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SMStopCorona: A sending text messaging (SMS) app to coping COVID-19

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Graphical Abstract

→ Daily sending
→ Custom SMS (user name)
→ Information does not repeat within 30 days
→ Different theme every 3 days
→ Free receipt
→ Based on *World Health Organization* and the Ministry of Health of Brazil guidelines

Abstract.

Besides COVID-19 can severely affect the health of those infected, this pandemic is also causing several problems in society, such as economic and psychological issues. Thus, preventing new cases is important to minimized these problems. This work developing an app (SMStopCorona) that sending text messages (Short Message Service – SMS) in automated and tailored way, with guidance about prevention and general health tips, aiming to welcome the population about coping pandemic. A multidisciplinary team from Instituto Federal Sul-rio-grandense (IFSul) and Hospital Escola/Federal University of Pelotas (HE/UFPel/EBSERH) prepared the messages to be sent and registered it in the app. About 500 people from the southern region of Brazil signed up to receive these messages, and then they were imported into the app. SMStopCorona then automatically sends a daily orientation to each person registered via SMS.

	Preliminary results indicated good acceptance in receiving these messages by registered people. Several people responded to the messages received, thanking for the care and guidance they had received via SMS text message.

Introduction

In addition to COVID-19 severely affecting the health mainly of the high-risk group, cases of anxiety and depression in the population will also increase, due to the fall in the economy, confinement at home, insecurity about the future, and the fear of being infected by the disease [1]. Thus, the population must feel oriented and committed to the situation, to face and overcome the pandemic and all that will affect it [2].

Some demands regarding coping with this pandemic can be optimized using mHealth (mobile health), since this type of technology provides access to information quickly, and at a low cost [3,4]. This work develops an intervention based on a smartphone app that sends bulk SMS text messages to population in an automated and tailored way. The aiming are to provide guidance on the prevention of COVID-19 to population, making they feel welcomed by this hospital service.

Materials and Methods

The application developed for the Android platform was called SMStopCorona (Figure 1). This app is installed only on the smartphone used to send SMS messages.

All guidelines to be sent via SMS were prepared by a multidisciplinary team from the Hospital Escola (HE) of the Federal University of Pelotas (UFPel), and the guidelines were based on the recommendations of the World Health Organization (WHO) and the Ministry of Health of Brazil. The messages to be sent were divided into some themes, such as hygiene, isolation, food, physical exercise, clinical care, leisure, and tips on possible isolation at home if the person has been infected by the coronavirus. In each theme, several phrases were prepared to be sent via SMS. The messages were written in Portuguese, and SMStopCorona sent it automatically.

The SMStopCorona algorithm for sending messages draws the message to be sent daily to each registered person. This algorithm does not send the same message within a period of 30 days, nor does it send the same theme of the message within a period of 3 days. After defining the message to be sent, the app sends them automatically and personalized to each person, inserting the person's name, and wishing a good day of the week, according to the methodology presented in Rico *et al.* (2017) [4].

The people who wished to receive the messages accessed a registration on a form on Google Forms, and from that, SMStopCorona imported this data and then started to send a different message per day to each registered person. The registration link was disseminated mainly in the region of the city of Pelotas/RS,

through social networks, radio, and newspaper. However, there were records of registrations from various regions of the country, the vast majority in the southern region of Brazil. Registered people received these messages on their own cell phone, free of charge.
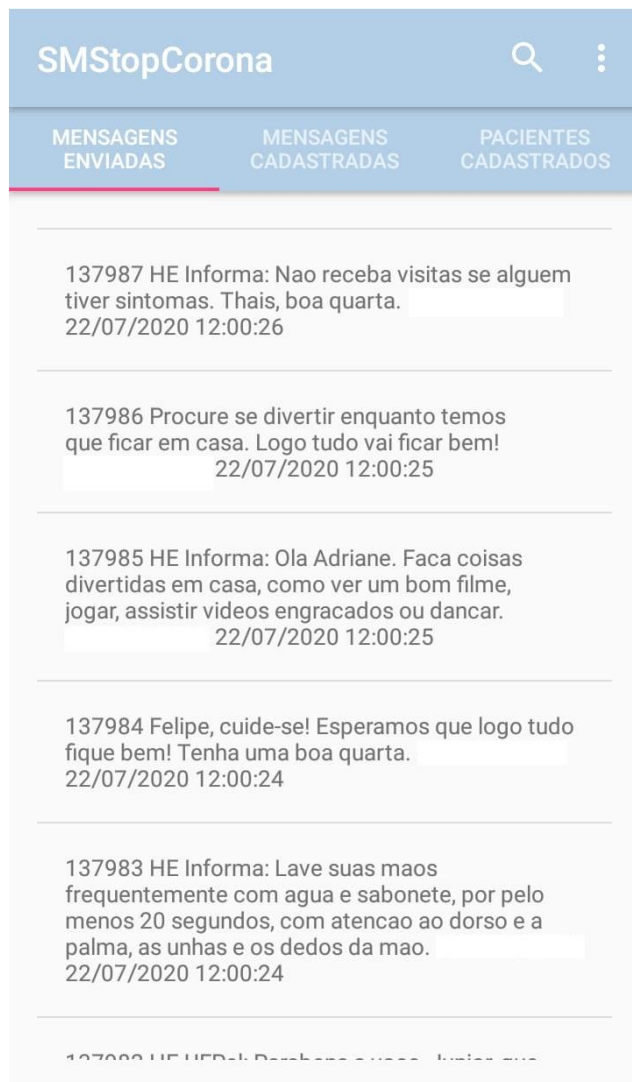

Figure 1 - SMStopCorona

Results and Discussion

This work started in April 2020, totaling around 500 registrations in the first months. In total, each person received an average of 100 guidelines via SMS.

Although it was not requested, several people responded to the messages received, thanking them for the support they have been receiving in this communication medium. Thus, it shows the feasibility and good acceptance among the participants.

SMStopCorona does not aim to replace other means of communication, nor does it aim to replace medical advice about the pandemic. This application serves as an auxiliary tool, aiming to make people

feel more welcome with the health service, as the messages they receive are tailored, with the name of the person. In addition, the guidelines sent via SMS are mixed with words of affection and encouragement, making the population feel special.

Conclusions

This work presented SMStopCorona, an app to coping COVID-19 pandemic. This app sends daily guidance via SMS text messages to the population, with prevention guidelines.

Preliminary results indicated feasibility of the project and good acceptance of the messages received by the participants.

Acknowledgements

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