

Apr 23rd, 9:00 AM

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Recommended Citation

Kern, Kelly M. and Lipson, Molly, "Improving cough and cold OTC medication use for children in Hardin County" (2021). *ONU Student Research Colloquium*. 29.
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Improving Cough and Cold OTC Medication Use for Children in Hardin County

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BACKGROUND

- The Food and Drug Administration (FDA) states that cough and cold medication should not be used for infants under the age of 2 years.
- A study found that a majority of the parents studied would give cough and cold medicine to their infants despite the fact that on the drug label states it is not for use in infants under 2 years of age and states to consult a clinician before use (Lokker).
- In addition, there is a risk for dosing problems in older children. Many caregivers may not know that they need to use specific measuring tools rather than spoons found in their kitchen.

STUDY RATIONALE

- Low health literacy is a problem in rural communities such as Hardin County in Ohio (Rural Health Information Hub). Additionally, Hardin County is designated as a Health Professional Shortage Area (HPSA) by the Health Resources & Services Administration.
- Cough and cold medications come with many challenges with the dosing, administration and monitoring, especially in children due to weight-based dosing. It is important for the parents and caregivers to understand these challenges in order to keep their child safe and healthy.
- There are many different products available for cough and cold symptoms. It is the pharmacist's duty to be able to make evidence-based recommendations to caregivers based on the symptoms and needs of the patients.
- Many cough and cold medications contain similar ingredients, such as acetaminophen, which when used in large quantities can cause problems. It is the duty of the pharmacist and pharmacy staff to recognize the ingredients and make appropriate recommendations to the parents and caregivers, and make them aware of the safe use of combination products.

OBJECTIVES

- Create a social media page and flyers to reach a community members about cough and cold medication use in children.
- Teach parents and caregivers of infants about cough and cold over-the-counter (OTC) medication use through educational interventions.
- Create a CE program to inform pharmacists and pharmacy technicians about OTC products for children that they can use in patient education and referral.

METHODS

- The presentation of Safe OTC cough and cold medication use in children was created for caregivers in the community, and also as a CPD opportunity for pharmacists and pharmacy technicians. To increase awareness on this topic there was a social media page created on Facebook called, "Safe OTC use for Kids", with the hopes of reaching a wider audience and spreading knowledge to more caregivers. To facilitate educate, we reached out to community organizations via email asking to hand out flyers or provide a location for these sessions.
- The evaluation plan included reporting overall results for participants in the educational interventions, as well as a paired t-test for the results of those that completed the pre and post test. For the CE, evaluation was completed by review post-test scores. Excel and SPSS v25 was used for statistical analysis.

RESULTS

Educational intervention results

Fig. 1: Correct answers to test questions (all participants)

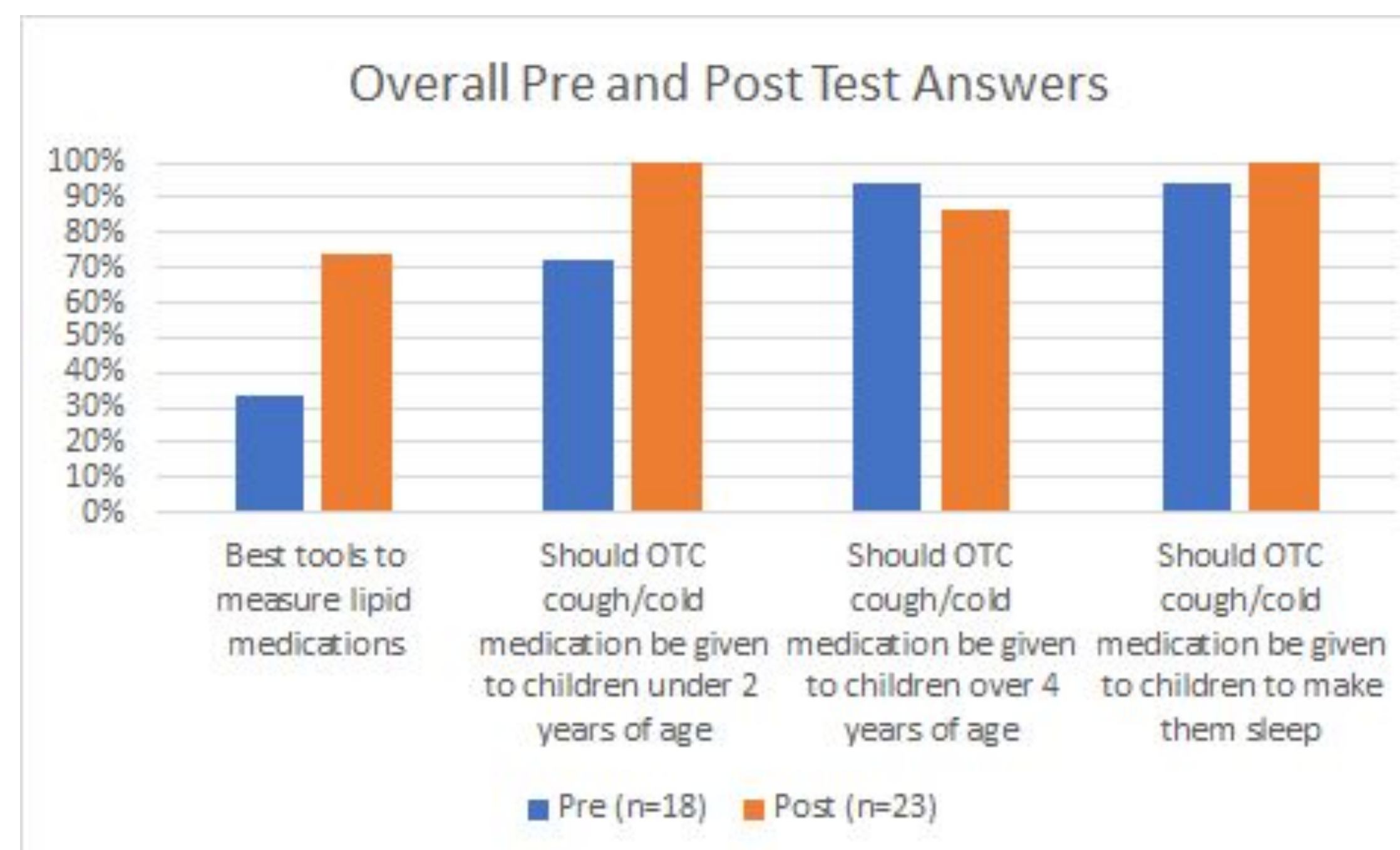
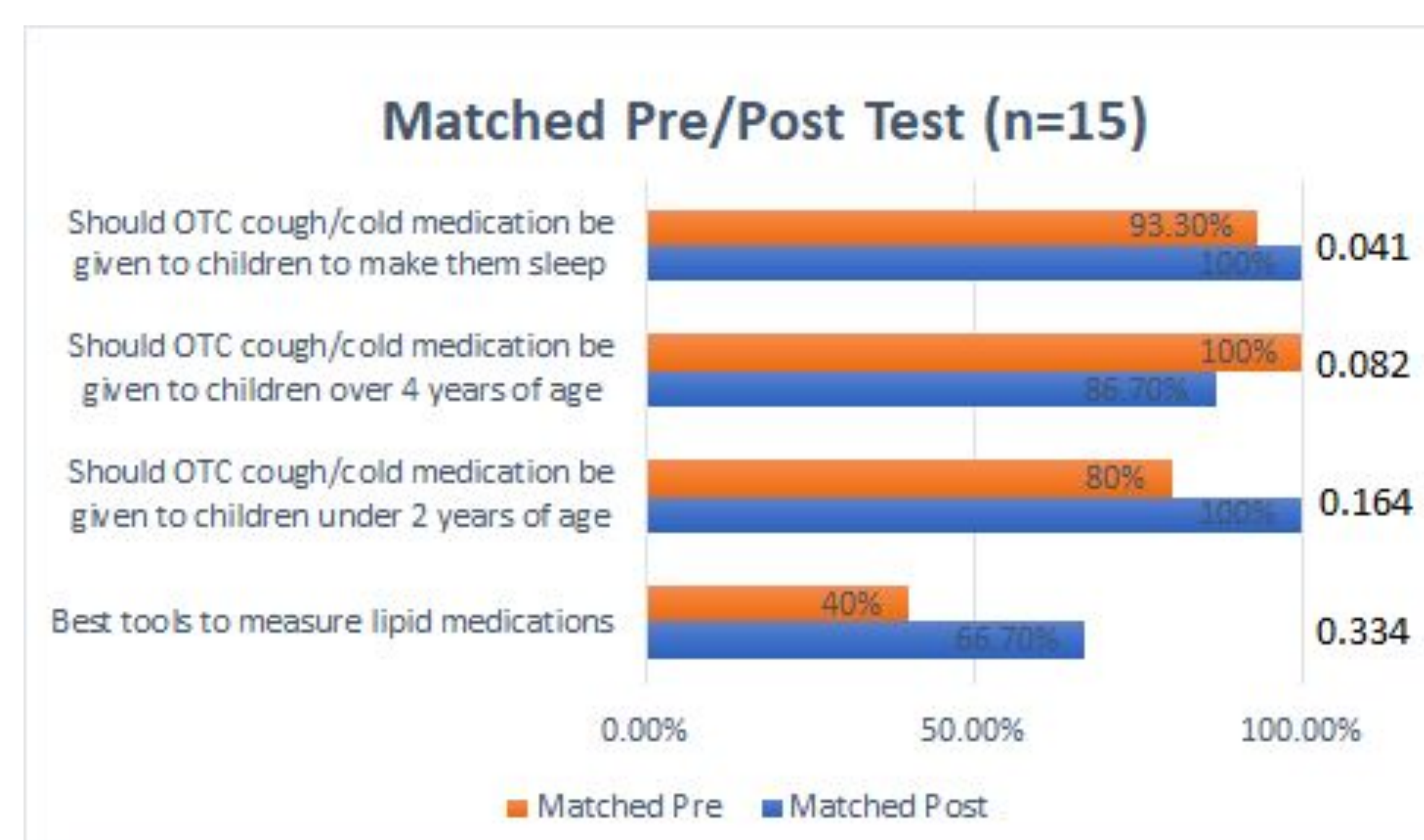
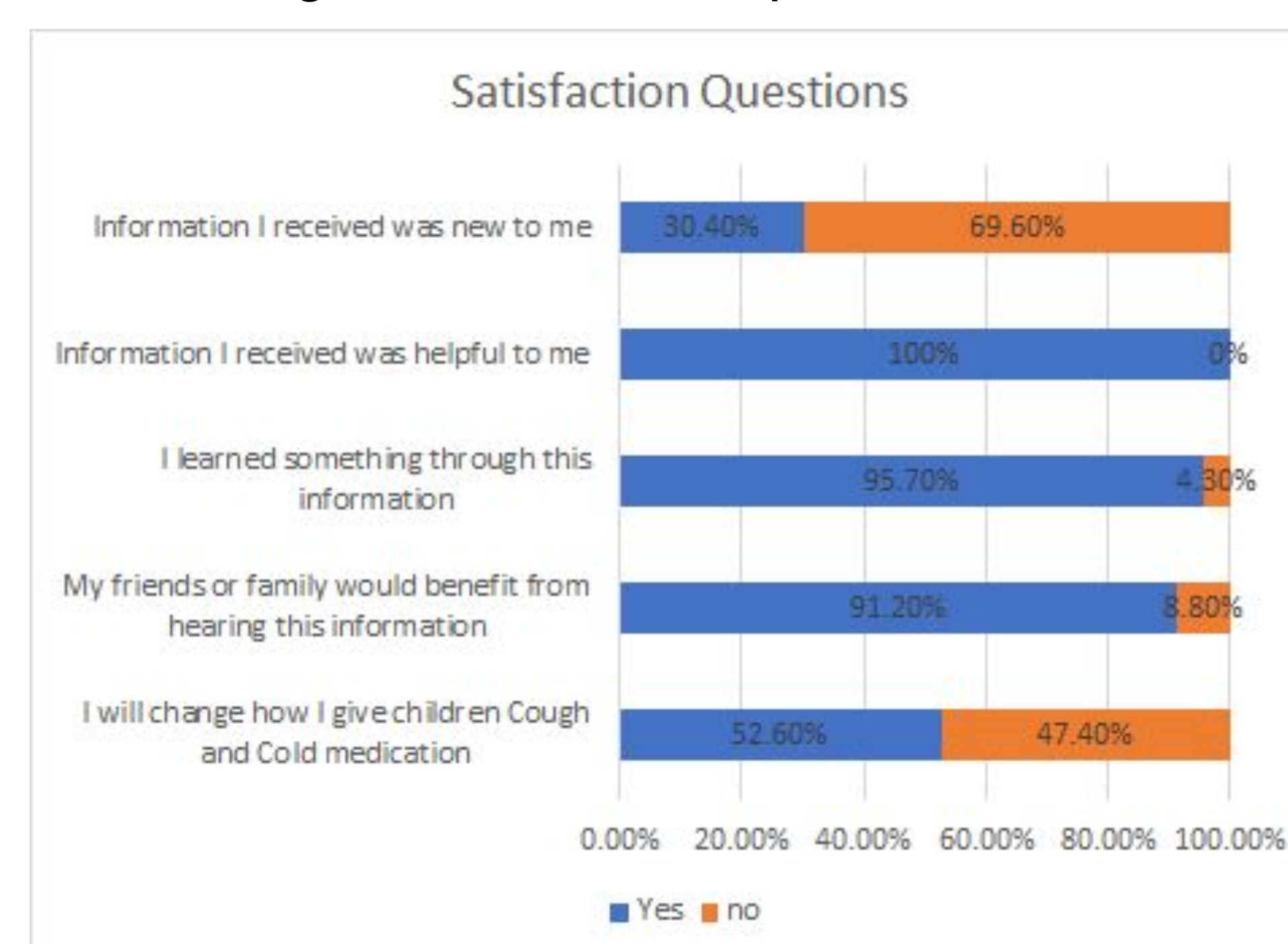


Fig. 2: Correct answers to test questions (matched)



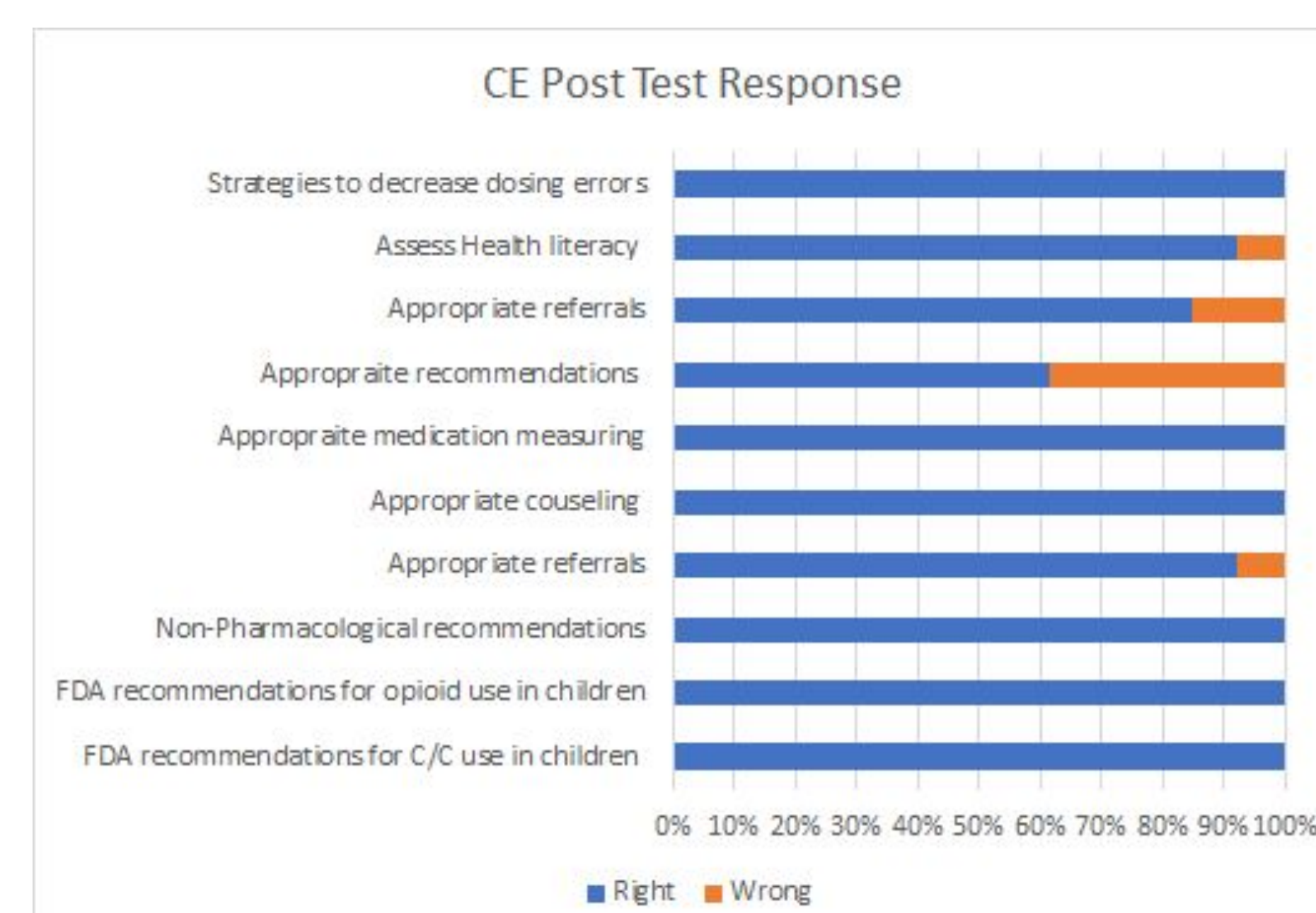
Knowledge significantly improved after the educational intervention. Scores on pre/post test increased from 78.3% to 83.3% with a p-value of 0.028.

Fig. 3: Satisfaction questions



Overall, participants in the educational sessions expressed satisfaction with the program.

CE Results



As of March 2021, 13 individuals completed the CE. The average score on the posttest was 93%.

DISCUSSION

- Education programs: 38 people participated in the education programs, and 15 completed both the pre and post test.
 - Overall, the increase in knowledge from the overall matched pre/post assessments was significant (p=0.028).
 - On the matched pre/post tests, only question one, on how to best measure liquid medications had a significant increase (p=0.041).
 - Of note, question 2, can OTC cough/cold medications be given to children under 2, and question 4, should OTC cough/cold medication be given to children to make them sleep, both increased in correct response to 100%.
 - Question 3, can OTC cough/cold medication be given to children over 4 years of age, correct response rate actually went down from 100% to 86.7%. One explanation for this result is due to the emphasis of not giving OTC cough and cold medication to children under 2, and possible confusion with children over 4.
- CE: The free CE had a total of 13 pharmacists/pharmacy technicians completed the course.
 - The post-test scores showed knowledge after reviewing the program.
 - The evaluation summary was very positive.
- Social media and flyer distribution: Not as successful as other components of this effort.
 - It is unknown how many people visited the Facebook page, however it was mentioned at all education programs. We reached out to the Hardin County Health department about posting information on their social media platforms, however, they were unable to.
 - Flyers were printed to be distributed in the community and by community partners; however, it is not known how much they were utilized.

LIMITATIONS

- The education classes for the use of OTC cough and cold medications in children was directed toward caregivers of children the community. The major limitation faced was due to the COVID-19 pandemic. The COVID-19 pandemic made it so in-person education was limited. There were two in-person classes and one over a virtual platform. Because the class was virtual, pre-tests were not able to be handed out and we did not receive all post-test responses.

CONCLUSIONS

- Educating parents and caregivers about the use of OTC cough and cold products in children is very important.
- The education classes were effective towards increasing the knowledge and confidence in the parents of the community for the use of OTC cough and cold medications in their children.
- The CE allowed pharmacy professionals to expand their knowledge and abilities for patient counseling and referrals on the safe OTC use in children.

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