Novel Advancements in Cardiac Care: Using Mobile Health Technology and Analytics to Support Clinical Decision Making in Post-Surgical Aortic Dissection Care

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BACKGROUND

- Currently, little is known about patient experience after Type A aortic dissection open surgical repair

- Due to the limited knowledge of patient experience after aortic repair, patients return to the hospital with complications

- Patients are having psychological and physiological symptoms not related to their post-operative recovery process for upwards of a year post-repair.

OBJECTIVE

- Through the use of mHealth technology, we will be able to collect self-reported symptoms and biometric information from wearable devices in order to better support clinical decision making.

RESULTS

Our team has identified a need to better understand symptomology and patient experience after type A aortic dissection open surgical repair. We have developed a study protocol as well as submitted it to the ECU UMCIRB for approval. Currently we are being reviewed by an IRB administrator and hope to be able to move forward with the next steps of the study soon.

METHODS

- Participants between the ages of 18 and 85 receiving care at the ECU Heart Institute will be identified by clinical study personnel and asked to download the Nanbar Health app to their smartphone and report symptoms through the app on a daily basis

- Information from electronic health records will be integrated into a dashboard for clinicians to visualize a snapshot of each patient.

- Outcomes related to symptom burden and quality of life will be measured monthly and quality improvement metrics including patient satisfaction, adverse events, and readmission rates will be assessed.

- Study participation will last for one year and the total number of participants included will be a minimum of 15
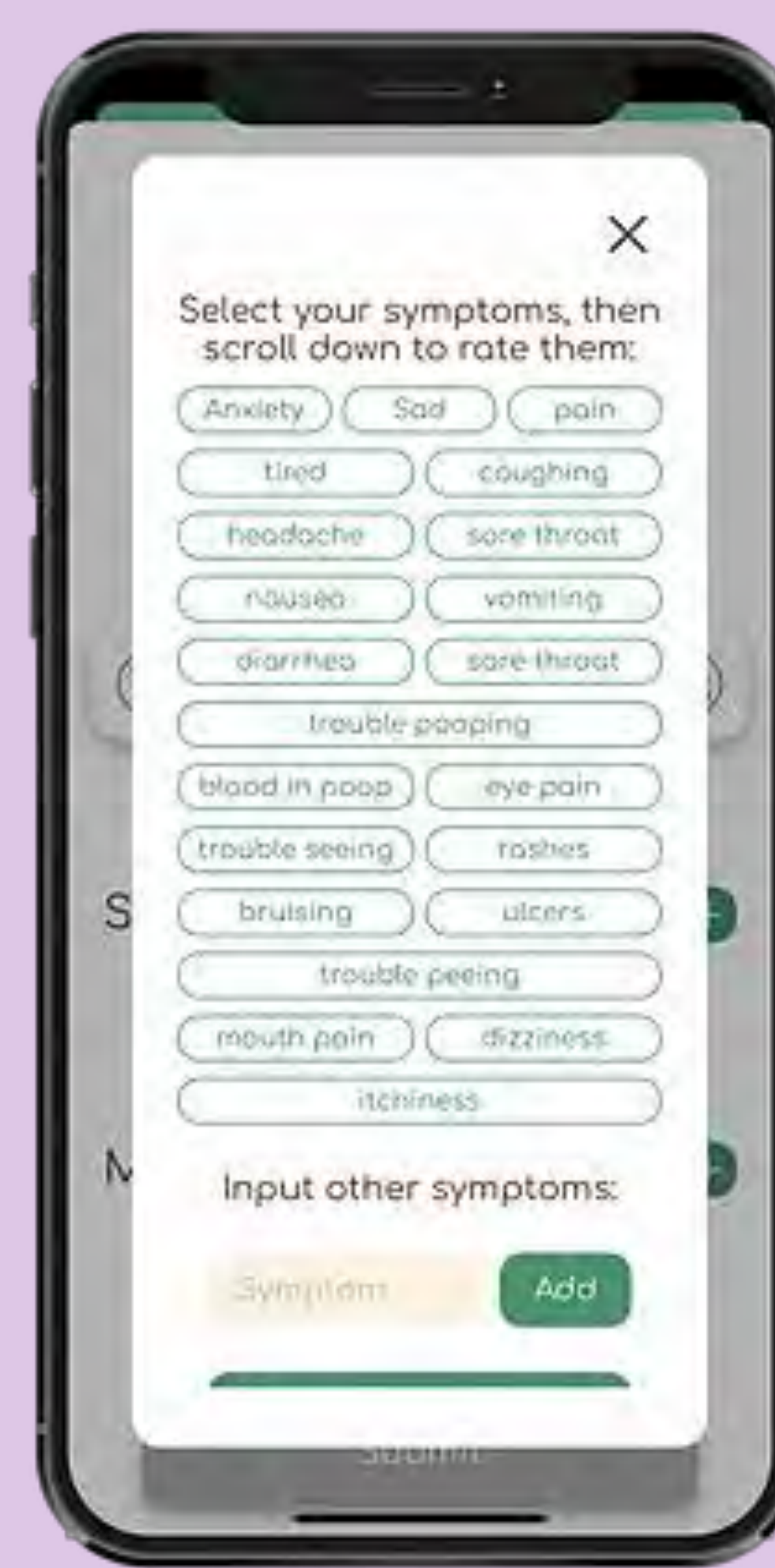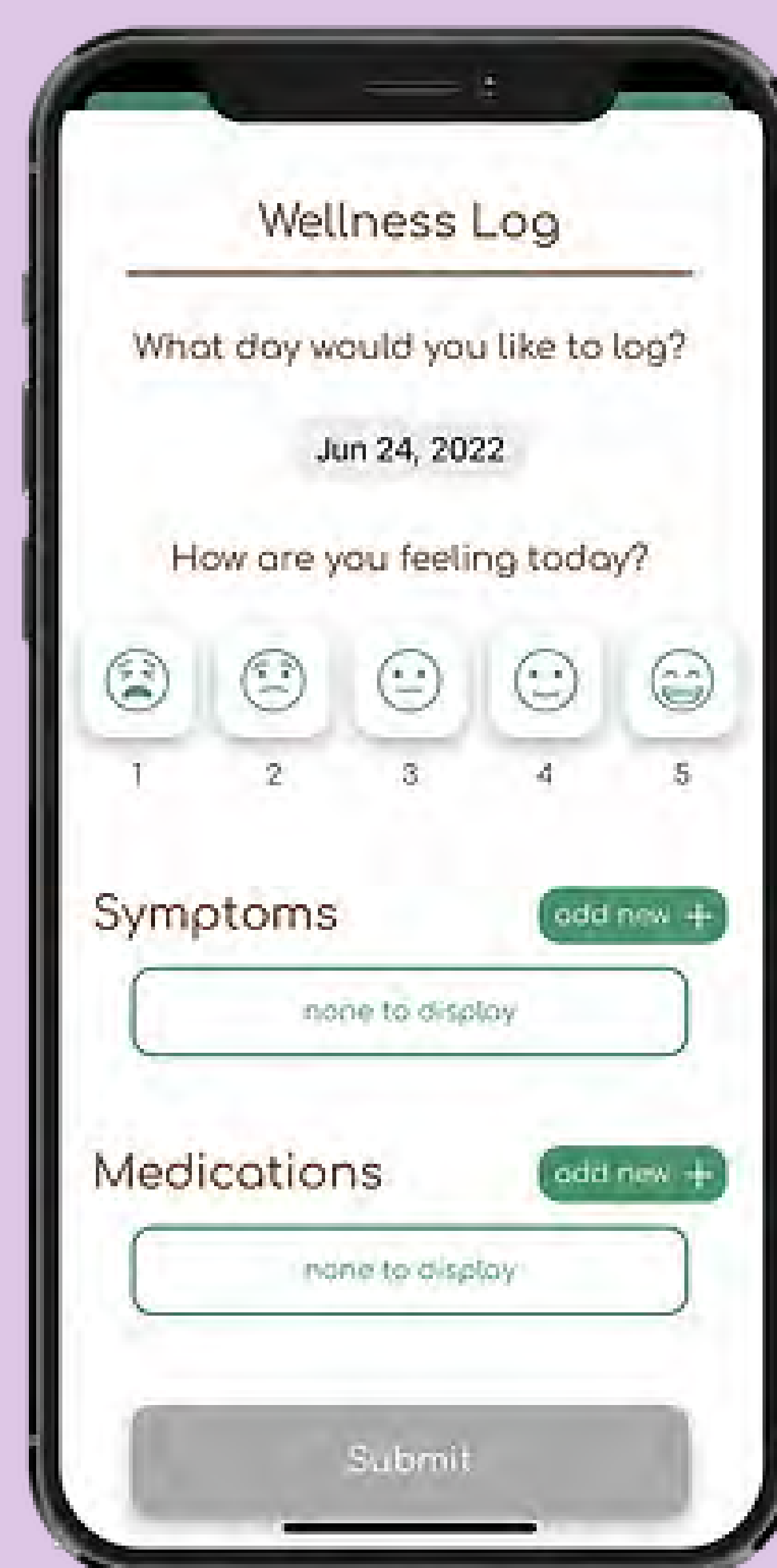
CONCLUSION

Studies have shown that mHealth tools are useful for improving quality of patient care as well as improving clinical decision-making. Study methodology like the one described has been proven to be useful in supporting clinical decisions in sickle-cell disease as well as other chronic diseases. Future research should be conducted into the application of mHealth symptom monitoring for acute medical conditions such as aortic dissections and other cardiac diseases.

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