BACKGROUND

- Pharmacy schools have opportunities to utilize social media platforms as tools to aid in students learning and clinical knowledge
- A few medical schools and medical fellowship programs have utilized WhatsApp for discussion on cases, information sharing, and daily questions1,2,3
- WhatsApp is an internet-based messaging system that is free to use and compatible on Android, iPhone, Mac, Windows PC, or Windows phone
- WhatsApp can accommodate group chats of up to 256 people

OBJECTIVES

- To assess student participation in a clinical question of the day
- To assess student confidence levels in different pharmacy topics after discussion
- To improve students’ clinical knowledge through daily discussion
- To find areas of improvement for the discussion platform

METHODS

Study Design

- Descriptive, quantitative, survey study
- Study was a rolling enrollment and took place during Advanced Pharmacy Practice Experience (APPE) clinical rotations for 20 weeks from June 2020 to November 2020

Inclusion Criteria

- Southern Illinois University Edwardsville (SIUE) fourth-year pharmacy students actively enrolled in APPE and SIUE third-year students enrolled in the infectious disease elective or acute care elective
- Students who consented to be a part of the Institutional Review Board (IRB) approved research

Pre-survey

- 8 question pre-survey was sent which included a link to the discussion platform at the end of the survey
- The survey assessed the students demographic information, students’ clinical confidence in different pharmacy specialty areas, confidence in using a group app format, question topics students wanted to be asked, and a North American Pharmacist Licensure Examination (NAPLEX) preparation assessment

Post-survey

- 12 question post-survey
- The post-survey was sent after the discussion in WhatsApp
- It assessed student demographic information, students’ clinical confidence in different specialty areas, confidence in using a group app format, NAPLEX preparation assessment, learning assessment, and opinion on using a messaging system as a learning environment
- Using open ended responses students were instructed to write a new thing they learned, favorite and least favorite questions, and advice to improve discussion

Discussion Format

- Utilized WhatsApp group chat platform with group name “The Daily Dose”
- Students joined the Daily Dose anytime from June through September
- One question was posted daily throughout the discussion in the morning
- All questions were asked by a single preceptor study investigator
- Moderators prompted for responses if no responses were received in the day

Data Analysis

- Descriptive statistics were used including means and percentiles to describe the sample population

RESULTS

- 73 questions sent throughout the study period with a 97% response rate
- 23 students joined the discussion and 70% responded to at least 1 question
- A moderator prompted for a first response from participants at a rate of 22%

Table 1: Student pre-survey and post-survey confidence levels.

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre-survey</th>
<th>Post-survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular (10)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Infectious Disease (13)</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Internal Medicine (62)</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Pain and Palliative Care (11)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

Figure 1: Fourth year students that responded to at least 1 question.

Figure 2: Third year students that responded to at least 1 question.

Figure 3: How confident students feel answering questions in a group app format before and after discussion N=20

Students reported favorite questions:

- Patient clinical cases, clinical questions, controversial though provoking questions, questions that students felt confident/strong in, infectious disease, cardiovascular, personal questions, questions that could be answered with a short phrase, side effects and drug initiation questions, favorite resources, ambulatory care based questions, drug information review, patient education and medication adherence, career questions

Students reported least favorite questions:

- Antibiotic stewardship, oncology, insurance policy questions, biostatistics, drug information questions, questions that could not be answered with a short phrase, “easy questions that you could look up”, non-clinical or pharmacology questions

Student Suggestions for improvement:

- Implement a system where multiple students can respond
- Have questions that are debate style so one can support and defend answers to promote more discussion
- Reduce questions per week
- Add in multiple choice questions throughout, add questions similar to NAPLEX (multiple choice) then have students defend their chosen answer
- Add more calculation questions
- Have questions asked at same time every day to give full 24 hours to answer
- Form teams and a point incentive to promote more responses and interaction
- Poll students weekly for a topic
- Poor timing, fourth year students on rotation are busy

CONCLUSIONS

- Most students participated and learned new information. Some students answered questions more completely which may have impacted other responses.
- Majority of responders were fourth-year students. Although third-year students acted mostly as observers, they reported in the post-survey they had benefit from the fourth-year students’ discussion.
- Students’ confidence in different pharmacy topics increased in areas that were addressed in the discussion.
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- WhatsApp could be a beneficial tool for multiple pharmacy learners

REFERENCES:


Figure 4: What is your opinion on using WhatsApp as a learning environment? N=20

Figure 5: Did you learn anything new from the discussion? N=20

Table 1: Student pre-survey and post-survey confidence levels.