



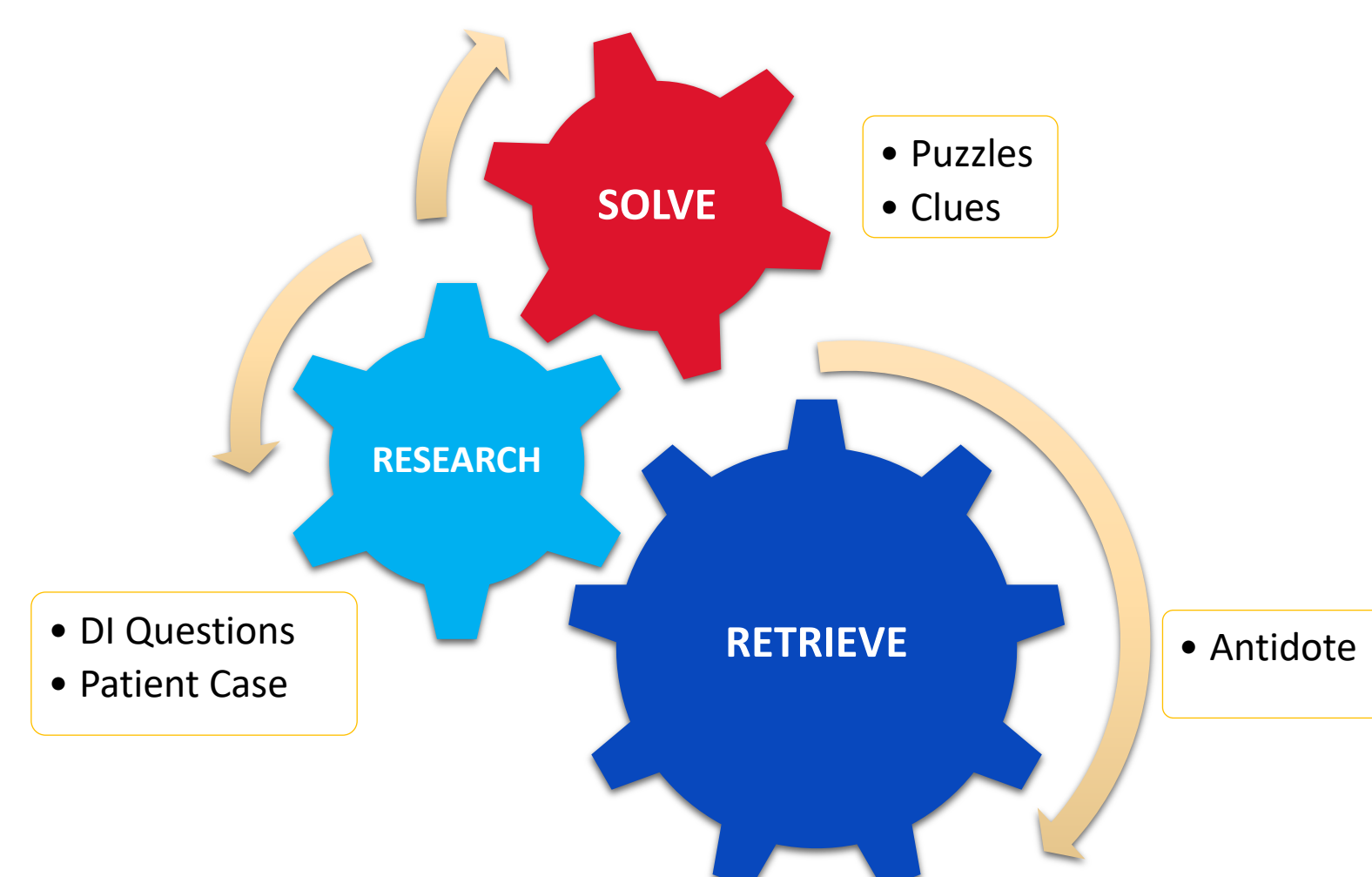
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## BACKGROUND

- Team-based learning (TBL) pedagogy has been utilized for teaching drug information with positive feedback<sup>1</sup>
- AACP has encouraged serious educational games in pharmacy education to develop and strengthen skills relevant to real world scenarios<sup>2</sup>
  - An escape room game was implemented by Eukel et al. to teach diabetes<sup>3</sup>
- Objective:** Dicipher an “escape room” themed challenge was piloted with P4 students to assess drug information skills on an experiential rotation

## METHODS

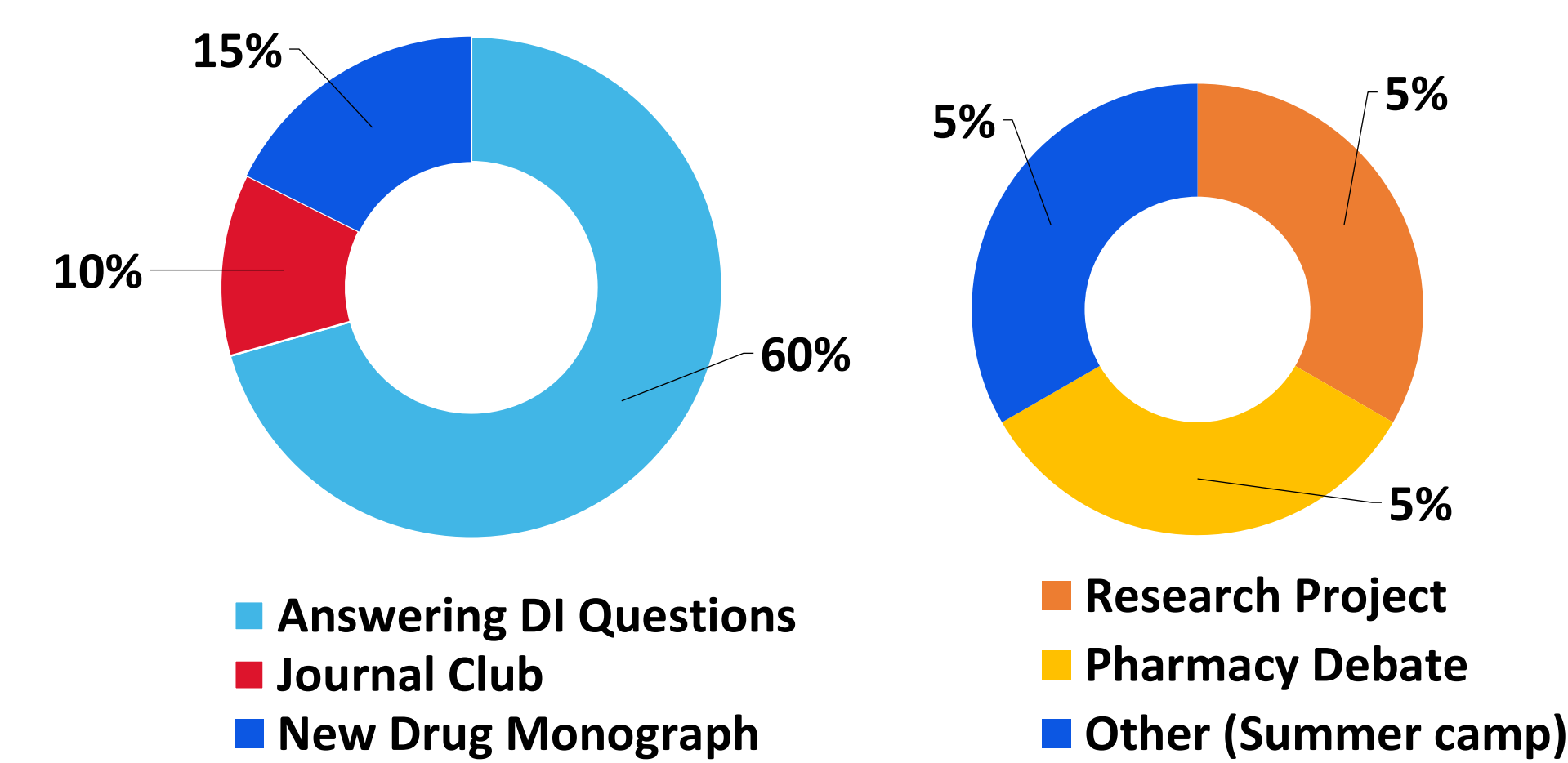
- The students were split into groups of 5 to 6 from June to August 2017
- A series of puzzles and clues were provided to retrieve the DI questions pertaining to a topic not taught in pharmacotherapy
  - 60 minutes to retrieve antidote; 15 minutes-debriefing session; Likert survey about experience in challenge
- Patient simulation rooms were used to observe students and communicate with preceptor if assistance with clues were needed



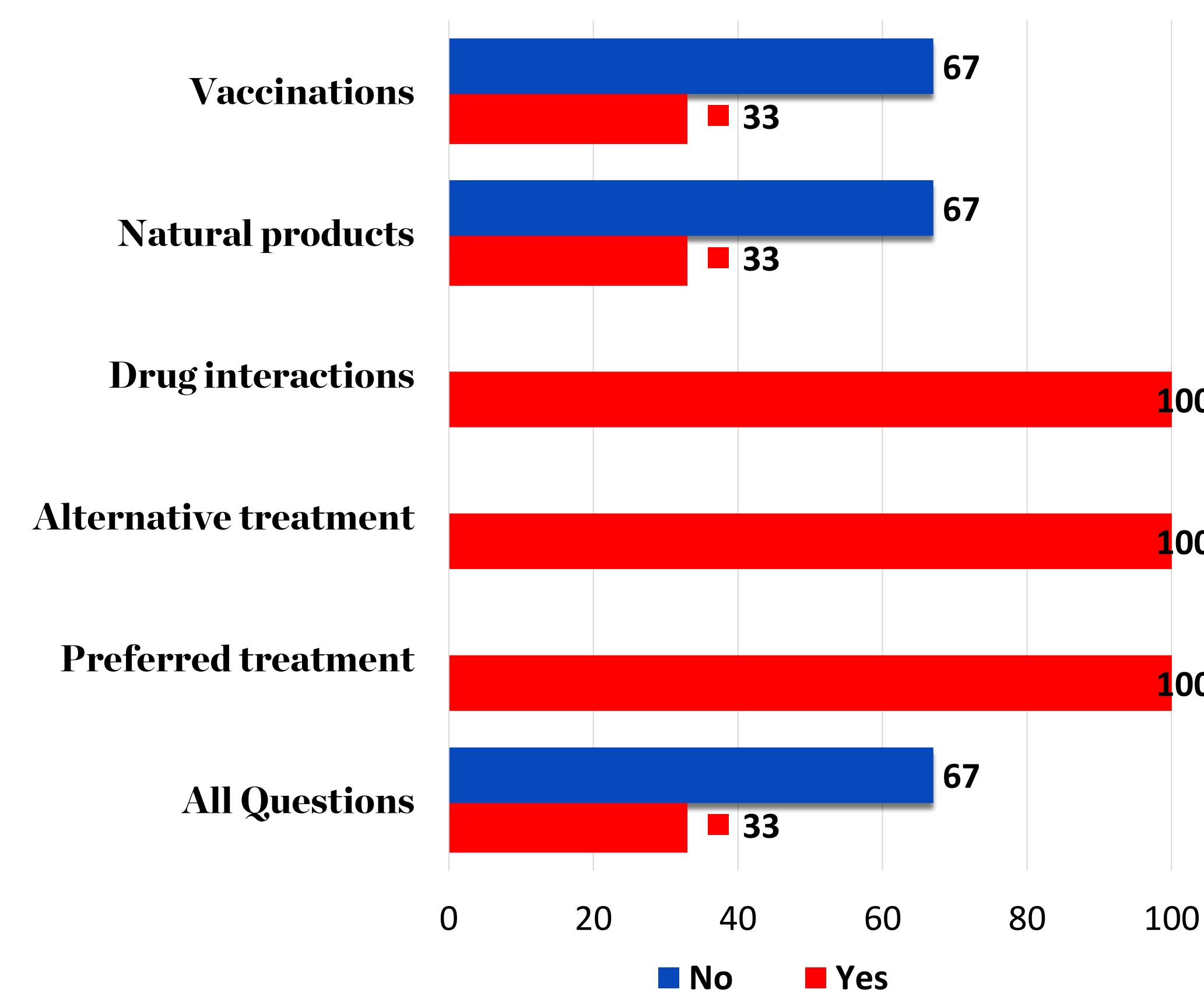
## RESULTS

- A total of 15 APPE students participated in the challenge and 14 students filled out the survey
- All P4 pharmacy students took a drug information course prior to enrollment into the APPE rotation
  - Practice with DI questions were provided during the month in the Drug information Center

**Figure 1. Content of Drug Information APPE**

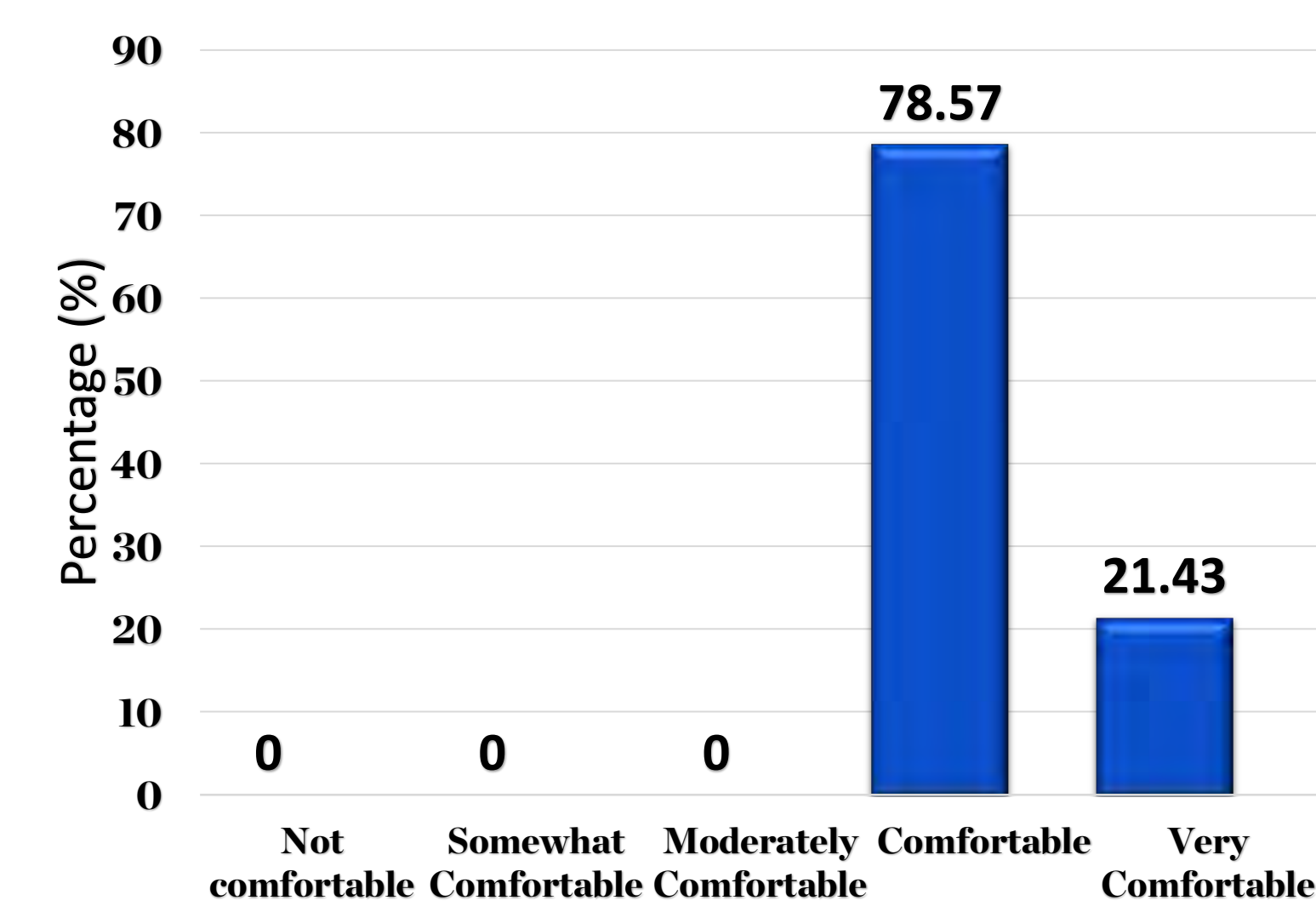


**Figure 2. DI Questions Answered Correctly**



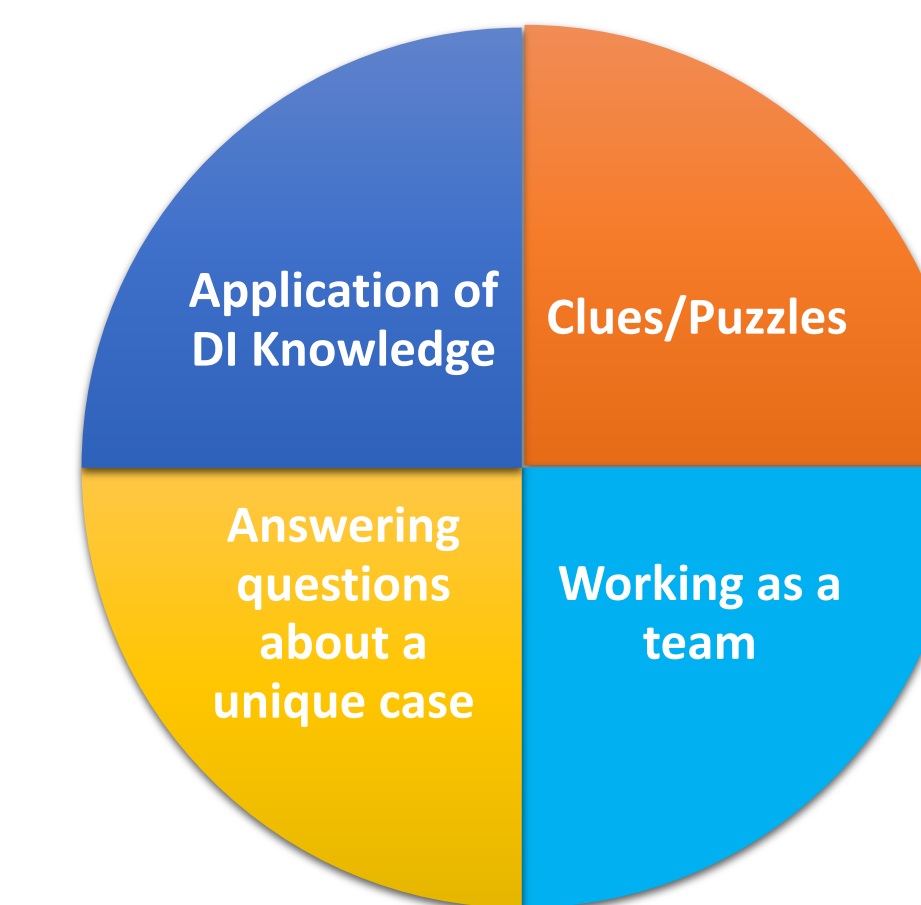
**Figure 2.** Questions presented in the challenge consisted of preferred treatment, drug interactions, alternative treatment, natural products and vaccinations pertaining to cutaneous anthrax case.

**Figure 3. Comfort with DI Resources**



**Figure 3.** The students were asked to rate their comfort level with DI resources after participating in the challenge.

**Figure 4. Most Enjoyable Aspects of Challenge**



**Figure 4.** The students were asked to rate their comfort level with DI resources after participating in the challenge.

**Table 1. Perspective of Challenge**

Item	Disagree (%)	Neutral (%)	Agree (%)
The challenge promoted active learning while assessing my knowledge of DI resources	7.14	7.14	85.6
I worked well with my group members to solve the clues and research the DI questions	14.2	7.14	78.5
The challenge allowed for appropriate delegation of tasks within a small group and facilitated teamwork	14.29	14.29	71.4
The challenge identified certain DI resources that I need additional practice using	0	28.6	71.3

**Table 1.** Responses were based on Likert scale of 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree; the disagree responses encompass strongly disagree and disagree (1-2), agree responses include agree and strongly agree (4-5).

## DISCUSSION

- One group out of three answered all of the DI questions correctly and retrieved the antidote
  - The other groups answered three out of five questions correctly
- The students’ positive feedback found the challenge assessed their DI knowledge in a fun and novel setting
- Changes for future implementation included:
  - a pre-test that featured similar DI questions
  - A safe with a combination code instead of lock box

## FUTURE DIRECTIONS

- Dicipher was implemented in Drug Information course in Spring 2018 with third year students
  - Also, utilized to teach high school students at summer camp
- Expansion to other health care related areas (medical, nursing, etc.)
- Evaluation of DI skills of pharmacists compared to students
  - Assess efficiency, accuracy, problem solving skills and teamwork

## REFERENCES

- Hincapie AL, Cutler TW, Fingado AR. Incorporating health information technology and pharmacy informatics in a pharmacy professional didactic curriculum -with a team-based learning approach. *Am J Pharm Educ.* 2016;80(6):107.
- Cain J, Conway JM, DiVall MV, et al. Report of the 2013-2014 Academic Affairs Committee. *Am J Pharm Educ.* 2014;78(10): Article S23.
- Eukel H, Frenzel JE, and Cernusca D. Educational gaming for pharmacy students – design and evaluation of a diabetes-themed escape room. *Am J Pharm Educ.* 2017; 81(7): 6265.