

WhatsApp use in a health education group with women

Uso do WhatsApp em um grupo de educação em saúde com mulheres

Uso de WhatsApp en un grupo de educación en salud con mujeres



Ellen Letícia da Silva Ribeiro^a

Ana Maria Nunes da Silva^b

Priscilla Shirley Siniak dos Anjos Modes^a

Sonia Silva Marcon^c

Jeane Cristina Anschau Xavier de Oliveira^a

Áurea Christina de Paula Corrêa^d

Maira Liliane dos Santos Pereira^a

How to cite this article:

Ribeiro ELS, Silva AMN, Modes PSSA, Marcon SS, Oliveira JCAX, Corrêa ACP, Pereira MLS. WhatsApp use in a health education group with women. Rev Gaúcha Enferm. 2023;44:e20220232. doi: <https://doi.org/10.1590/1983-1447.2023.20220232.en>

ABSTRACT

Objective: To analyze the use of Information and Communication Technologies and the interaction in a health education group with women on WhatsApp.

Methodology: Descriptive-exploratory, qualitative research with mothers assisted in two Basic Health Units in Sinop – MT, part of a University Extension Project that used three health education strategies (“G-Day”, “Health Tips”, and “Educational Video”) and project team members. Data were collected between October and December 2021 from messages in the WhatsApp group and submitted to Thematic Content Analysis.

Results: Two categories were identified, showing the information provided by the team and specific information requested by the mothers; the doubts expressed by the mothers mobilized the communication-interaction among the participants and little to no interaction was provoked by the health information contained in the educational strategies used.

Final consideration: WhatsApp proved to be an important resource/strategy in communication-interaction for health education with women.

Keywords: Information technology. Health education. Women’s health. Primary health care.

RESUMO

Objetivo: Analisar o uso de Tecnologias de Informação e Comunicação e a interação em um grupo de educação em saúde com mulheres no WhatsApp.

Metodologia: Pesquisa qualitativa com mães pertencentes a duas Unidades Básicas de Saúde de Sinop – MT incluídas em um Projeto de Extensão que utilizou estratégias educativas em saúde (“Dia G”, “Dicas em saúde” e “Vídeo Educativo”) e membros da equipe do projeto. Os dados foram coletados entre outubro-dezembro de 2021, a partir das mensagens no grupo de WhatsApp e submetidos à Análise de Conteúdo Temática.

Resultados: Foram identificadas duas categorias, as quais mostram as informações disponibilizadas pela equipe e as solicitadas pelas mães pontualmente; que as dúvidas manifestadas pelas mães mobilizaram a comunicação-interação entre os participantes e que pouca ou nenhuma interação foi suscitada pelas informações de saúde contidas nas estratégias educativas utilizadas.

Considerações finais: O WhatsApp mostrou-se como importante recurso/estratégia na comunicação-interação para educação em saúde com mulheres.

Palavras-chave: Tecnologia da informação. Educação em saúde. Saúde da mulher. Atenção primária à saúde.

RESUMEN

Objetivo: Analizar el uso de Tecnologías de Información y Comunicación y la interacción en un grupo de educación para la salud con mujeres en WhatsApp.

Metodología: Investigación cualitativa con madres pertenecientes a dos Unidades Básicas de Salud de Sinop – MT incluídas en un Proyecto de Extensión que utilizó estrategias educativas en salud (“Día G”, “Consejos de Salud” y “Video Educativo”) y miembros del equipo del proyecto. Los datos se recopilaron entre octubre y diciembre de 2021, a partir de mensajes en el grupo de WhatsApp, y se enviaron al Análisis de contenido temático.

Resultados: Se identificaron dos categorías que muestran las informaciones puestas a disposición por el equipo y las solicitadas por las madres específicamente; las dudas expresadas por las madres movilizaron la comunicación-interacción entre los participantes y poca o ninguna interacción suscitaron las informaciones de salud contenidas en las estrategias educativas utilizadas.

Consideraciones finales: WhatsApp demostró ser un recurso/estrategia importante en la comunicación-interacción para la educación en salud con mujeres.

Palabras clave: Tecnología de la información. Educación en salud. Salud de la mujer. Atención primaria de salud.

^a Universidade Federal de Mato Grosso, Curso de Enfermagem. Sinop, Mato Grosso, Brazil.

^b Universidade Federal de Mato Grosso, Faculdade de Enfermagem. Cuiabá, Mato Grosso, Brazil.

^c Universidade Estadual de Maringá, Programa de Pós-Graduação em Enfermagem. Maringá, Paraná, Brazil.

^d Universidade Federal de Mato Grosso, Programa de Pós-Graduação em Enfermagem. Cuiabá, Mato Grosso, Brazil.

INTRODUCTION

The context of the COVID-19 pandemic, marked by the closing of several non-essential services, social isolation and quarantine, highlighted the importance of Information and Communication Technologies (ICTs) for the continuity of various activities in health services, especially for monitoring the health conditions of users and the development of Health Education actions⁽¹⁾.

ICTs are a set of integrated resources, with the aim of stimulating and disseminating knowledge, through the use of sounds, images and texts, using radio, telephone, television, cable and fiber optic networks and computers⁽²⁾. Within the scope of ICTs are mHealth technologies, which are part of a branch called electronic health (eHealth), which, with the help of technologies and mobile communications, provides information related to health care to its users⁽³⁾. Mobile health (mHealth) promotes medical/healthcare practices supported by mobile devices (such as mobile phones, patient monitoring devices, personal digital assistants) and other wireless devices⁽⁴⁾.

Despite some challenges in its use such as: mobile network or wi-fi not available, distraction or diversion of attention to other media, superficial, manipulated, unreliable or false information and lack of interpersonal contact⁽⁵⁾, mobile applications ("App" - standalone software coded for a specific purpose and generally optimized to run on a mobile device)⁽⁶⁾, are very useful in health education, for speed up and enhancing communication between health professionals and users, shortening distances and providing safer information. Consequently, they favor the quality of self-care, the empowerment of subjects and the safer monitoring of health-disease processes⁽⁵⁾.

The presence of new technologies is a reality, and they have been used as a tool in the process of synthesis, dissemination and application of knowledge. The transformation of knowledge into action benefits the improvement of users' health, the provision of more effective services and products, and the strengthening of the health system⁽⁷⁾.

Among the applications used on mobile devices, the most used in the health area are Telegram⁽⁸⁾, Kakaotalk⁽⁹⁾ and WhatsApp⁽¹⁰⁾. Particularly the latter, used worldwide and known as a multiplatform instant messaging app, allows the sending and receiving of various media files: texts, photos, videos, documents and location, as well as voice calls⁽¹¹⁾,

enabling thousands of people to access diverse information, including in the health field, quickly, easily, and conveniently.

Studies on the sharing of health information by WhatsApp, point out that it can be carried out from relationships established between professional-patient⁽¹²⁾ or in groups^(13,14), the latter being commonly constituted by users and health professionals. In this context, a research conducted with people with HIV accompanied in a specialized care service in Ceará, Brazil, highlighted the potential of WhatsApp to clarify doubts and promote adherence to treatment⁽¹²⁾.

In the context of Primary Health Care (PHC), a study conducted with rural population from the hinterland of Pernambuco highlighted the potential of this technology in the construction of knowledge, interaction and approximation between health professionals and the local population⁽¹³⁾. In this same direction, another study pointed out that the WhatsApp group provided integration-approximation of health professionals with pregnant women, which was essential for them to be assiduous and confident in nursing consultations. It also made it possible to strengthen the bond between pregnant women, as they helped each other and exchanged experiences and learning, resulting in more safety and support during pregnancy⁽¹⁴⁾.

However, despite the positive aspects of the use of WhatsApp in health practices, there are gaps in the development of field research addressing this issue, since the existing ones are usually of the Experience Report type. In addition to this fact, there are few studies involving women (pregnant women, mothers and puerperal women), health professionals and academics; studies that consider the perspective of all those involved; or studies that determine how the exchange of knowledge/experiences and the interaction between group members takes place.

Thus, the present study conducted with women, health professionals and academics participating in an educational WhatsApp group constituted from a University Extension and Research project can contribute to overcoming some gaps.

The project "nest of care: before, during and after birth" was created in 2017 with the aim of developing educational practices related to the health of women (pregnant, postpartum, mothers), newborns, children and companions in a basic health unit (UBS) in the municipality of Sinop, Mato Grosso. The WhatsApp group "Mothers nest of care" was established in the same year, to disseminate information about the activities of the project.

However, in 2020, in the context of the COVID-19 pandemic, the project fully assumed the virtual modality, with the approach and inclusion of new members in the WhatsApp group. Among the planned actions were online orientation by nurses and psychologists; implementation of educational strategies in health; and socialization of contents of mother and child studies in the social networks of the project.

The fact that the University Extension Project can be executed only online, without any face-to-face contact between its participants, raised the need to discuss and disseminate the possibility of using a virtual technology for health education and the quality-of-care actions for women in PHC services, including the communication-interaction established.

Thus, the present research aimed to analyze the use of Information and Communication Technologies and the interaction in a health education group with women on WhatsApp.

■ METHODOLOGY

This is a descriptive-exploratory research, with a qualitative approach, developed with the members of a WhatsApp group created during the development of the University Extension and Research Project "Nest of care: before, during and after birth" that which used as a conceptual basis the praxiological model of communication⁽¹⁵⁾.

This model focuses on the centrality of praxis, that is, on interaction in the social space, showing that people constitute and are constituted by language. Communication allows the opening for the new, built together with otherness. Thus, for the praxiological model "communication is essentially a process of organizing shared perspectives, without which no action and interaction become possible"⁽¹⁵⁾.

By focusing on communication, one does not disregard social structures or institutions, in short, configurations that go beyond the interactional moment. The asymmetry of interactions, linked to social structures of class and power, is also not underestimated⁽¹⁵⁾.

At the time of data collection, the WhatsApp group "Mothers nest of care" had 63 members, 50 users belonging to two BHUs in the city of Sinop - MT and 13 members of the extension project (two nurses, two psychologists and nine nursing academics). Of the 63 members, only 16 (eight mothers and eight team members) expressed interest in participating in the study. It is noteworthy that all members

were able to remain in the WhatsApp group, but for the study, only those who agreed to participate in it were considered.

For data collection, the activities carried out and the communicative exchanges registered in the WhatsApp group, in the months of October to December 2021, were considered. During these three months, three educational strategies were used ("tips in the Zap", "G Day" and "educational video"), which aimed at the dissemination and socialization of Health Information and communication-interaction between the group participants.

The "Zap tips" were made available five times, on Mondays (during October and November). The content was prepared by the researcher, teachers and students of the project team, based on issues addressed by the mothers in the WhatsApp group. Initially the project team shared an image and a question related to the topic that would be addressed. Then a time of approximately 4 hours was allocated for the participants interaction and only after this time the project members provided detailed information on the theme of the day. The subjects addressed through this strategy were: neonatal exams, mucous plug, dyschesia, Blue November campaign and about the week to combat congenital syphilis. The last two themes were proposed by the project team.

The "G-Day" referred to the approach to the topic of pregnancy, with the purpose of offering information on fetal development and physiological changes during pregnancy. Nine images were used with photos of gestational development month by month. Publications took place on Thursdays in the period from October to the third week of December.

The educational video, consisting of two parts, was made available to the group only once in December. The first part, lasting 29 seconds, presents a problem situation with the participation of a volunteer user, who fictitiously dramatized difficulties in caring for her baby's umbilical stump. The objective was to promote a debate among the participants and identify the knowledge they had on the subject. The second part, lasting 04 minutes and 47 seconds, consists of guidelines on umbilical stump care, based on the doubts presented in the problem situation.

The corpus of the analysis was constituted by the characterization data of the participants (users and members of the project) and the messages shared in the WhatsApp group.

The characterization data of the participants were obtained through an instrument available in "Google Forms". The instrument consisted of three parts: a) Identification Data

(Age, educational level, marital status and work situation), b) obstetrics variables (pregnant or not; whether you have children or not; if so, how many; what age of the children and whether you have a support network for their care) and c) use of WhatsApp (time of use of WhatsApp, whether you read the messages sent in the group and whether the doubts sent were resolved, not resolved or partially resolved). A link to access the instrument was sent by private message on WhatsApp of the research participants. These data were transported to an Excel spreadsheet and analyzed descriptively.

The corpus of qualitative analysis consisted of written messages, emojis, and stickers, which were archived by prints of the screens, as well as audios that were transcribed in full.

All material was submitted to content analysis, thematic modality, following the three proposed stages: pre-analysis; exploration of the material or coding; treatment of the results, inference and interpretation⁽¹⁶⁾, having emerged two thematic categories: *"The doubts of mothers as mobilizers of communication-interaction"*, with two subcategories (*"What were the doubts?"* and *"by which participants were doubts heard and resolved?"*); and *"Timely " health information, with little or no communication-interaction between participants"*, also with two subcategories (*"Information made available by staff members"* and *"Information requested and/or made available by mothers"*).

The development of the study followed the guidelines from resolutions 466 of 2012, 510 of 2016, and 580 of 2018. The research protocol was approved by the Research Ethics Committee of the signatory institution (CAAE: 49532821.7.0000.8097. Opinion No.4,900,165). To guarantee the anonymity of the participants, the letters M were used to identify the mothers and P to designate the members of the project.

The link to access the Informed Consent Form (ICF) and the characterization instrument in "Google Forms" were made available in the WhatsApp group. Access to the data collection instrument and printing of the ICF was only possible after explicit expression of agreement to participate in the study.

RESULTS

The eight users participating in the study were already mothers, four were married, three were single, and one in a stable union. They ranged from 18 to 37 years, four had high school education, two higher education, one incomplete high school education, and one incomplete elementary school education. Only four were engaged in paid activity and one was pregnant (24 gestational weeks). The number of

living children ranged from one to six, ranging in age from 1 month to four years. Only four mothers reported being able to count on a support network in caring for their children, which included a nanny, parents, mother and husband. The Daily Usage time of WhatsApp ranged from one to 12 hours. All mothers said they read the group's messages and five said the doubts they expressed in the group were resolved.

The four professionals who integrated the research were married and were between 27 and 37 years old and the four students were single and were between 22 and 24 years old.

Mothers' doubts as mobilizers of communication-interaction

The doubts of the participating mothers presented themselves as important mobilizers for communication-interaction between the participants of the group. In the sequence of the text are presented what the doubts were and by whom they were answered (by the mothers themselves, by the project team or both).

What were the doubts?

Because it was a group focused on the maternal and child area, the doubts were mainly around the area, although not only. Maternal health the questions dealt with breastfeeding, labor and delivery and the use of contraceptives.

Particularly from breastfeeding, the questions were: modifications in the breast (appearance of stretch marks in the breasts), types of breastfeeding, "descent" of milk, complications (breast fissures and incorrect grip), storage of breast milk, use of medications during breastfeeding and influences of emotions during the breastfeeding process. For example, in the report below, the mother exposes the difficulties experienced regarding the subject:

Is there another way for a child to drink milk? I've tried bottle, syringe, Cup. I put it in his mouth he didn't swallow, he holds it a little and then spits it out and laughs I don't know if I get angry or if I laugh along. (M3)

Regarding reproductive planning, mothers especially questioned the correct use of contraceptives.

People I'm taking the contraceptive that C. [name of Doctor] told me to, but she couldn't explain it, I think it's because she didn't had the time. I wanted to know because I'm already finishing the first cycle and I received

two packs [...] finishing the first card, I go straight to second or I have to wait a period, I heard that we have to wait a period and I never took this medicine. (M3)

And finally, regarding childbirth they asked about the types, the loss of the mucous plug and the experiences of other mothers.

The doubts of the mothers were mostly directed to the health of their children, they were about vaccines (when to administer BCG and side effects), food (appetite stimulation), teething, clinical manifestations of the “hand-foot-mouth” Syndrome, Alopecia and umbilical hernia, use of medications / substances (vitamin A, vermifuges and repellents), neonatal exams (neonatal screening), as in the following statements:

Girls my baby is allergic. If mosquito get him, it looks like this [photographic record]. Can I use repellent on it? (M8)

Good afternoon, about the vitamin, from the age of six months, I just go to the basic health unit? (M2)

It is noteworthy that depending on the children’s complaint, the mothers shared their doubts in writing and/or complemented by photos or audios. In the situation reported below, the mother asks if she can be performing inhalation on her daughter of only one month and then shares an audio of the baby’s breathing:

Good morning, can you do inhalation in a baby with a month? She has a stuffy nose and throat. Snores, has discomfort and when I wash her nose, she pukes secretions. But washing alone does not seem to be enough, it helps, but not for long. (Audio of the baby breathing with difficulty and with the caption) - She is very bothered, and this change of weather worsens. I don't know what to do. (M1)

The photos were also constituted to clarify the doubt, especially in cases of skin lesions by mosquito bites, fungi (Mycoses) or that they related to heat.

In addition to questions specifically related to maternal and Child Health, there were questions, for example, related to the father/ husband. Participating mothers asked the group if they could be participating at the time of delivery due to the pandemic or if their partner had not yet received the covid-19 vaccine.

Finally, there were situations in which the doubt was privately expressed to a member of the project, not being shared in the group:

Hi, can any Nurse call me in private and help me? (M6)

In the above case, the mother noted that after retracting the baby’s foreskin during bathing, it did not return to its original position. After successive unsuccessful attempts, she contacted the project team and the shared photo showed edema and redness at the site. After welcoming and calming the mother, the nurse advised her to seek a pediatric emergency service.

By which participants were doubts heard and resolved?

In some situations, only the team member interacted with the mother, seeking to resolve the doubt presented. In most cases, more than one member collaborated to answer the question, complementing the question and thus expanding the quality of the information.

When the project team member felt the need for better clarification about the participant’s doubt, he / she asked more questions to the participant in the group or in private. Still, sometimes, to obtain more information about the doubt, the team member looked for the other members of the project and/or reliable sources of data (books, scientific articles, websites of health entities, etc.), before communicating again with those who questioned her.

There were situations that demanded greater attention from the project team, with more frequent monitoring being carried out in private or in the WhatsApp group, according to the health need presented by the mother, such as preterm labor:

How are you? (P2)

I went to the doctor, he said that I was going into premature labor, but I already took an injection to mature the baby's lung and I'm losing blood now we need to wait. (M5)

Could you hold the baby a little longer? [Two days later]. (P2)'

Hi good night, today I took the second injection to strengthen the baby's lung and the bleeding cut a lot. I'm taking medicine to cut the pain and hold the baby, I'm fine thank God. Today I completed 33 weeks, I'm doing a lot of rest, but I'm much better. (M5)

Best wishes to you and we are here cheering for you. (P2)

Yes it was a big scare this weekend, but thank you very much for the support and affection of all of you. (M5)

The project team commonly used more technical language in relation to mothers, in order to scientifically support the guidelines and, therefore, provide updated and safe information. On the other hand, it was found in the records of mothers' conversations with other mothers that they commonly proceeded from experiences experienced by them, sharing their stories and opinions, bringing a sometimes more informal approach.

For example, on the occasion that the mother reports that her child has the flu, and she would like to know about any medication that she could be giving to the baby. Other mothers shared their tips (pharmacological or not) to treat the cold. They informed what they used when their children were in the same situation, promoting an exchange of experience between them.

Good afternoon girls. My baby is 6 months old and has the flu, I would like to know if there is any medicine that I can give him? (M7)

My son is like that too. I am making chamomile tea and bathing him in it with warm tea. Washing his nose every 2 hours. I also give him some herbal tea (mint, orange peel, lemon, with papaya and mango leaves) and I always try to pass vick's vaporub on his chest and back. Buy a jar of vicks at the pharmacy (name of Pharmacy) in front of the bus station. (M3)

Inhalation with saline solution is also good. (M8)

Finally, some questions were answered by both (project team members and participating mothers). In this case, the knowledge of the professionals and that of the participating mothers complemented each other. In case of erroneous or incorrect information in the mothers' statements, the presence of the project team members in the group also ensured the sharing of up-to-date and scientifically proven information.

The technical-scientific knowledge of the team members proved to be useful in identifying risk factors and / or situations that required referrals, giving a better direction to the mothers participating in the group. As in the speech below in which the pregnant participant mother sent a photo of a bloody discharge and reported and that she was having contractions and was a little worried:

I'm at 33 weeks last Tuesday. I felt a contraction all day, but it passed, it was fine, but today I went to take a shower

and a little blood came out. What should I do? For now, I'm not feeling anything. What do you think I should do? (M5)
Goodnight!! I think you should go to the doctor and ask for an ultrasound. (M4)

I believe it could be the mucous plug even if it was as you mentioned. If you experience pain and lose blood or fluid, I recommend that you see a doctor. (Q3)

“One-off” health information with little to no interaction between participants

In this category, specific information is presented, who and what means were used to disseminate it and how the interaction between those involved was processed through them.

Information provided by team members.

Educational strategies such as “G-Day”, “Health Tips” and educational video were proposed as a means of not only informing, but socializing and fostering communication-interaction in the group, which in fact did not occur exactly in the terms proposed.

It is noteworthy that no speech was recorded by the participating mothers after sharing information from the educational strategy entitled “G-day”. Among the “health tips”, only the one referring to neonatal exams recorded the speech of a participating mother:

Hi, good night. Ein, I only did the neonatal screening and I still have to do the ear and heart exams. Here in Sinop, what is the place they that? (M2)

The neonatal screening is done in the health unit itself. The heart exam you do in the Maternity Hospital before you are discharged. The ear and eye exams you need to go to the unit, get a PAC, which is a referral and then they will give you a number, where you call to do the exams. If you don't do it in the unit due to lack of equipment, they refer you to do it in the [Name of Reference Service]. (Q1)

Regarding the educational video, the fact that only one mother interacted with the publication drew attention again. Plus, this interaction was only in the first stage of the methodology. The participating mother answered about the way she believed to be correct to proceed with the hygiene of the stump.

Take off this green leaf, I see no need to wash with water and pass alcohol. Dry the belly button. Do not put anything around it either. (M1)

Facebook Instagram posts from the Extension Project on maternal mental health, postpartum self-acceptance, gestational loss and “your motherhood is unique” were also socialized in the WhatsApp group. However, despite the encouragement of mothers to communicate, from the sharing of publications, there was no manifestation of mothers in the group.

Unlike the aforementioned issues and directly related to a health issue, the sharing of information by a member of the group was highlighted, through an image of a promotion of diapers from a pharmacy in the municipality, which motivated an interaction.

What site? (M1)

On the pharmacy website. You buy it with the sale price on the site and pick it up at the store. (P2)

Specific information provided and / or requested by participating mothers

The requests for information by the participating mothers commonly dealt with the contact, routines and actions offered by the health units of their reference, as in the statements transcribed below:

Hi guys, does anyone know if the health unit (BHU II) is working today? (M3)

Hi, good morning. The BHU is closed today and tomorrow. (P5)

Good Morning, does anyone know if the BHU II is having 04-month vaccinations? (M3)

I went there yesterday and was vaccinated. (M8)

In the context of the COVID-19 pandemic, requests for information related to vaccines for children stood out, especially regarding the age group for vaccination and its scheduling.

The participating mothers also frequently demanded the appointment of doctors and specialized clinics, as well as telephone numbers and appointment times of other health services. Transport app phones and taxi orders were also requested.

Can someone refer me to an ophthalmologist? (M2)

Clinic [name of clinic], Ophthalmologist [name of professional]. Schedule with C. Say that [name of team member] indicated. (Q1)

Great, thank you. (M2)

This Uber lives in which neighborhood? (M3)

He's from America, but send a message to him. (M5)

Thanks. I'll schedule it here. (M3)

You are welcome. (M5)

Finally, the participants used the WhatsApp group to provide information about the products they sold (beauty products, clothing and food) and/or request for the products they wanted to buy (e.g. baby walker).

Girls I'm selling panties when someone need it let me know in private. Thanks. (M1)

Goodnight. Someone knows to inform me if anyone has a Walker selling or donating or lending. I needed it until my daughter can walk. Then I'd give it back. (M4)

However, it is recorded that there was no type of interaction between the participants in front of this type of information.

■ DISCUSSION

From the relational perspective of communication, the findings of this research allow us to reflect on the use of ICTs and the interactions between mothers and members of the extension project in the virtual space of WhatsApp. As already pointed out, communication is understood as a process of social construction, which occurs in the interaction of the interlocutor subjects and says both symbolic exchanges and the context⁽¹⁵⁾.

From the chosen perspective, the conversations produced in the virtual space of the WhatsApp group are presented as communicative acts, since they do not occur in isolation or displaced from the context in which the interlocutors are inserted^(15,17). Therefore, the conversations and interactions of mothers and project members reflect important aspects of the socio-historical context in which they live.

In this context, it was observed that the doubts of the mothers exposed about their living conditions, needs, priorities, knowledge, perceptions, experiences, among other aspects of the reality of each of them. The mothers' doubts

were mainly about issues related to their own health and/or that of their children, although not only. These were also identified as the main mobilizers of communication-interaction between the participants.

It is inferred that although the project team prioritized topics that they considered of interest to the participants and proposed educational strategies in health to promote communication-interaction with mothers, they were not significant to the reality and/or moment in which the mothers were experiencing, since communicative exchanges and interactions were few or nonexistent. Even specific health information provided by some mothers does not seem to have found resonance in the context lived by the others, because they were also, in a certain way, ignored.

A study related to the (de)mobilization of collective action also says that human behavior is influenced by the emotional and situational dimension and derived from the relationships between the subjects and the historical context experienced. Thus, the mobilization of the subjects for some action will be directly related to the rational dimension and the perceptions of risk and needs of these individuals. These perceptions will mobilize or demobilize subjects for action⁽¹⁸⁾. That is, it is expected that themes that deal with the daily lives of these women and that awaken and mobilize them to solve practical problems of their day to day promote action and interaction between them and perhaps between them and health professionals.

Regarding the statements of the team members, it is not ignored that these also reflect their reality, including, here, the knowledge and worldviews linked to their academic training in the health area. Therefore, the team's speech highlighted the incorporation of technical-scientific aspects, in relation to the mothers' speeches, always in the sense of scientifically justifying certain behaviors and/or guidelines, based on updated scientific evidence and that offer security to mother and baby.

Research aimed at analyzing the scientific and popular knowledge of nurses and users in home visits in Family Health also found that professionals feel the need, or even the obligation, to guide the use of scientifically proven practices, considering them safer and more up-to-date. In situations where popular knowledge involves beliefs that may be dangerous to health, scientific knowledge modifies erroneous conceptions about care. Considering the different forms of knowledge, these need to dialogue with each other, so that the complementation of knowledge occurs⁽¹⁹⁾.

Thus, the concept of knowledge translation helps in defending the non-imposition of knowledge by a scientific

authority, but as an aggregating interaction between various knowledge and actors involved in the process. Still, in the translation of knowledge, it is believed that there is no hierarchy that confers the superiority of one form of knowledge over another⁽²⁰⁾. Thus, it was found that by aggregating the different knowledge, experiences of the participants of the WhatsApp group, the possibilities of answers to the questions brought by the mothers were expanded.

The second aspect, within the relational perspective of communication, is the understanding of people as active interlocutors, responsible for the construction of the social world and interaction. Thus, as active interlocutors, they are modified and modify the reality they share⁽¹⁵⁾. In this context, it was found that when confronted with a health doubt, mothers use what they have at hand, in the expectation of resolving them, placing themselves, therefore, as active in the process. Among the resources chosen by them, the WhatsApp group is highlighted as a means of access to health information.

Particularly WhatsApp, as a technological resource, has an important role, since its characteristics allow interaction, independent of spatiality and temporality. It is important to note that interactions may not yet be limited to group participants, since they can share information in other spaces⁽¹⁷⁾.

Health professionals are using WhatsApp to promote interaction and communication with their peers and subordinates, because although it is not a legal means of communication, it favors and streamlines the work process⁽²¹⁾. In the context of the COVID-19 pandemic, it has been used for communication with diverse patients and in the maternal and child area specifically, as a space for mediation of online socio-educational actions with pregnant women⁽²²⁾. has also been used in telenursing service in the form of teleorientations to support the promotion of maternal health during the COVID-19 pandemic⁽²³⁾ in monitoring people with respiratory symptoms⁽²⁴⁾, which has brought people closer together and shortened the time-space relationship.

Of the features of WhatsApp, the possibility of using different formats to publicize the themes is also added, which enriches the messages⁽¹⁷⁾. WhatsApp allows the use of images and sounds complementary to speech, which proved to be something interesting and important to better explain the mother's doubt about her own health or that of her baby.

Playful resources, such as images and explanatory videos, can be used to mobilize new forms, models and attitudes, promoting learning and improving personal health. Audiovisual strategies develop multiple perspectives, require imagination, and promote emotional meaning to learning. They present

synthetic languages that combine sounds, images, speech and small amounts of text, helping individuals to understand complex ideas in a more accessible way⁽²⁵⁾.

Particularly, in this research, considering the characteristics of WhatsApp, it allowed to receive guidance, resolve doubts, interact among participants, exchange experiences, knowledge and needs, ensure scientifically based and updated information and identify risk situations, anticipating behaviors for a good maternal and child prognosis. In addition, to shorten the distance-time relationship that would be dispensed by mothers to travel to the services, facilitating access to information by a health professional, who congregated the same virtual space, with other professionals, academics and mothers.

Many people seek to clarify their doubts by accessing internet pages that may present information without scientific justification but can be documents aimed at health professionals whose language and technical terms used favor erroneous interpretations. In this context, health education, mediated by health professionals through the production and dissemination of technical-scientific knowledge in a simple language, has had a significant impact and change in life habits, subsidizing the understanding of health-disease processes and self-care⁽²⁶⁾.

Health education using ICTs provides a more favorable environment for various forms of expression, facilitates communication and contributes to health education, and consequently to the improvement of people's health and living conditions. Health technology has a wide reach and influence and is ideal for providing information about healthy behaviors. In this context, eHealth can complement and enhance health promotion messages. However, its tools should be designed to complement other health communication channels, be user-friendly for health professionals, and communicate effectively with different users⁽²⁷⁾.

Thus, attention is drawn to the importance of not only studying the characteristics of technologies, but also the interactions made possible by their advances. Also, the perspective at the simultaneity of the "virtual" and the "real", which are not separated, because both, in conversations are built from the subjects and the reality in which they live.

■ FINAL CONSIDERATIONS

The articulation of different participants (users, health professionals, academics) in the group, the consideration of the health needs of each mother and her children, and

the appreciation of the experiences and knowledge of the other, proved to be important aspects to be considered also in an online health educational group.

It is necessary, even in online spaces, to search for an increasingly accessible and approachable language between health professionals and users of Health Services. Also, the exploration of other strategies that allow greater communication and greater interaction between group participants.

Nursing, as professionals accountable for the quality of maternal and child health care, should be instrumentalized for health education practices that foster communication and interaction among its participants, with online technologies as collaborators in this direction, as evidenced by the findings of this research.

As limits of the research, we can mention that the WhatsApp group was composed of 63 members and only 16 participated in the research. Therefore, some statements could not compose the set of empirical analysis material. Also, exclusively online contact may have limited the expression of other statements by the participants; this, in that context, was impossible to avoid, given the overwhelming need for social isolation.

The WhatsApp application is pointed out as an important communication, interaction and support technology for women and their children. We suggest that further research should evaluate online health education groups from the perspective of their members, in addition to new technologies and online strategies that promote communicative and interactive health education, and research that analyzes integrated practices of health education in the face-to-face and virtual modality.

In all the proposals mentioned above, the communication paradigm is important, because it recognizes the place of people in the construction of communication.

■ REFERENCES

1. Küchler ML, Mantovani MF, Paes RG, Paz VP, Gribner FC, Silva ECS. Remote educational interventions for the literacy of adults with arterial hypertension in primary care. *Ciênc Cuid Saúde*. 2022;21:e61813. doi: <https://doi.org/10.4025/ciencsaude.v21i0.61813>
2. Mota, DN, Torres RAM, Guimarães JMX, Marinho MNASB, Araújo AF. Tecnologias da informação e comunicação: influências no trabalho da estratégia Saúde da Família. *J Health Inform*. 2018 [citado 2022 jun 28];10(2):45-9. Disponível em: <https://jhi.sbis.org.br/index.php/jhi-sbis/article/view/563/330>
3. Carlos DAO, Magalhães TO, Vasconcelos Filho JE, Silva RM, Brasil CCP. Concepção e avaliação de tecnologia mHealth para promoção da saúde vocal. *Rev Ibêr Sist Tecnol Inf*. 2016;19:46-60. doi: <https://doi.org/10.17013/risti.19.46-60>

4. World Health Organization. mHealth: new horizons for health through mobile technologies: second global survey on eHealth. Geneva: WHO. 2011 [cited 2022 Jun 28]. Available from: https://apps.who.int/iris/bitstream/handle/10665/44607/9789241564250_eng.pdf?sequence=1&isAllowed=y
5. Chaves ASC, Oliveira GM, Jesus LMS, Martins JL, Silva VC. Uso de aplicativos para dispositivos móveis no processo de educação em saúde: reflexo da contemporaneidade. *Rev Humanid Inov.* 2018 [cited 2022 Jun 28];5(6):35-42. Available from: <https://revista.unifins.br/index.php/humanidadeseinovacao/article/view/744#:~:text=REFLEXOS%20DA%20CONTEMPORANEIDADE&text=0%20uso%20TICS%20vem%20sendo,qualidade%20de%20vida%20do%20paciente>
6. Boulos MNK, Brewer AC, Karimkhani C, Buller DB, Dellavalle RP. Mobile medical and health apps: state of the art, concerns, regulatory control and certification. *Online J Public Health Inform.* 2014;5(3):e229. doi: <https://doi.org/10.5210/ojphi.v5i3.4814>
7. Canadian Institute of Health Research [Internet]. Ottawa: CIHR; 2016 [cited 2022 Jun 28]. About us; [about 4 screens]. Available from: <https://www.cihr-irsc.gc.ca/e/29418.html#1>
8. Franchini M, Pieroni S, Martini N, Ripoli A, Chiappino D, Denoth F, et al. Shifting the paradigm: the Dress-COVTelegram bot as a tool for participatory medicine. *Int J Environ Res Public Health.* 2020;17(23):8786. doi: <https://doi.org/10.3390/ijerph17238786>
9. Kang HS, Son YD, Chae SM, Corte C. Working experiences of nurses during the Middle East respiratory syndrome outbreak. *Int J Nurs Pract.* 2018;24(5):e12664. doi: <https://doi.org/10.1111/ijn.12664>
10. Walwema J. The WHO health alert: communicating a global pandemic with WhatsApp. *J Bus Tech Commun.* 2021;35(1):35-40. doi: <https://doi.org/10.1177/1050651920958507>
11. WhatsApp [Internet]. 2022 [citado 2022 jun 28]. Sobre o WhatsApp; [about 1 screen]. Available from: <https://www.whatsapp.com/about/>
12. Lima ICV, Galvão MTG, Pedrosa SC, Cunha GH, Costa AKB. Use of the Whatsapp application in health follow-up of people with HIV: a thematic analysis. *Esc Anna Nery.* 2018;22(3):e20170429. doi: <https://doi.org/10.1590/2177-9465-ean-2017-0429>
13. Cardona Júnior AHS, Andrade CWQ, Caldas LNM. Educação em saúde: programa e canal de comunicação via WhatsApp da unidade básica de saúde do N6 para comunidade rural do sertão pernambucano. *APS.* 2020;2(2):137-41. doi: <http://doi.org/10.14295/aps.v2i2.92>
14. Araújo JCM, Lima TS, Santos JA, Costa ES. Use of WhatsApp app as a tool to education and health promotion of pregnant women during prenatal care. In: Universidade Federal do Piauí. *Anais do I Congresso Norte Nordeste de Tecnologias em Saúde.* 2018 [cited 2022 Jun 28];1(1):85-90. Available from: <https://revistas.ufpi.br/index.php/connts/article/view/7954/4682>
15. Quéré L. De um modelo epistemológico da comunicação a um modelo praxiológico. In: França VV, Simões P, organizadores. *O modelo praxiológico e os desafios da pesquisa em comunicação.* Porto Alegre: Sulina; 2018. p. 15-48.
16. Bardin L. *Análise de conteúdo.* São Paulo: Edições 70; 2018.
17. Amado NE. Um olhar praxiológico sobre o Facebook: o uso e apropriação da rede social pelos moradores de Ravena. In: Jurno AC, Caldeira BL, Guimarães BMA, Bicalho LAG, organizadores. *Disputas e alteridades: diálogos possíveis na mídia contemporânea.* Belo Horizonte: FAFICH/UFMG; 2016. p. 257-70.
18. Monteiro AA, Montez MM. Sentidos de mobilização e de desmobilização da ação coletiva. *Opin Publica.* 2015;21(1):217-37. doi: <https://doi.org/10.1590/1807-0191211217>
19. Alves LVV, Acioli S. Saberes científicos e populares de enfermeiros e usuários na visita domiciliar. *Rev Cubana Enfermer.* 2020 [cited 2022 Jun 28];36(3):e3462. Available from: <http://scielo.sld.cu/pdf/enf/v36n3/1561-2961-enf-36-03-e3462.pdf>
20. Colombo IM, Comitre F. Pesquisa translacional e a pedagogia freireana. *Rev Iluminart.* 2019 [cited 2022 Jun 28];XI(17):107-26. Available from: <http://revistailuminart.ti.srt.ifsp.edu.br/index.php/iluminart/article/viewFile/379/336>
21. Savio RO, Barreto MFC, Pedro DRC, Costa RG, Rossaneis MA, Silva LGC, et al. Use of WhatsApp® by health care managers. *Acta Paul Enferm.* 2021;34:eAPE001695. doi: <https://doi.org/10.37689/acta-ape/2021A0001695>
22. Silva JTDO, Aguiar LR, Figueiroa MN, Oliveira MS. Educação em saúde com gestantes e puérperas na pandemia pela COVID-19: relato de experiência. *Rev Enferm Digit Cuid Promoção Saúde.* 2021;6:01-07. doi: <https://doi.org/10.5935/2446-5682.20210051>
23. Oliveira SC, Costa DGL, Cintra AMA, Freitas MP, Jordão CN, Barros JFS, et al. Telenfermagem na COVID-19 e saúde materna: WhatsApp como ferramenta de apoio. *Acta Paul Enferm.* 2021;34:eAPE02893. doi: <https://doi.org/10.37689/acta-ape/2021A002893>
24. Lourenço GM, Stefanello S, Kawanishi JY, Luz JAB, Silva GQ, Poli Neto P. A experiência de telemonitoramento por equipes de saúde da família em uma Unidade Básica de Saúde: breve relato. *J Manag Prim Health Care.* 2021;13:e019. doi: <https://doi.org/10.14295/jmphc.v13.1168>
25. Miranda CGL, Soares-Sobrinho L, Castro MS. Validação de vídeo lúdico: educação em saúde de idosos hipertensos para a promoção do uso correto e seguro de medicamentos e conhecimento sobre sua doença. *Rev Observ.* 2019;5(6):821-33. doi: <https://doi.org/10.20873/uft.2447-4266.2019v5n6p821>
26. Souza TS, Ferreira FB, Bronze KM, Garcia RV, Rezende DF, Santos PR, et al. Mídias sociais e educação em saúde: o combate às fake news na pandemia da COVID-19. *Enferm Foco.* 2020;11(1.esp):124-30. doi: <https://doi.org/10.21675/2357-707X.2020.v11.n1.ESP>
27. Pinto AC, Scopacasa LF, Bezerra LLAL, Pedrosa JV, Pinheiro PNC. Use of information and communication technologies in health education for adolescents: integrativerewiew. *J Nurs UFPE online.* 2017;11(2):634-44. doi: <https://doi.org/10.5205/1981-8963-v11i2a11983p634-644-2017>

■ **Acknowledgment:**

Universidade Federal de Mato Grosso, Coordenação de Extensão (CODEX).

■ **Authorship contribution:**

Formal analysis: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes.

Concept: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes.

Data selection: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes.

Writing - original draft: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes, Sonia Silva Marcon, Jeane Cristina Anschau Xavier de Oliveira, Áurea Christina De Paula Corrêa, Maira Liliane dos Santos Pereira

Writing - review and editing: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes, Sonia Silva Marcon, Jeane Cristina Anschau Xavier de Oliveira, Áurea Christina De Paula Corrêa, Maira Liliane dos Santos Pereira

Research: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes, Maira Liliane dos Santos Pereira

Methodology: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes, Maira Liliane dos Santos Pereira

Supervision: Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes.

Preview: Ellen Letícia da Silva Ribeiro, Ana Maria Nunes da Silva, Priscilla Shirley Siniak dos Anjos Modes, Sonia Silva Marcon, Jeane Cristina Anschau Xavier de Oliveira, Áurea Christina De Paula Corrêa, Maira Liliane dos Santos Pereira

The authors declare that there is no conflict of interest.

■ **Corresponding author:**

Ana Maria Nunes da Silva

E-mail: ana-enf@hotmail.com

Received: 07.01.2022

Approved: 01.09.2022

Associate editor:

Jéssica Teles Schlemmer

Editor-in-chief:

João Lucas Campos de Oliveira