Developing and Testing Animated Computer Surveys for Measuring Young Children's Health

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What was the research about?

Patients often take surveys about their health or quality of life. Results from these surveys can help doctors meet patients' needs. Young children can't fill out surveys by themselves. They may not be able to read or understand the questions. Most often, parents or hospital staff read the questions aloud, or parents answer the questions for their children. But this method may not give accurate results.

In this study, the research team tested three surveys for children ages 4 to 12 who are going to have or who recently had surgery. The first survey asks about general health. The second survey asks about feeling worried before surgery. The third survey asks about pain after surgery. A computer program reads the survey questions aloud. The surveys are animated and choices for the answers appear as cartoons.

The team wanted to learn if the surveys were

- Accurate, or correctly capturing how the children were feeling
- Reliable, or if children answered in a consistent way when asked similar questions

What were the results?

Overall, the three surveys were accurate and reliable. This result was true for children of different ages, genders, and races.

Who was in the study?

The study included 725 families with children getting care at Children's Hospital of Orange County in California. All children were going to have surgery. Of the parents who took part in the study, 66 percent were Latino, 25 percent were white, and 9 percent were other races. The average parent age was 37, and 86 percent were women. Of the children, 71 percent were Latino, 21 percent were white, and 8 percent were other races. The average child age was 7, and 60 percent were boys.

What did the research team do?

The team asked children, paired with their parents, to complete the three surveys. Of the child-parent pairs, 420 pairs completed the surveys before surgery, and 242 pairs completed the surveys at two and seven days after surgery. Children answered animated questions by themselves. Their parents answered the same questions without the animations. Children and parents also completed other surveys on the same topic at the same time.

The team looked at survey responses of both children and parents to see if the responses were accurate and reliable.

Two groups of doctors, hospital administrators, and parents of children helped design the study and develop the survey.

What were the limits of the study?

The team designed the surveys for children ages 4 to 12. Younger children may not understand the survey questions. The study looked at recovery from surgery during a short time. The team did not test how well the surveys work if children take them at other times after surgery.

Future research could use other methods to test the surveys during a longer recovery time. Also,

researchers could test if children younger than four years old are able to use animated surveys.

How can people use the results?

Doctors can use the animated computer surveys to understand their young patients' health needs.

To learn more about this project, visit www.pcori.org/Kaplan160.