

Using Videogames to Reduce Patient Pre-Op Anxiety

Lynijah Russell

UMB CURE Scholars Program, Baltimore. MD
Marlene and Stewart Greenebaum Cancer Center. University of Maryland, Baltimore

Purpose of Study

Anxiety before surgery can cause a multitude of issues for a patient. According to MedicalNewsToday.com, preoperative anxiety, can increase the level of postoperative pain. This means that the higher the person's anxiety is, the more pain and discomfort the patient will experience. This often leads to slower wound healing which can cause infection, along with other complications. To bypass this road of postoperative problems, anxiety levels can be lowered by an enjoyable, interactive, and educational experience that simulates and explains the surgery.

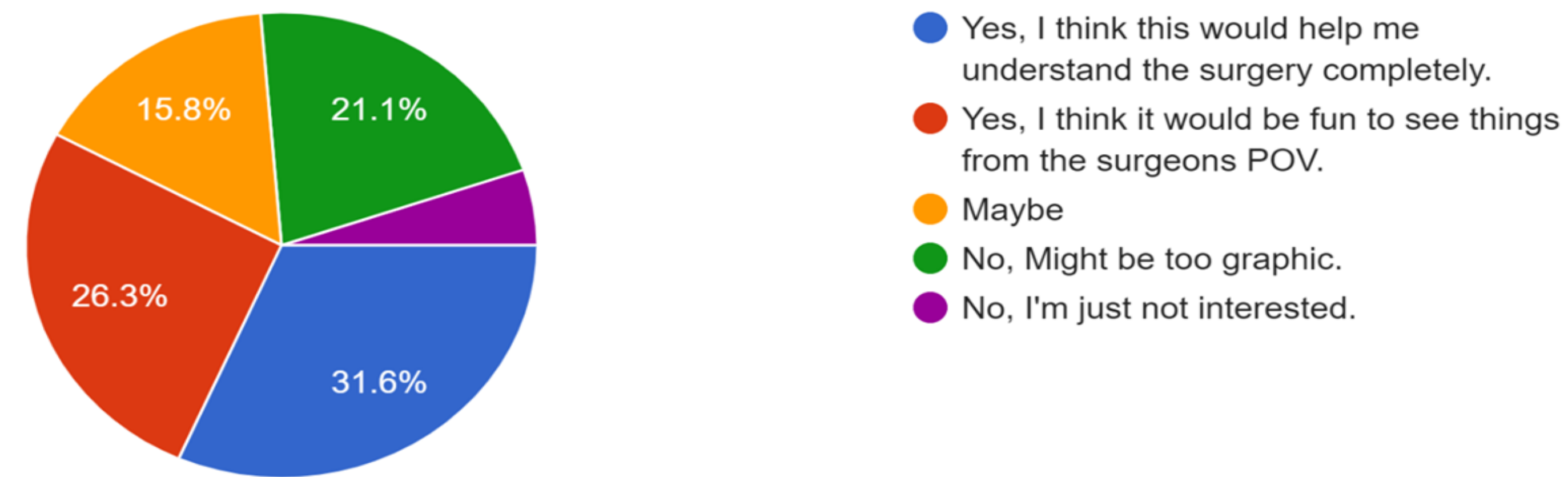
Usefulness to the Public

Traditionally, surgeons would explain the surgery beforehand to their patient, but since the surgeon is using vocabulary that they learned in school to explain it and confusing the patient, he/she would still be puzzled and no fear/anxiety would be released. According to a survey given to students and staff at Patterson Mill High School and UMB Cure program, 57.9% of the cluster agreed that a simulation of their surgery would be entertaining, educational and relieving. 89.6% of the cluster also agreed that video games in the waiting room would benefit children and provide a sense of normalcy.

Data

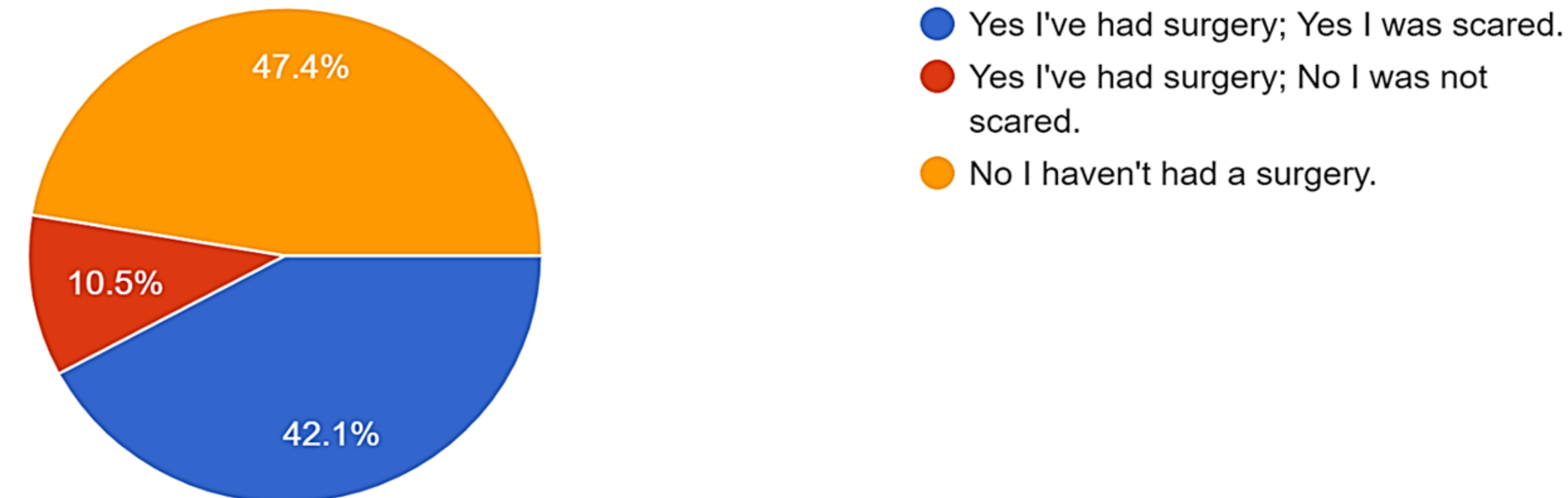
Would you be interested in playing surgery simulation where you got to play the surgeons role? This way you can understand your surgery and every movement from beginning to end.

19 responses



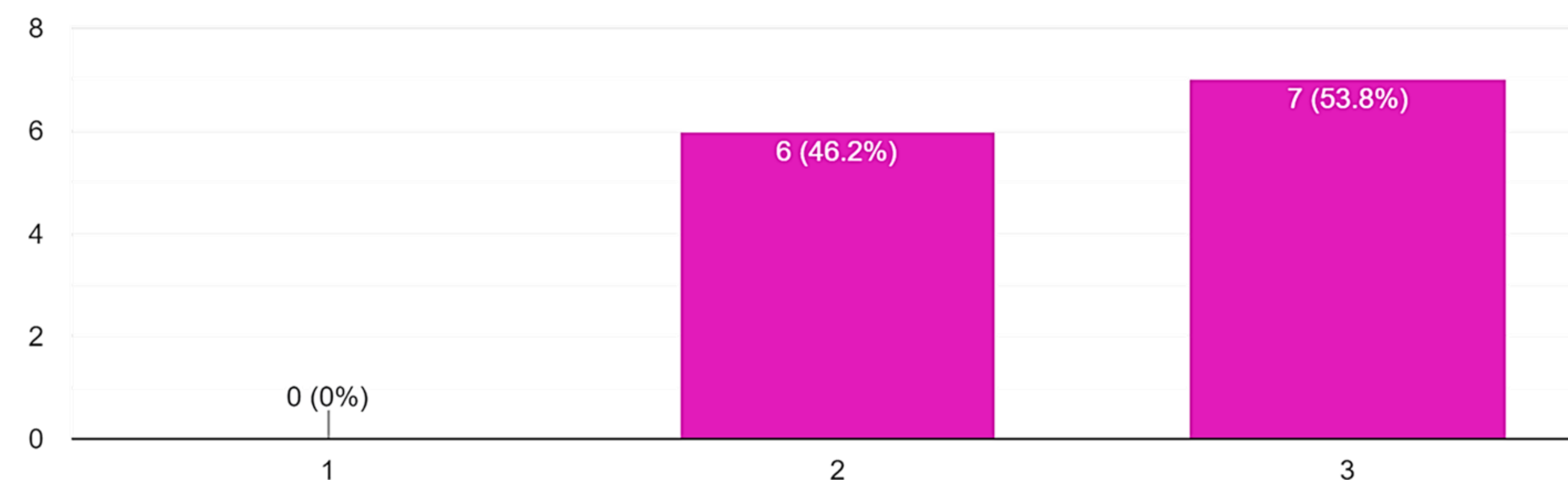
Have you had surgery before? If so, were you afraid before it?

19 responses



If yes to the question above, do you think the video games are effective in comforting you?

13 responses



Surgery Simulation Chatbot: The Lynbot

The purpose of my chatbot is to simulate the steps of surgery that the patient is to undergo and to help the patients understand the surgery itself, and the possible risks of the surgery, all while playing a game.

```
Alright Doctor Lynijah your patient is prepped, let's begin shall we!  
First we have to make a 1-2 inch incision from the base of the wrist to the middle of palm.  
Do we...  
A. Make an 1-2 inch incision in their leg to ankle  
B. Make an 1-9 inch incision in their stomach to chest  
C. Make an 1-2 inch incision in their wrist to palm  
D. Make an 3-4 inch incision in their wrist to palm  
What are we gonna do? A-D: A  
  
Hmmm not so fast Doc! Let's try again!  
First we have to make a 1-2 inch incision from the base of the wrist to the middle of palm.  
Do we...  
A. Make an 1-2 inch incision in their leg to ankle  
B. Make an 1-9 inch incision in their stomach to chest  
C. Make an 1-2 inch incision in their wrist to palm  
D. Make an 3-4 inch incision in their wrist to palm  
What are we gonna do? A-D: C  
Goodjob Doc! We've successfully opened the site.  
> |
```

Conclusion

This chatbot could help the 80% of surgery recipients who have postoperative pain. LynBot would educate patients, entertain children and adults, decrease the chances of postoperative issues, quicken recovery time, and revolutionize medicine.

References

Data was obtained from:
NCBI NIH
Medical News Today