A Survey of Public Perception on Pulse Oximeter Applications Designed for iphone/ipads.

Background

The use of smart phones and tablets are becoming more prevalent in modern society. Applications for the iPhone and iPad, such as the Tinke (Zensorium, Synapse, Singapore) and the Masimo iSpO2 (Masimo Corp., Irvine, CA), now offer pulse oximetry readings with the use of pulse oximeter probe hardware. However, we wondered if the public would trust medical information coming from a nonmedical device and if they would have any security concerns with medical information stored on mobile devices.

Methods

We surveyed 54 individuals after they used the iSpO2, Tinke, and the Masimo Radical 7. Subjects provided their age, gender, level of education, healthcare provider experience, credentials, smart phone and application usage. Participants were then asked which mobile device they preferred, if they would trust the accuracy of medical information from a mobile device, and if they would trust the security of a mobile device with their medical information. Data was analyzed with R statistical software using generalized linear regression. Generalized linear regression was used to evaluate the effect of collected demographic variables (medical experience, age, gender and smart phone ownership) upon a participant's likelihood of trusting the apps' accuracy and security.

Results

48 out of 54 (88.89%) subjects stated that they preferred the iSpO2 and 2 stated that they liked both devices. All individuals with medical provider experience preferred the iSpO2. Smart phone users accounted for 59% (32/54) of those polled and 81% (26/32) those subjects download and use apps, 31% (10/32) download and use medical apps. Overall, 74% trusted the accuracy of pulse oximetry using a mobile device, and 76% trusted the security of their pulse oximetry data on the mobile device. Smart phone users were significantly more likely ($P<0.05$) to trust the accuracy of the app. No other demographic variables were significant predictors of trust in accuracy and none were significant predictors of trust in security.

Conclusion

We found a significant preference for the iSpO2 over the Tinke and the majority of those polled trust the accuracy and security of this data. People generally trust the phone program independent of the possible predictive variables that we studied. These findings suggest that a broad set of patients may be willing to use these smartphone apps for testing and storing data.