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Title	Physicians' knowledge, attitudes, and practices regarding short-term opioid use: a survey of Canadian pediatric emergency physicians
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Reviewer 1	James Ducharme
Institution	AIM Health Group
General comments (author response in bold)	<p>Your survey cannot lead to a conclusion that there is an "an urgent need for robust evaluation of opioid dependence and addiction risk for children receiving opioids" and this should be removed.</p> <p><b>Thank you, it was meant as a future direction needed, and we appreciate your comment. We have removed it from our abstract and have changed our conclusion and future directions to:</b></p> <p><b>“Physicians appear to be minimally concerned regarding opioid dependence, addiction risk, and the current opioid crisis when prescribing opioids to children, at this time. Future robust studies examining opioid use disorder risk for children receiving short term opioids may help guide clinical decision-making.”</b></p> <p>If you are to speak to addiction risk - because dependence is not a bad thing, just ask anyone dependent on insulin - then you need to have comprehensive information - public data exists that demonstrates clearly that synthetic opioids account for the large majority of misused opioids, not Rx ones. What relationship does prescribing an opioid have to subsequent synthetic use? This is not even mentioned.</p> <p><b>Thank you. Synthetic opioids and heroin contribute to the majority of opioid overdose deaths. Data from 2016-2017 shows there has been a decrease in opioid prescribing, however, this decline has not been associated with a correlating decline in opioid abuse and related deaths. The exact association between non-medical prescription opioid use and synthetic opioid misuse is not clear, especially since the true prevalence of synthetic opioid misuse is difficult to determine. (Prekupec MP, Mansky PA, Baumann MH. Misuse of Novel Synthetic Opioids: A Deadly New Trend. <i>J Addict Med.</i> 2017; 11(4):256-265.</b></p> <p><b>Manchikanti L, Sanapati J, Benyamin RM, Atluri S, Kaye AD, Hirsch JA. Reframing the Prevention Strategies of the Opioid Crisis: Focusing on Prescription Opioids, Fentanyl, and Heroin Epidemic. <i>Pain Physician.</i> 2018; 21; 309-326.)</b></p> <p><b>Due to space restrictions we did not discuss this point in our paper and feel that even though it is an important point, we have chosen to focus on the opioid risks related to prescription use.</b></p> <p>You do not comment on a high comfort level using opioids yet docs having almost no education about them. Heck, most do not know about hydromorphone being the first choice over morphine in patients with decreased renal function, or the need to halve the dose of morphine after 4 days due to the M3G/M6G accumulation. A survey that had asked specific knowledge questions rather than general 'how do you feel/what do you use questions could have provided excellent comparison between knowledge level and what the doctor feels - this was a sorely</p>

	<p>missed opportunity.  As a result you can draw very limited conclusions other than stating 'this is how they work, and this is how they feel'. I would have liked to have seen something with far more 'meat on the bones' given the effort required to do this study.  As a result you can draw very limited conclusions other than stating 'this is how they work, and this is how they feel'. I would have liked to have seen something with far more 'meat on the bones' given the effort required to do this study  <b>Thank you; this is very thought provoking for future study planning. We are currently developing a qualitative study looking at PEPs' perspectives on opioids and we will explore this in our next study.</b></p>
<b>Reviewer 2</b>	Sean Moore
Institution	
General comments (author response in bold)	<p>It is somewhat surprising to see the relatively infrequent choice of ketamine for these patients. It might be useful to comment further on the relatively low rates of choosing it in the context of opioid use/fear.  <b>We have noted the same. While ketamine is commonly used in the adult ED population, it is not commonly used in pediatrics for pain, as it has not yet been shown to be superior to fentanyl in sub-dissociative doses and is associated with greater adverse events. As such, we have chosen not to comment on it, in the pediatric context.</b></p>
<b>Reviewer 3</b>	Marc Martel
Institution	McGill University, Montréal, Que.
General comments (author response in bold)	<p>The primary goal of this study was to describe pediatric emergency physicians' knowledge/attitudes regarding opioids as well as their willingness to prescribe opioids to children. Authors conducted an internet-based survey among emergency physicians and main study findings were reported using descriptive statistics.  Overall, this study has some strengths but also many weaknesses. In terms of strengths, this study addresses an important topic that has important clinical implications. In terms of weaknesses, this study was based on a survey method and a relatively small sample size given the survey nature of this study. As noted above, the data were essentially descriptive, which limited the scope of authors' story. Below are additional comments that could help authors improve their manuscript.  <b>Thank you very much for your summary of our study. We have made sure to include your noted limited in our Limitations section, and address concerns/suggestions, below.</b></p> <p>Introduction  Similar studies addressing physicians' knowledge/attitudes were conducted among adult physicians (e.g., Jamison et al. Pain Med 2014). This could be highlighted.  <b>Thank you for bringing this up. We have now included an adult study. Please see below.</b></p> <p>The intro is very short (i.e., half a page), so authors should consider presenting a broader and more comprehensive overview of previous work in terms of physicians' knowledge/attitudes regarding the use of opioids among pediatric populations. For instance, a quick look at the literature revealed a number of previously published studies in this area (de Freitas GR, de Castro CG Jr, Castro SM, Heineck I. Degree of knowledge of health care professionals about pain management and use of opioids in pediatrics.</p>

Pain Med. 2014 May;15(5):807-19. doi: 10.1111/pme.12332. Epub 2014 Jan 8. PubMed

PMID: 24401078). Authors should highlight how their study is different from previous work in this area.

**Thank you, we mention the Freitas et al. study in our discussion and did initially have it in our introduction but with the word count restrictions we removed it.**

**We have added it back in and included an adult study.**

**“There are limited studies describing physicians’ knowledge, attitudes, and barriers to prescribing opioids to children. A pediatric inpatient wards study from Brazil reported that the most common barriers to pain management included fear of adverse drug reactions, opioid dependence and tolerance and lack of knowledge or understanding.<sup>30</sup> In comparison, Ontario primary care physicians reported that they were most concerned about adult patients running out of opioid medications early, demanding fit-in appointments, losing prescriptions and developing opioid addiction<sup>b</sup>.”**

#### Methods

The clinical vignettes/scenarios presented only a limited amount of clinical information. Patients are presented as experiencing pain and the nature of the injury is specified. However, physicians are not presented with any information about patient’s background/history (e.g., past history of addiction) and/or mental health status. There is reason to believe that these variables could influence physicians’ opioid prescribing decision. This should be highlighted as a limitation.

**That is a fair point;we do agree that those variables could influence physicians’ decision in prescribing opioids.**

**We have added the following to our limitations:**

**“Our hypothetical scenarios did not explicitly provide information regarding mental health status or personal/family history of opioid use disorder/addiction, which may have influenced physicians’ decision in choosing opioids for pain management.”**

Authors should highlight the lack of ecological validity due to the use of fictive scenarios.

**Thank you for this point, we have added this to our limitations.**

**“Since we used hypothetical scenarios our results cannot automatically be generalized to real-life scenarios.”**

The low-to-modest response rate (i.e., 56%) raises concerns regarding potential selection bias. This should be highlighted. Also, if authors have data on physicians who declined to respond, these data should be reported.

**Thank you to first point we have included it in our limitations.**

**“We had a low- modest response rate of 60.7% which could lead to potential selection bias”**

**For the second point, due to the manner in which data were collected, we do not have data for the non-respondents, but we have added information after comparing the respondents to the entire database We have added the following to Results:**

**“Demographic characteristics for respondents were representative of the PERC database.”**

Data Analysis/Results

Table 2 should incorporate statistical significance tests (e.g., p-values). For instance, is the use of opioids first line significantly more likely in the severe pain than moderate pain scenario?

**Thank you, we have added 95% CI to the table (which was suggested above). Based on our statistician's advice, and after consultation with the team, we have not added p-values for this table, as it does not represent the primary outcome, and the study was not powered for such comparison.**

Authors presented too many tables. This contributes to diluting the core set of finding and the main story. Some of the tables (i.e., those involving secondary data) should be included in supplementary materials.

**Thank you we have removed table 5 and made it a supplemental table.**

Discussion

Authors should speculate about the reasons why physicians' characteristics were not associated with main study outcomes (i.e., prescribing decisions, attitudes, etc). This finding was surprising.

**We are not in a position to comment on this with any authority, as there is not much literature exploring this. We are currently embarking on a qualitative study exploring physician prescribing practices in order to address this.**

Authors wrote: this study has identified some key areas for improving education. These areas, however, were not specified.

"Despite these limitations, this study has identified some key areas for improving education, knowledge translation and future research for Canadian practice."

**Thank you, we have changed this sentence to: "Despite these limitations, this study has identified some key areas for improving education through opioid-specific guidelines and protocols."**

Manuscript requirements:

Please include study type in your title.

Physicians' knowledge, attitudes, and practices regarding short-term opioid use in Canadian pediatric emergency departments

**Changed title to: Physicians' knowledge, attitudes, and practices regarding short-term opioid use: A survey of Canadian pediatric emergency physicians.**

Interpretation. Include the following 5 main categories: main findings (discuss implications; do not repeat results); comparison with other studies; future directions; limitations; and conclusions (include implications for practice).

**Made changes to Interpretation section.**

Abbreviations: For only the most standard abbreviations (i.e., 95% CI, SD, OR, RR, HR), please spell out at first mention and include the abbreviation in parentheses. The abbreviations may be used throughout the remainder of the manuscript. Please remove all other abbreviations.

**We have removed all non-standard abbreviations.**

Please ensure your final word count is below 2500 words.

**Confirmed.**