

**CELL PHONE TEXT MESSAGES TO SUPPORT HOME ISOLATION OF SUSPECTED
CASES OF COVID-19**

**MENSAGENS DE TEXTO DE CELULAR PARA SUPORTE AO ISOLAMENTO
DOMICILIAR DE CASOS SUSPEITOS DE COVID-19**

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RESUMO

Objetivo: Relatar a experiência de uma intervenção educativa, usando mensagens de texto de telefonia celular, para suporte a pacientes com síndrome gripal (casos leves, suspeitos de Covid-19), que ensejam isolamento domiciliar. Métodos: Relato de experiência de ação de extensão de universidade pública, executada de outubro de 2020 a julho de 2021, no Ceará. Trata-se de uma intervenção educativa, realizada com 50 pessoas, usando o *Short Message Service* de telefonia móvel. O relato descreve a criação de banco de mensagens de texto de telefonia celular e o envio das mensagens para suporte ao isolamento domiciliar. Resultados: Elaborou-se 10 mensagens de texto, com informações sobre quando e como utilizar máscaras, higienizar as mãos, cuidados com objetos pessoais, limpeza de superfícies, comportamento intradomicílio, descarte de lixo e agravamento dos sintomas. O envio das mensagens ocorreu nas primeiras 48 horas depois do comparecimento à unidade de saúde, sendo 5 a cada dia, com intervalo de 2 horas entre elas. No 7º dia, o paciente recebeu ligação telefônica, avaliando os cuidados em relação ao isolamento domiciliar adotados. Orientou-se, em seguida, sobre as fragilidades identificadas. Considerações finais: As mensagens de texto foram úteis para oferecer suporte às pessoas que necessitam permanecer em isolamento domiciliar, por serem casos suspeitos de Covid-19. Pela necessidade de diminuir a transmissão da doença, oferecer informações corretas aos pacientes, para autogerenciamento do isolamento, parece ser estratégia que se soma às orientações dadas nas unidades de saúde, durante as consultas e/ou por teleatendimento.

Palavras-chave: Covid-19; Envio de Mensagens de Texto; Isolamento de Pacientes; Educação em Saúde; Telemedicina.

ABSTRACT

Objective: To report the experience of an educational intervention, using cell phone text messages, to support patients with flu-like illness (mild cases, suspected of Covid-19), who experience home isolation. Methods: Experience report of an extension action of a public university, carried out from October 2020 to July 2021, in Ceará. It is an educational intervention, carried out with 50 people, using the Short Message Service of mobile telephony. The report describes the creation of a cell phone text message bank and the sending of messages to support home isolation. Results: 10 text messages were elaborated, with information about when and how to use masks, hand hygiene, care with personal objects, cleaning surfaces, intra-household behavior, garbage disposal and worsening of symptoms. Messages were sent within the first 48 hours after attending the health unit, 5 each day, with an interval of 2 hours between them. On the 7th day, the patient received a phone call, evaluating the care taken in relation to home isolation. Then, he was guided on the identified weaknesses. Final considerations: Text messages were useful to support people who need to remain in isolation at home, as they are suspected cases of Covid-19. Due to the need to reduce the transmission of the disease, offering correct information to patients, for self-management of isolation, seems to be a strategy that adds to the guidelines given in health units, during consultations and/or through telecare.

Keywords: Covid-19; Text Messaging; Patient Isolation; Health Education; Telemedicina

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INTRODUCTION

The world lives in a scenario of ubiquity of cell phones. These became the main forms of distance communication for some time, due to the number of people who have them and the ease of access. Thus, it is not difficult to understand the reason for the interest in using these devices as a health resource. Even before the Covid-19 Pandemic in 2020, mHealth was a reality.

The World Health Organization (WHO) defines mHealth as a public health practice supported by mobile devices. There is potential to facilitate access to clinical diagnosis and treatment advice. Detailing the possibilities of use, the following can be cited: support for clinical diagnosis and/or decision making; improvement in the clinical outcomes of treatments, through behavior change and increased patient compliance and treatment compliance; acting as an autonomous digital therapy; and providing disease-related education⁽¹⁾.

In addition, mHealth has the potential to reduce waiting time for appointments and lessen the need to meet a health care provider face-to-face. Consequently, mHealth interventions have the potential to reduce the workload of professionals, be more economical for clinical practice and encourage self-care⁽²⁾.

One of the tools for implementing mHealth is the Short Message Service (SMS),

that is, sending text messages. Communication through this service is straightforward and fast and does not require participants to communicate simultaneously. It is a neutral form of communication, as it works on any cell phone, without the need for internet, making it easily accessible for many⁽³⁾.

In the context of the Covid-19 Pandemic, due to the need to reach many people, this technology can be used to support the care offered in health services. In this chapter, the intention is to share an experience of using SMS to support home isolation of suspected Covid-19 cases identified in Primary Care. This experience arose from the need for standardized and regular monitoring, so that users would not be “abandoned” after leaving the health unit.

It is verified, then, the relevance of the search for new strategies to support the health education of people with Covid-19 to improve the rates of adherence to home isolation, in addition to disseminating successful experiences in the use of these technologies, to encourage their incorporation into the offering care. It is believed that mobile telephony can complement the health care provided in health services, and can be integrated into the traditional offer of health care⁽⁴⁾.

Based on these premises, this study was developed with the aim of reporting the experience of an educational intervention,

using cell phone text messages, to support patients with flu-like illness (mild cases, suspected of Covid-19), who lead to isolation home.

METHODS

This is an experience report of an extension action, linked to a survey by the Health Sciences Institute of the University of International Integration of Afro-Brazilian Lusophony (Unilab), carried out from October 2020 to July 2021, in the municipality of interior of Ceará.

The action took place in a health unit where people who need testing are referred, as they are suspected cases of Covid-19. While they do not have laboratory confirmation, they are diagnosed with flu syndrome, a mild case, suspected of Covid-19. Although they are suspicious cases, such people require monitoring by primary care health professionals, every 24 or 48 hours, through telemonitoring, until the recommended period of home isolation is completed (if the test is positive or until the test is negative be informed).

This extension action was carried out by a team of ten people, professors and students from Unilab, on a weekly basis. People who attended the health unit were invited, who had: received a diagnosis of Flu Syndrome (suspected Covid-19 / mild case), with indication of home isolation; age 18 years or older; literate; mobile device for

personal use; could read text messages from their cell phones.

It was decided to divide this report into two parts to facilitate the understanding of the educational intervention. It consists of: 1) Creating a cell phone text message bank and 2) Sending text messages to support home isolation.

RESULTS AND DISCUSSION

Creating a cell phone text message bank

The preparation of text messages took place in the second half of 2020. A survey was carried out, in a document published by the Ministry of Health, of the information for this purpose. The document is the Coronavirus Clinical Management Protocol (Covid-19) in Primary Health Care - Version 9. In the publication, there is a list of 17 measures of home isolation and home care for all patients diagnosed with flu-like illness. they are divided into three purposes: patient isolation, caregiver precautions and general precautions⁽⁵⁾.

After this survey, the number of messages and the sending times were discussed, so as not to overload the patient with information. There should be enough time between messages for him to reflect on the information received. In addition, the sending of messages should take place during business hours (8-5 pm) and in the first days

after attending the health service, to take as much information as possible at the beginning of the isolation period and enable the application of what was learned until the end of this. Thus, it was decided to send 10 messages in the first 48 hours after attending the health unit, 5 each day, with an interval of 2 hours between them.

The elaboration of the messages proceeded, based on the guidelines contained in the Protocol, which was based on the WHO Technical Guidance - Patient Management - Coronavirus Disease 2019⁽⁶⁾. The 17 constant measurements were grouped into 10 isolation instructions, which were transformed into text messages, which contained 160 characters, counting spaces. All messages were preceded by a "Covid-19 research team", so that the patient could recognize the sender of the messages, even if he had not registered the

telephone number in his electronic address book.

The messages elaborated were submitted to the appreciation of three nurses, with a doctorate degree, professors of undergraduate courses in health at a public university, who carry out research in primary care. In the evaluation, they verified whether the content of the messages contemplated sufficient basic guidelines to maintain the isolation correctly and whether the language was accessible to anyone. They requested the replacement of some words by synonyms that were easier to understand. They also recommended numbering the messages, so that the recipient could understand the order in which they were received, in case of delay in sending by the cell phone operator. All requested adjustments have been made. The sending scheme and messages are presented in Table 1.

Table 1 - Search text message bank. Acarape, Ceará, Brazil, 2021. (To be continued)

DAY	TIME	MESSAGE
1	8h	[COVID-19 RESEARCH TEAM] 1. Avoid leaving the house, receiving visitors and having contact with pets. If you do, wash your hands before and after contact.
	10h	[COVID-19 RESEARCH TEAM] 2. Avoid contact with other people indoors. Stay in the airy single room with the door closed.

	12h	[COVID-19 RESEARCH TEAM] 3. Use a private bathroom. If not, always clean it after use with bleach or alcohol.
	14h	[COVID-19 RESEARCH TEAM] 4. Towels and personal hygiene utensils should not be shared with others in your household.
	16h	[COVID-19 RESEARCH TEAM] 5. Avoid sharing objects indoors. Used dishes and clothes should be washed as usual.

Source: The authors

Table 1 - Search text message bank. Acarape, Ceará, Brazil, 2021. (Conclusion)

DAY	TIME	MESSAGE
2	8h	[COVID-19 RESEARCH TEAM] 6. Wash your hands frequently with soap and water for 20 seconds or use alcohol gel.
	10h	[COVID-19 RESEARCH TEAM] 7. Avoid touching your eyes, nose and mouth with dirty hands. Everyone who lives with you should enforce hand hygiene.
	12h	[COVID-19 RESEARCH TEAM] 8. Wear a mask whenever you come in contact with other people. When coughing or sneezing, cover your mouth with your arm or a tissue, then throw in the trash.
	14h	[COVID-19 RESEARCH TEAM] 9. Place all trash, including Kleenex and masks, in a bag and close it when full, then place it in another tightly tied bag.
	16h	[COVID-19 RESEARCH TEAM] 10. Watch for symptoms. In case of aggravation, go to a health facility wearing a mask at all times. Maintain all care for 14 days or until confirmation of negative test.

Source: The authors.

The format of the text messages followed the SMS policy for members of the healthcare workforce. This policy defines the strategy as sending 160-character text messages, via mobile phone or web-based interface, to one or more mobile phone recipients. As an administrative precaution, the shipment must be consented, documented and not contain the recipient's first/last name in the body of the text. The policy defines as a good practice the short and concise text, so that the 160 characters are kept, avoiding transition to two messages⁽³⁾.

A test message was also prepared, to be sent at the time of approaching the patient, to find out if he knew how to use the SMS from his own cell phone and to provide him with the opportunity to save the research team's telephone number, if he wished, which would send the 10 messages from the next day. The message was "[COVID-19 RESEARCH TEAM] Test message for survey participation."

Elaborated from the Protocol⁽⁵⁾, the 10 messages have content intended to encourage the development of skills for self-management of home isolation in a simple and effective way. The messages cover information about when and how to use masks, hand hygiene, care for personal items, cleaning surfaces, indoor behavior, garbage disposal and worsening of symptoms.

For patients with suspected Covid-19, as they are a mild case of flu-like illness, it is

important to encourage self-management of isolation, as there will be no physical presence of the health professional until the end of home isolation (except for monitoring phone calls every 24/48h). Thus, it is necessary to use a care strategy that is centered on the person, so that they can understand their participation in care, in order to avoid transmission of the disease within the home or to other people outside the home. The messages provide knowledge in a non-invasive way, which integrates with what the patient already knows and allows conscious decision-making. The scientific literature recognizes that stimulating these skills leads to improved self-efficacy⁽⁷⁾.

Sending text messages to support home isolation

Upon completing the flow of care at the health unit for people with suspected Covid-19, the patients were approached by team members, who invited them to participate. With the consent (registered and documented) in a reserved place, the participant answered a registration form with basic data (name, cell phone number for contact, neighborhood of residence). The test message was sent and the participant was asked to look for it on the cell phone and read it.

Still at the health unit, the member of the action team talked to the participant about

the care in relation to home isolation adopted since the symptoms started. The responses were registered in a pre-intervention assessment instrument. As of June 2021, 50 people have responded to this instrument.

The same person who approached the participant at the health unit sent the text messages, scheduling them to be received at the planned times. In order to assess how care was being implemented and whether there was a need to reinforce any information about care with home isolation, on the 7th day after attending the health unit, a person other than the one who approached the patient at the unit made a phone call for him, asking how he was feeling, how were the days after attending the health unit and evaluating, again, the care in relation to home isolation adopted, however, referring to the period after the visit to the health service. After recording the answers on a form, the team member explained the points he found not adopted by the participant.

It is important to emphasize that the intervention was also intended to favor the dissemination of information. The call on the 7th day, even when the isolation period ended for some people, served to clarify doubts and reinforce correct behaviors, which could be shared by them with other people. This indirectly contributes to reducing the spread of the disease, as it is correct information, which can be shared with family, friends, neighbors and in the work environment.

It should be remembered that sending text messages is a support strategy, not a substitute for the care offered at the UBS, in person or by telephone service, on a spontaneous demand, after the appearance of the first symptoms. Consultation with the health professional is still necessary, for evaluation, diagnosis (of flu syndrome or Covid-19 confirmation) and for follow-up by phone calls, until the end of the recommended period of isolation in the home.

Every support strategy is added to the care offered at the UBS by the Family Health teams. This is because individual clinical care remains essential to guide suspected cases regarding isolation and recognition of warning signs, identify patients who cannot be cared for at home, monitor suspected cases regarding clinical evolution, perform telecare for more complex cases and request removal to a hospital unit when identifying signs of aggravation⁽⁸⁾.

FINAL CONSIDERATIONS

In the experience report presented, it was found that the SMS was a useful tool to support people who need to remain in home isolation, as they are suspected cases of Covid-19. Due to the need to reduce the transmission of the disease, to offer correct information to patients, so that they can make conscious decisions for self-management of isolation, it seems to be a strategy that adds to

the guidelines given in health units, during consultations and/or via telecare.

The text message bank created reflects the content of the guidelines contained in a document published by the Ministry of Health, but is not intended to replace the care offered in primary care for patients with suspicion or confirmation of Covid-19. Serves exclusively for support. It consists of 10 text messages, which deal with how to use masks, sanitize hands, care for personal objects, cleaning surfaces, indoor behavior, garbage disposal and symptoms.

Although its use is limited, in this experience, only in the context of primary care, it is believed that its use can occur in any health scenario in which information for respiratory symptomatic patients who need home isolation need to be reinforced. Another limitation is the natural history of the disease, which is still ongoing. Information contained in the messages may need to be adjusted in the future in case of changes in the recommendations of national and international health agencies. However, for the Covid-19 Pandemic situation known so far, the contents of text messages contribute to preventing the spread of the disease and, therefore, its control.

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