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Ketamine Gap Analysis and Toolkit Development to Increase its Use by Anesthesia Providers in the Perioperative Setting
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Introduction

- Ketamine was first introduced to the world of anesthesia in 1966
- Ketamine is **an effective analgesic and anesthetic** derived from phencyclidine
- Research reinforces that ketamine is not only a safe and effective anesthetic and analgesic, but there may also be more uses for this drug than previously believed.
- Despite its proven efficacy and utility, many anesthesia providers rarely use it.
- Reasoning for gap in research to practice:
    - Side effect profile
    - Lack of training
    - Lack of awareness on its wide variety and indications for use

Background

- Ketamine has developed a stigma around itself that has caused anesthesia providers to be very hesitant or biased against its utility, despite research positively recommending its use (Kurdi et al., 2014).
- **61.4%** of anesthesia providers surveyed cited **side effect profile as the restriction** to the drug being more mainstream.
- Side effects are **rare when a benzodiazepine or hypnotic agent are concomitantly given**
- Ketamine can be used to combat the current opioid epidemic due to its analgesic properties that result from its antagonism of the NMDA receptor.
- Ketamine is potentially useful for patients with chronic pain.
- Ketamine may serve as the prototype for a new class of antidepressants, which is able to produce a rapid reduction in severe depressive symptoms or treat those with treatment resistant depression.

Literature Review

- **Reduction in post operative opioid use**
- **Avoidance of Psychomimetic events**
- **Decreased alteration in immune response**
- **Neurological benefits**
- **Safe use in septic population**

Methodology

Sample/Population
- CRNA/SRNA of a state affiliated nurse anesthesia association

Intervention
- Provide the state affiliated nurse anesthesia association membership a survey asking about their attitudes towards ketamine
- Introduce an easily accessible ketamine toolkit to increase its use among providers

Data Collection
- Survey was made available from July 2020- September 21st 2020.
- Survey was published on Qualtrics for ease of access and data collection

Problem Statement
Emerging literature supports a variety of beneficial uses of ketamine for special populations. Omission of the use of ketamine maybe to the detriment of patients requiring anesthesia and a lack of education and training provided to anesthesia providers maybe a causative factor.
- **Would a gap analysis on ketamine usage among the membership of a state affiliated nurse anesthesia association demonstrate an effective means for developing an educational workshop and readily accessible toolkit?**

Survey

Results

- 137 responses to survey
- 85% were CRNA
- 45% of respondents **STRONGLY AGREED** a ketamine toolkit and workshop will be helpful to increase knowledge/comfortability and frequency of use.
- 46% **AGREED** a one-page highlight sheet would be the most effective form of delivery
- It was seen that there was a strong statistically significant relationship between people's comfort and knowledge of ketamine and how frequently they were to use it $p<0.00001$.
- There was a relationship between the number of years of practice and the comfort and knowledge of ketamine having a $p = 0.001$

Barriers to Use
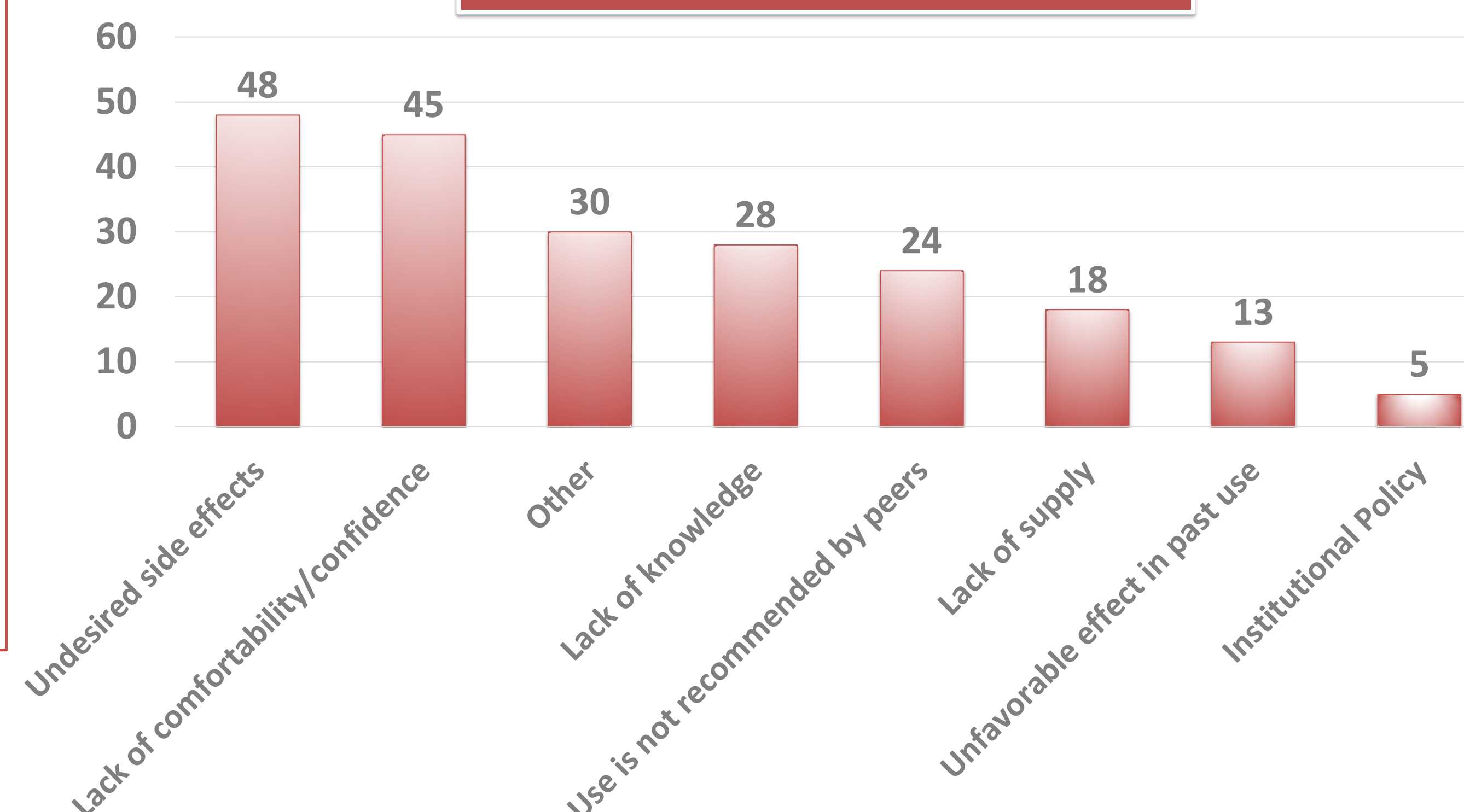
Toolkit Downloads
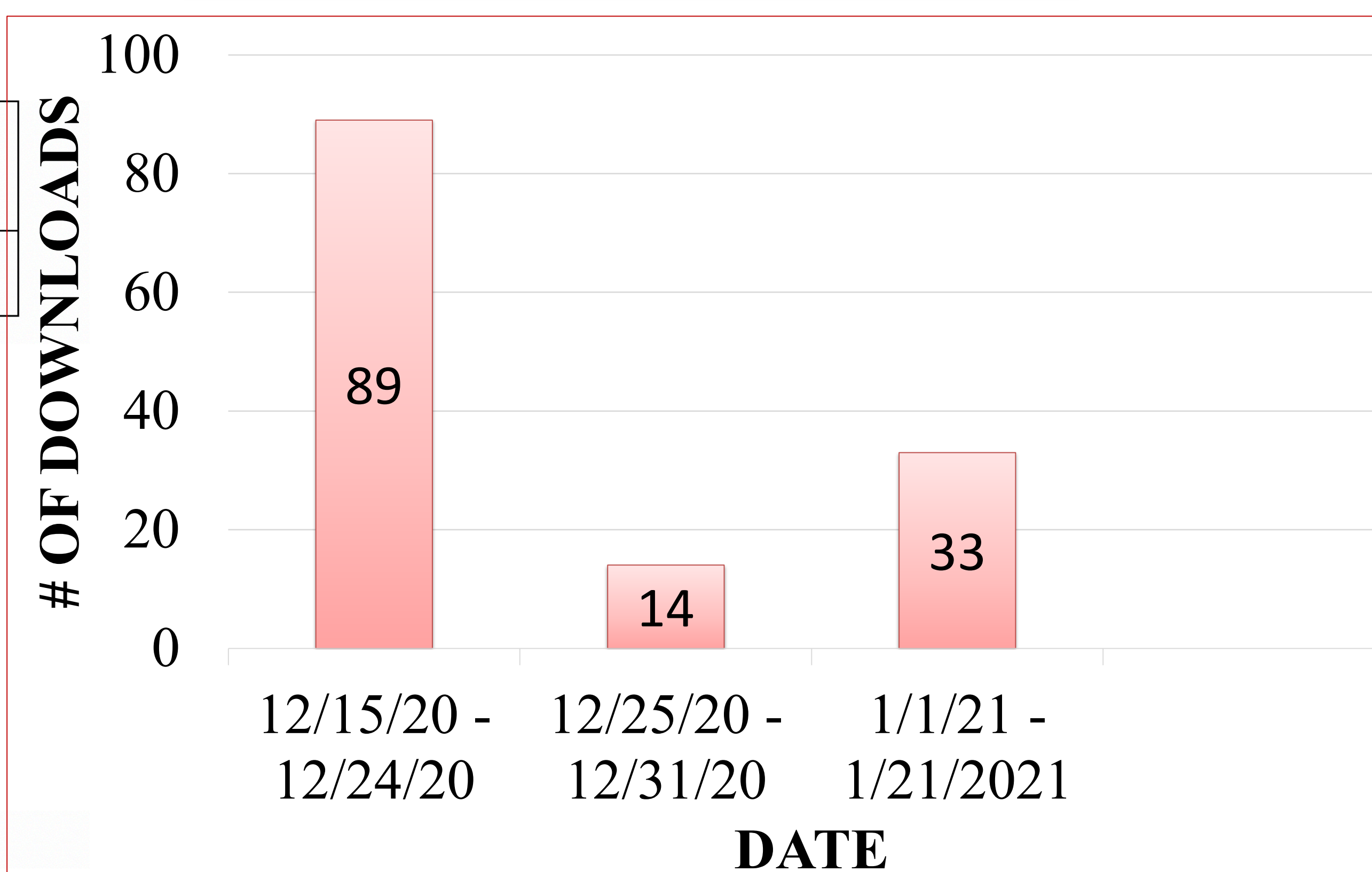
Discussion

- Ketamine continues to be passed over in favor of other agents. This project has demonstrated that there does appear to be a gap in ketamine use and knowledge among anesthesia providers
- It appears that the introduction of a toolkit may increase ketamine use and comfortability as many providers strongly agreed to the usefulness of this toolkit.
- The toolkit was **accessed a total of 136 times** until January 21, 2021; which demonstrates an interest in acquiring ketamine knowledge and use among the anesthesia providers in the state affiliated nurse anesthesia association.
- The shared interest of ketamine use and knowledge, may lead others to explore its many benefits and even other non-opioid agents to incorporate appropriately into an anesthetic plan.

Contact Information

The authors of this project are Doctor of Nursing Practice (DNP) students. This project is being completed as a DNP Project.

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Ketamine Toolkit & References QR