Author's Reply to "Communication with Patients on Mechanical Ventilation: A Review of Existing Technologies" by Nair and Anand

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We thank Dr Nair and Dr Anand for their knowledgeable and well-considered comments on our study. Among the apps quoted in their correspondence, we have reviewed Patient Communicator and Vidatalk in detail in our article. While "Patient Communicator" is free to download and use, "Vidatalk," at the time of our assessment, cost US $169 per year. We did not evaluate "myICUvoice" as it does not show up on App Store Search in Australia.

At the time of our assessment, we encountered two apps with eye-gaze control—"Hawkey Access" (Hawkeye Labs, Inc., Alamo, California) and "I Have Voice (ALS, MND)", both of which are not ICU-specific and hence were not evaluated in detail.

We thank Dr Nair and Dr Anand for drawing our attention to "Look to Speak" by Google Creative Lab. "Look to Speak" app was released in December 2020, just one month after we had finished the search for our study, and as a result, we did not come across this app.

A preliminary review of this app suggests several attractive features. Created by Google Creative Lab, the developers will have the technological expertise and financial resources to quickly make improvements and scale it up. It allows a user to exercise control with both using the touchscreen and eye gaze. It comes with a video tutorial and a setup helper, which should be useful for both the patient and the healthcare worker. It is customizable, and therefore, ICU-specific phrases (e.g., "I want suction") can easily be added. "Look to Speak" is free to download and use and therefore a welcome addition to the Play Store.

Some of the shortcomings of this app are also immediately obvious. These include the following:

- Available only on android platform
- Supports only English Language
- Text size is small and not customizable
- Absence of pictures
- No pain assessment tool
- No free drawing functions

To convey the message using "Look to Speak," the user (ICU patient, in this case) must indicate, with eye movement or touch, multiple times. Every time, the user does that, the list shrinks in size.

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Every time this happens, half the items in the list change from one side to other, and the user will have to search for them again. This may be disorienting to a patient receiving sedation or with short attention span.

An app like this should work well in patients wearing prescription eyeglasses, which needs to be evaluated in a clinical setup.

In addition, apps that use eye-gaze must access the phone camera and therefore must provide a robust privacy policy. This app is currently covered under Google's generic privacy policy and not specific to this app.

Following our assessment of various apps, we have realized that clinical testing of apps for augmentative and alternative communication is a lot more difficult than bench testing. Whether "Look to Speak," or any other app, is useful for broader clinical use needs to be evaluated in a clinical setup.

Eye-gaze tracking is an emerging technology. It is only a matter of time before more apps with even better interface and tools are available for clinical use.

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