, Voepel-Lewis, Snyder, & Malviya, 2008).

REFERENCES

Fortier, M. A., MacLaren, J. E., Martin, S. R., Perret-Karimi, D., & Kain, Z. N. (2009). Pediatric pain after ambulatory surgery: Where's the medication? *Pediatrics*, 124, 1-8.

Forward, S. P., Brown, T. L., & McGrath, P. J. (1996). Mothers' attitudes and behavior toward medicating children's pain. *Pain*, 67, 469-474.

Hatfield, L. A., Meyers, M. A., & Messing, T. M. (2013). A systematic review of the effects of repeated painful procedures in infants: Is there a potential to mitigate future pain responsibility? *Journal of Nursing Education and Practice*, 3, 99-112.

Juarez, G., Ferrell, B., & Borneman, T. (2001). Influence of culture on cancer pain management in Hispanic patients. *Cancer Practice*, 6, 262-269.

Rosales, A., Fortier, M. A., Campos, B., & Kain, Z. N. (2016). Postoperative pain management in Latino families: Parent beliefs about analgesics predict analgesic doses provided to children. *Pediatric Anesthesia*, 26, 307-314.

Tait, A. R., Voepel-Lewis, T., Snyder, R. M., & Malviya, S. (2008). Parents' understanding of information regarding their child's postoperative pain management. *Clinical Journal of Pain*, 24, 572-577.

Zisk-Rony, R. Y., Fortier, M. A., Chorney, J. M., Perret, D., & Kain, Z. N. (2010). Parental postoperative pain management: Attitudes, assessment, and management. *Pediatrics*, 125, 1372-1378.