

# Pediatric Prescribers' Knowledge of 'Ew Meds' and Taste Masking

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## BACKGROUND

- It is known that bad-tasting medications will negatively impact adherence in children.
- Many liquid medications have a bitter taste or bad aftertaste.
- There is no evidence that health professionals can consistently identify bad-tasting medications.
- There is no evidence that commonly used home recommendations to mask the taste of liquid medications are effective.

## OBJECTIVES

### Primary

- The primary objective of this study was to determine prescribers' knowledge and behaviors regarding the taste of liquid medications and practice techniques used to mask bad-tasting liquid medications.

### Secondary

- The secondary objective was to determine if prescribers received caregiver feedback about whether any of the masking techniques worked in children.

## METHODS

### Study Design

- A cross-sectional, national convenience sample of healthcare providers who prescribe pediatric oral liquid medications were asked to complete a 17-question online survey administered using Qualtrics.
- Participants were required to be physicians, nurse practitioners, or physician assistants who reported working with children ages 0-12 years old.
- Questions included:
  - From a list of 23 medications (35% with evidenced-based good taste and 65% poor-tasting), identify the poor-tasting medications. Participants were not told how many were poor-tasting.
  - Rate confidence identifying poor tasting medications.
  - List medications from their experience that required a prescription change due to poor taste.
  - List methods recommended to mask poor tasting medication and how often they educate caregivers on masking practices. Also, if the providers received feedback on the effectiveness of the masking techniques.
  - Examples of resources and willingness to use in their practice.
  - Demographics (4) and practice site information (5).
- Surveys were disseminated through online list-servs, mailing lists, and at a national family physicians' conference.
- Participants who completed the survey were given access to an online educational pamphlet previously developed by the research team about bad-tasting "Ew meds" and taste-masking practices.

### Statistical Analysis

- Descriptive statistics were used to assess survey responses and reported as means and medians, as appropriate.

## CONTACT INFORMATION

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**Table 1. Demographic Summary**

Participant Demographics	n (%) n = 75
<b>Age</b>	
18-34	19 (25.3%)
35-54	46 (61.3%)
55-74	10 (13.3%)
<b>Gender</b>	
Female	62 (82.7%)
Male	13 (17.3%)
<b>Race and ethnicity*</b>	
American Indian or Alaska Native	1 (1.3%)
Asian	6 (8.0%)
Black or African American	8 (10.7%)
Hispanic	3 (4.0%)
White	58 (77.3%)
Prefer not to say	2 (2.7%)
<b>Credentials</b>	
MD	51 (68.0%)
NP	24 (32.0%)

\*Participants were able to designate more than one identifier.

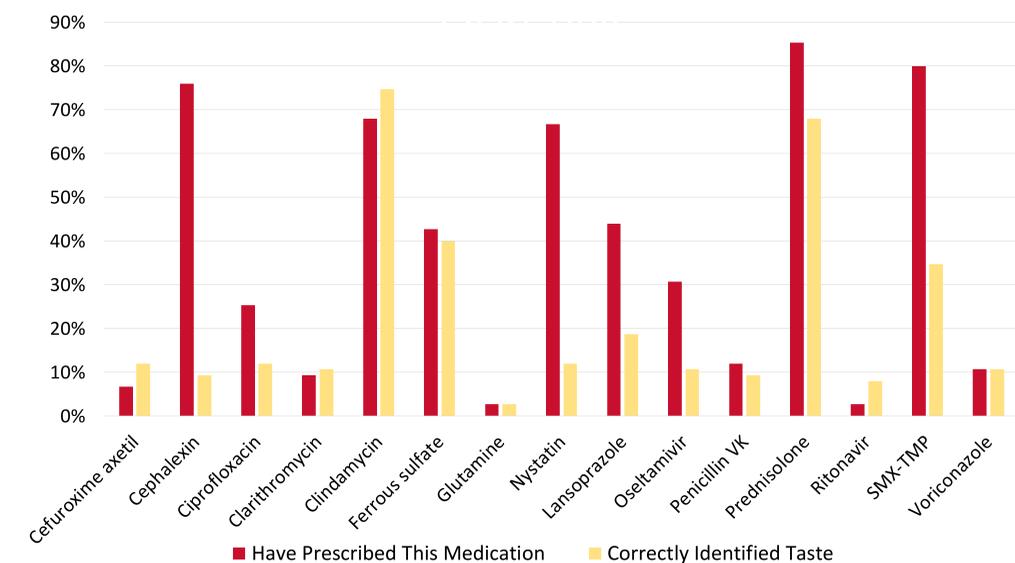
**Table 2. Site Demographic Summary**

Site Demographics	n (%) n = 75
<b>Practice site</b>	
Health-system	30 (40.0%)
Inpatient practice	19 (25.3%)
Private clinic	21 (28.0%)
Other	5 (6.7%)
<b>Number of years in practice</b>	
0-5	22 (29.3%)
6-10	19 (25.3%)
11-20	18 (24.0%)
More than 20	16 (21.4%)
<b>Region</b>	
Midwest	6 (8.0%)
Northeast	35 (46.6%)
Southeast	12 (16.0%)
Southwest	11 (14.7%)
West	11 (14.7%)
<b>Patients 0-12 years old</b>	
<10%	4 (5.3%)
11-30%	7 (9.3%)
31-66%	39 (52.0%)
>67%	25 (33.4%)

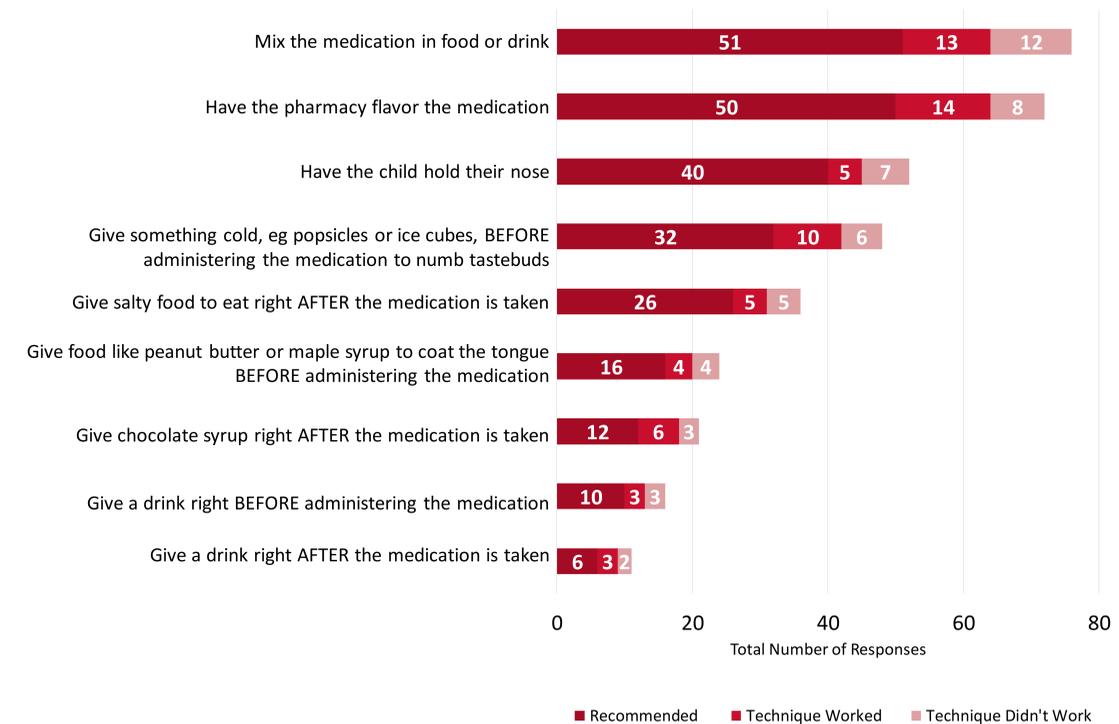
- On average, prescribers correctly identified bad-tasting medications 22% of the time. Eighty percent reported prescribing sulfamethoxazole/trimethoprim in the last year; however, only 35% correctly identified it as a bad-tasting medication (See Figure 1).
- Only 16% of prescribers (n=12) reported being extremely or very confident in their knowledge of identifying bad-tasting medications.
- Sixty-nine percent of prescribers (n= 52) reported having to change a medication prescription because of bad taste.
- Forty-one prescribers (55%) cited 17 different prescription medications that had to be changed due to bad taste with the top 3 medications being: prednisolone/prednisone (27%), clindamycin (25%), and amoxicillin/clavulanic acid (16%).
- Thirty percent (n=21/71) of prescribers educated patients on how to mask bad-tasting medications "always" or "most of the time" in practice.
- The most common taste-masking recommendations were using an oral syringe to push the medication to the side or back of the mouth (n=54, 76%), mixing the medication in food or drink (n=51, 94.4%), having the pharmacy flavor the medication (n=50, 92.6%), giving a drink right after medication administration (n=40, 88.9%), and giving chocolate syrup right after the medication (n=32, 78%). Prescribers reported hearing from caregivers that most masking techniques equally worked and did not work (See Figure 2).
- The practice resource prescribers preferred most was a patient education pamphlet on "Making Medications Easier to Taste". Other resources ranked high included a clinical-decision support tool that flags bad tasting medications with a prompt to request aftermarket flavoring, an annually updated list of 'Ew' bad tasting medications and least preferred is a website with the ability to nominate medications for taste palatability evaluation.

## RESULTS

**Figure 1. Summary of Medications Prescribed and Correctly Identified Bad Taste**



**Figure 2. Masking Techniques**



## CONCLUSIONS

Based on prescribers' lack of confidence and limited knowledge, education about bad-tasting liquid medications and appropriate masking should be readily available, including the dangers of altering medication efficacy when mixing in food and drink. More research is needed to develop evidence-based and effective taste masking practices in children.