

Comparing Medication Palatability and Flavoring Knowledge of Healthcare Professional Students

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Background

- Studies in children, parents, and physicians include taste tests which have determined:
 - Unpleasant tasting medications (e.g., metronidazole, clindamycin, and cefuroxime).
 - Favorable tasting medications (e.g., loracarbef and amoxicillin).
- Literature documents problems healthcare professionals experience with prescribing, dispensing, and administering oral medications for children based on taste.
- Medication taste has been shown to be the most reported barrier to medication administration.
 - Flavoring options improve adherence for poor tasting medications.
 - The most commonly requested flavors are grape and bubblegum.
 - The most commonly flavored medications are augmentin and amoxicillin.
- Currently there is no data to document health care professional students' knowledge of medication palatability.

Objectives

Primary objective:

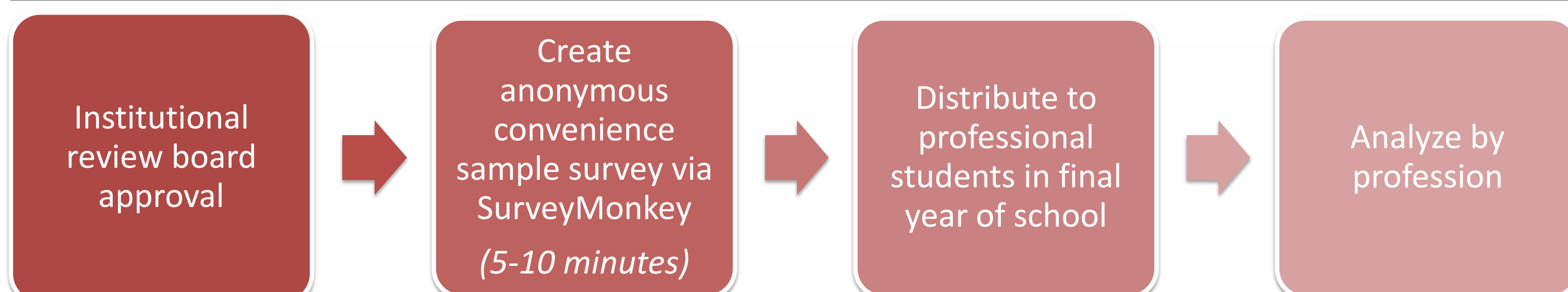
- To compare medication taste and flavoring knowledge of different healthcare professional students (pharmacy, graduate nursing, medicine, and dental)

Secondary objectives:

- To determine the number of lecture hours dedicated to medication taste and flavoring in different curriculums
- To determine the confidence level of health professional students when recommending flavoring for children's medications

Hypothesis: Pharmacy students will have more knowledge than other professions about the taste of medications

Methodology



- Demographic information
- Familiarity with medication taste and flavoring options
- Confidence in suggesting medication flavoring
- Where they received their education regarding flavoring
- How many lecture hours are devoted to flavoring in their curriculum

Participants will be asked to rate the taste of the following medications as "good," "bad," or "I don't know" (and identify the best and worst tasting):

Amoxicillin (Amoxil, Moxatag)	Amoxicillin/clavulanic acid (Augmentin)	Azithromycin (Zithromax)	Cefixime (Suprax)
Cefuroxime (Ceftin, Zinacef)	Cephalexin (Keflex)	Clarithromycin (Biaxin)	Clindamycin (Cleocin)
Doxycycline (Oracea, Monodox)	Metronidazole (Flagyl, Noritate)	Osetamivir (Tamiflu)	Prednisolone (Omnipred, Millipred)

Baseline Characteristics

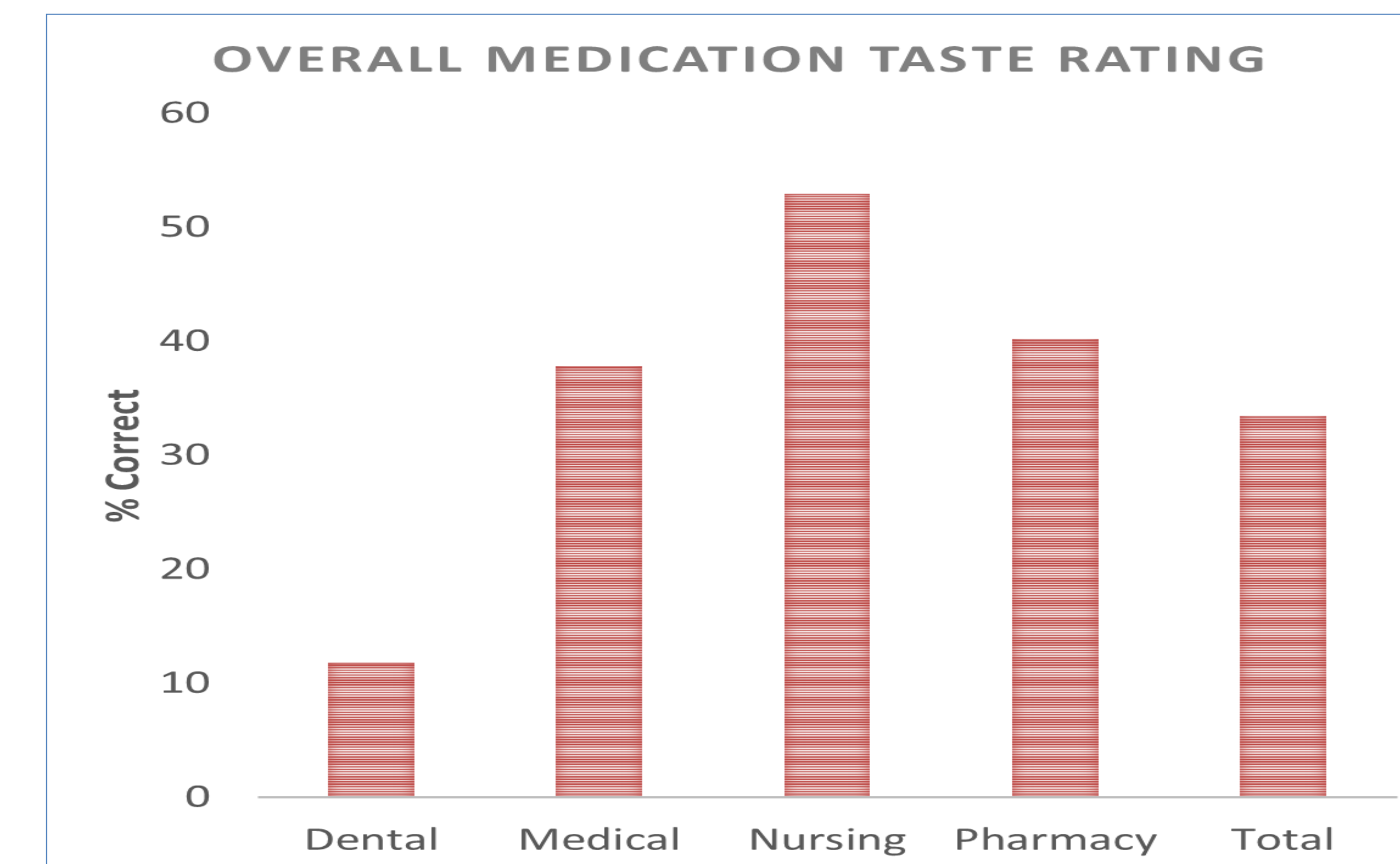
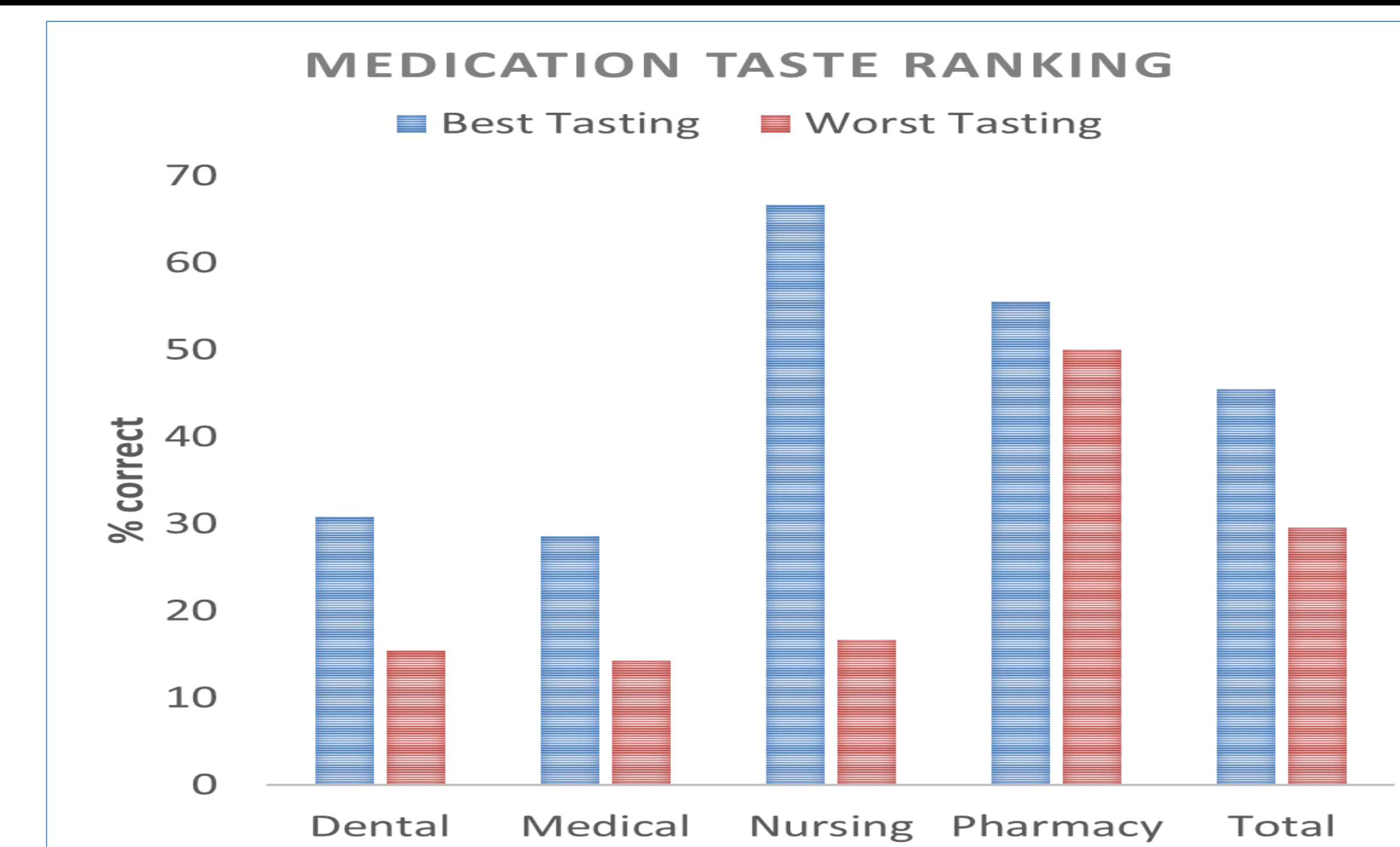
Demographics	Overall	Dental	Medicine	Nursing	Pharmacy
n	52	14	11	6	21
Age (n)					
18-24 years	10	0	4	2	4
25-34 years	39	14	7	2	16
Over 35 years	3	0	0	2	1
Gender (% male)	35%	43%	36%	0%	38%
Ethnicity					
Caucasian	50%	79%	67%	67%	19%
Black/African American	2%	0%	1%	0%	0%
Asian/Pacific Islander	36%	0%	27%	17%	71%
Other	12%	21%	5%	16%	10%
Work Experience	65%	50%	36%	83%	90%

Results: Self-Reported Knowledge

	Overall	Dental	Medicine	Nursing	Pharmacy
Medication taste familiarity	2.20	1.69	2.28	2.50	2.44
Where knowledge was acquired					
School	25%	29%	29%	0%	28%
Work	41%	7%	43%	67%	56%
Other	34%	64%	28%	33%	17%
Hours in required curriculum					
0 hrs	55%	86%	100%	50%	17%
1+ hrs	45%	14%	0%	50%	83%
Hours in elective curriculum					
0 hrs	60%	93%	14%	100%	39%
1+ hrs	40%	7%	86%	0%	61%
Confidence in suggesting flavoring	1.93	1.23	1.85	2.16	2.38
Flavoring options, % aware	66%	23%	71%	100%	83%
Use of flavoring	57%	0%	43%	100%	89%

Taste Ratings	X ²	Dental	Medicine	Nursing	Pharmacy
Amoxicillin	12.47, p= 0.052	23%	57%	100%	72%
Amoxicillin/clavulanic acid	6.68, p= 0.351	7%	29%	17%	39%
Azithromycin	5.90, p= 0.434	31%	43%	83%	44%
Cefixime	8.93, p= 0.178	0%	14%	0%	28%
Cefuroxime	10.58, p= 0.102	8%	29%	17%	33%
Cephalexin	11.59, p= 0.071	0%	29%	0%	39%
Clarithromycin	11.07, p= 0.086	8%	29%	17%	45%
Clindamycin	13.19, p<0.05	0%	57%	16%	50%
Doxycycline	13.87, p<0.05	8%	29%	83%	33%
Metronidazole	17.97, p<0.01	15%	43%	100%	39%
Osetamivir	18.54, p<0.01	15%	57%	100%	44%
Prednisolone	17.26, p<0.01	15%	86%	83%	50%

Medication Ratings



Discussion & Conclusion

- Nursing students performed better on individual medications and pharmacy students performed better on identifying the best and worst tasting
- Nursing and pharmacy students also were more aware of flavoring options and showed the most confidence in making recommendations
- For many of the medications, there was a significant correlation between field of study and whether they correctly identified the taste of medications
- Students learned more from work experience compared to limited classroom instruction
- Health professional schools should consider providing more lecture time on critical adherence topics
- All healthcare professionals should be taught to educate patients on flavoring options to help improve overall patient care

References

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