

WORLD CONGRESS ON RHEUMATIC HEART DISEASE

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Title: AUTOMATED TWO-WAY MESSAGING INTERVENTION TO SUPPORT SECONDARY PROPHYLAXIS ADHERENCE IN RHEUMATIC HEART DISEASE

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Background & Aims: The ACT platform (Active Community Case Management Platform) is a cloud-based tool developed under the auspice of the Active Case Detection and Decentralized Dynamic Registry to Improve the Uptake of Rheumatic Heart Disease Secondary Prevention (ADD-RHD) Center to facilitate Rheumatic Heart Disease (RHD) case management by primary care healthcare providers. This study aimed to design and pilot an automated two-way messaging intervention that can ultimately be integrated into the ACT Platform to support secondary prophylaxis adherence.

Methods: We employed user-centered methods to develop a concise library of messages to support prophylaxis adherence and provide general motivation and inspiration to improve engagement with care. The SMS intervention used TexIT®, an interface that runs RapidPro, an open-source software optimized for use in low-income settings that enables users to send out interactive SMS messages at scale. The message bank was piloted in a cohort of 50 RHD patients randomized into two groups. Group 1 received standard support (nurse-led/ACT Platform). Group 2 received standard support plus SMS intervention (bi-weekly motivational texts and monthly adherence support messages) for two months in Lira and Gulu districts in Northern Uganda. We collected qualitative data on participants' experiences and assessed treatment adherence using the ACCEPT® questionnaire at enrollment and two months post-intervention.

Results: Using a sequential user-centered process consisting of four separate phases, we developed a message bank (n=43) deployed during our pilot study. Phase 0 (message drafting) relied on the input of the research team and key stakeholders to generate our initial message bank drafted in English and Acholi. Feasibility testing (Phase 1) involved a card sorting activity, and piloting the messages with a small cohort of patients (n=10) allowed us to elicit feedback on the messages and the technology. Phase 3 relied on crowdsourcing with 98 RHD patients tasked with message characterization. After discarding poorly performing messages from Phase 3 and considering data from Phases 1 and 2, a three-member RDH expert panel rated the remaining messages on a 5-point Likert Scale (1=poor quality, 5= high quality). The final message bank consists of 43 messages with an average rating of >3.5. There were no between-group differences in treatment adherence or acceptance. Interviews of participants in Group 2 showed that the reminder messages were well-received and indicated a willingness to keep receiving messages beyond the duration of the pilot. 75% of SMS recipients responded directly to the messages, and 25% called the study staff to acknowledge receipt of text messages and the upcoming injection date.

Conclusions: This study has successfully co-developed a bank of SMS messaging to support RHD patient adherence to SAP in Uganda. Further, we have demonstrated the feasibility of automated SMS delivery in this context. Future work will include integrating automated SMS into the ACT platform and a larger study of integrated SMS to reduce healthcare worker burden for patient support and improve patient adherence to SAP.