Original Article

TEXTO & CONTEXTO ENFERMAGEM
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DATA COLLECTION VIA PHONE IN MULTICENTRIC RESEARCH ON NURSING CARE IN THE FACE OF COVID-19

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ABSTRACT

Objective: to report data collection via telephone carried out in multicenter research on nursing care assessment during the COVID-19 pandemic.
Method: this is an experience report on using the telephone to collect quantitative and qualitative data with participants from ten Brazilian university hospitals from October 2020 to December 2021. The experience was presented in stages: 1) Operationalization of data collection via telephone; 2) Interviewing team training; 3) Monitoring and adjustments to data collection; and 4) Results of telephone contact with patients.
Results: data collection planning and organization involved creating guidance manuals to guide the collectors, which were validated for clarity and agreement. For monitoring and adjustments, a weekly meeting was held with the interviewers in charge and researchers. Data from 539 respondents from the Patient Measure of Safety instrument, 643 from the Care Transitions Measure instrument and 56 from open interviews were included.
Conclusion: using guidance manuals for data collection via telephone, training and follow-up meetings are strategies that can enhance this strategy in multicenter research when in-person data collection is impossible.

DESCRIPTORS: Nursing research. Data collection. Interviews as topic. Research techniques. Multicenter study. COVID-19.

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COLETA DE DADOS VIA TELEFONE EM PESQUISA MULTICÊNTRICA SOBRE CUIDADO DE ENFERMAGEM FRENTE À COVID-19

RESUMO

Objetivo: Relatar a coleta de dados via telefone realizada em pesquisa multicêntrica sobre avaliação do cuidado de enfermagem durante a pandemia da COVID-19.

Método: Relato de experiência sobre o uso do telefone para coleta de dados quantitativos e qualitativos com participantes de dez Hospitais Universitários Brasileiros, de outubro de 2020 a dezembro de 2021. A experiência foi apresentada segundo etapas: 1) Operacionalização da coleta de dados via telefone; 2) Capacitação da equipe de entrevistadores; 3) Acompanhamento e ajustes da coleta de dados; e 4) Resultados do contato telefônico com o paciente.

Resultados: O planejamento e a organização da coleta de dados envolveram a construção de manuais de orientação para guiar os coletadores, os quais passaram por validação quanto à clareza e concordância. Para acompanhamento e ajustes, realizou-se reunião semanal com os entrevistadores e pesquisadores responsáveis. Foram incluídos dados de 539 respondentes do instrumento *Patient Measure of Safety*, de 643 do instrumento *Care Transitions Measure* e de 56 entrevistas abertas.

Conclusão: A utilização de manuais de orientação para coleta de dados via telefone, realização de treinamentos e reuniões de acompanhamento são estratégias que podem potencializar essa estratégia em pesquisas multicêntricas, quando da impossibilidade de coleta face-a-face.

DESCRITORES: Pesquisa em Enfermagem. Coleta de Dados. Entrevistas como Assunto. Técnicas de Pesquisa. Estudo Multicêntrico. COVID-19.

RECOLECCIÓN DE DATOS VÍA TELEFÓNICA EN INVESTIGACIÓN MULTICÉNTRICA SOBRE CUIDADOS DE ENFERMERÍA FRENTE AL COVID-19

RESUMEN

Objetivo: informar la recolección de datos vía telefónica realizada en una investigación multicéntrica sobre la evaluación de los cuidados de enfermería durante la pandemia de COVID-19.

Método: informe de experiencia sobre el uso del teléfono para la recolección de datos cuantitativos y cualitativos con participantes de diez hospitales universitarios brasileños, de octubre de 2020 a diciembre de 2021. La experiencia fue presentada en etapas: 1) Operacionalización de la recolección de datos por teléfono; 2) Capacitación del equipo entrevistador; 3) Monitoreo y ajustes a la recolección de datos; y 4) Resultados del contacto telefónico con el paciente.

Resultados: la planificación y organización de la recolección de datos implicó la creación de manuales de orientación para guiar a los recolectores, los cuales fueron validados por su claridad y acuerdo. Para el seguimiento y ajustes se realizó una reunión semanal con los entrevistadores e investigadores responsables. Se incluyeron datos de 539 encuestados del instrumento *Patient Measure of Safety*, 643 del instrumento *Care Transitions Measure* y 56 entrevistas abiertas.

Conclusión: el uso de manuales de orientación para la recolección de datos vía telefónica, capacitación y reuniones de seguimiento son estrategias que pueden potenciar esta estrategia en investigaciones multicéntricas cuando la recolección de datos presencial es imposible.

DESCRIPTORES: Investigación en enfermería. Recolección de datos. Entrevistas como asunto. Técnicas de investigación. Estudio multicéntrico. COVID-19.

INTRODUCTION

The World Health Organization (WHO) declared COVID-19 as a pandemic in March 2020 and, since then, there have been countless efforts by researchers from various areas in the search for understanding and analyzing the new pandemic scenario to qualify health outcomes, benefiting patients, families, professionals and the population as a whole[1]. Faced with the unprecedented health crisis and the pressing need to explore this phenomenon, it became necessary to use remote technologies as a data collection strategy that preserved social distancing, recommended as one of the main measures to control disease transmission[2–5].

Both ongoing research during the first health measures to contain the disease and those initiated later, including on the topic of COVID-19 itself, needed to adopt alternatives to collect data in person[5]. In this regard, research via telephone calls, video calling applications, email and electronic forms gained prominence, which allow contact with participants remotely[6–9]. Collecting data via telephone allows researchers to overcome geographical distances, with greater flexibility in times and locations for conducting interviews, accessing a greater number of participants and focusing on those of greatest interest to the research. Therefore, it is possible to facilitate access to participants, optimize financial resources and reduce the time invested[7,10].

Despite the apparent ease for the researcher and the benefits, collecting data by telephone can also present several challenges. Such challenges may be of technical-operational origin, such as signal instability, unavailability of using electronic devices, difficulty in contact or of a more personal nature, such as impersonality in the relationship established between participant and interviewer and participants' unwillingness to answer calls from unknown numbers[7]. Therefore, it is relevant to discuss strategies to overcome such challenges for a safe, reliable and quality data collection process.

In Brazil, there has been a record of application of remote communication technologies in health since 1950, such as Telehealth, which has expanded to the present day[11]. Specifically with regard to emerging demands, in nursing practice, technologies' contribution is increasingly incorporated into care, management, teaching and research practices. The advancement and encouragement of research networks in the country and the optimization of resources that enable studies in broader contexts stand out, allowing integration of information and skills from different groups of experts in various areas[12].

This situation leads to other needs, such as guaranteeing the internal and external validity of these studies. In this light, the Brazilian Reproducibility Initiative stands out, a multicenter project that aims to assess study reproducibility in the biomedical area in Brazil. Initiatives like this allow us to reflect on individual and collective actions that can promote scientific study reliability[13]. Faced with this phenomenon, it is important to highlight the importance of sharing successful experiences with regard to the development of serious and quality research that uses innovative strategies in the search for overcoming possible challenges.

Hence, this study is justified by the importance of replicability of research and less conventional methodological procedures that have been adopted in research in health and nursing. Furthermore, the dissemination of innovative and successful experiences within the scope of research is one of the researchers' commitments to advancing the production of knowledge in nursing and other areas of health.

Based on the above, this article aimed to report data collection via telephone from a multicenter survey on nursing care assessment during the COVID-19 pandemic.

METHOD

This is an experience report, with an emphasis on describing the management of a multicenter research that adopted data collection via telephone to meet the objective of assessing the quality of nursing care in Brazilian university hospitals in the face of the COVID-19 pandemic. The research obtained funding from the Brazilian National Council for Scientific and Technological Development (CNPq – *Conselho Nacional de Desenvolvimento Científico e Tecnológico*), through public call MCTIC/CNPq/FNDCT/MS/SCTIE/Decit 07/2020 – Research to combat COVID-19, its consequences and other severe acute respiratory syndromes.

The experience took place from October 2020 to December 2021, under the scope of multicentric research carried out in ten Brazilian university hospitals, located in the five regions of the country, each linked to a federal university. The project was approved by a Research Ethics Committee. It was carried out by professors coordinating the research and by researchers who participated as data collectors (interviewers).

Research operationalization took place in five work subgroups: 1) Hospital management; 2) Leadership and care management; 3) Professional practice environment; 4) Patient experience; and 5) Continuity of care. Of these, subgroups 4 and 5 stood out for adopting data collection via telephone with patients recovered from COVID-19 with the aim of assessing nursing care from patients' perspective, which will be detailed in this report.

Data collection included patients over 18 years old, who remained hospitalized for at least 72 hours, and were discharged home. Patients without the capacity to consent to participate in the research, debilitated or distressed, identified through difficulty in communication or by recommendation from a family member, people not fluent in Brazilian Portuguese and those who, at the time of telephone contact, have died or have been admitted again, were excluded.

In subgroup 4, Patient experience, we sought to analyze factors related to patient safety from their perspective. To achieve this objective, the Patient Measure of Safety (PMOS) was applied. PMOS was built in 2011 in England and validated for the Brazilian reality in 2018[14]. This instrument consists of 44 questions and nine domains. The answers are organized on a Likert-type scale, ranging from 1 (totally disagree) to 5 (totally agree) points, added to "not applicable" and "I would rather not to answer" options.

Furthermore, this subgroup aimed to understand patients' experience with nursing care during hospitalization due to COVID-19. Open interviews were carried out with patients using the Critical Incident Technique (CIT) to uncover notable incidents from individuals' perspective, contemplating a situation, behaviors and their consequences[15].

In subgroup 5, the Care Transitions Measure (CTM-15) was applied with the aim of assessing the quality of hand-off of patients recovered from COVID-19 from hospital to home. The instrument was created in 2005 in the United States and validated for use in Brazil in 2016[16]. It is an instrument composed of 15 statements, divided into four factors, from which patients have five-answer options, varying from "strongly disagree" (1 point) to "strongly agree" (4 points) and I do not know/I do not remember/not applicable (0 points). It is also important to highlight that because the instruments used in the research were developed prior to the pandemic, the authors were contacted and informed about their use in a pandemic scenario.

In both subgroups, an instrument to characterize participants was also applied, containing categorical (respondents' relationship with child, hospital, gender, education level, race, municipality of residence, family income in minimum wages, use of mechanical ventilation, smoking, symptoms presented, and comorbidities) and continuous variables (age, number of people residents at home, total length of stay, and length of stay in the ICU).

Quantitative data (PMOS and CTM) sample calculation was performed to estimate a mean, from the total number of beds in the institutions, based on the absolute margin of error. To calculate sample size, the Winpepi program version 11.65 was used. For CTM-15, a margin of error of up to four points and a standard deviation of 17.1[17] were considered. For PMOS, a margin of error of 0.3 points and a standard deviation of 1,28[18] were considered. A 95% confidence level was adopted.

In both cases, a total sample size of 729 participants was reached, varying from 26 to 136 between hospitals. For the case of comparison between hospitals, a minimum sample of 852 participants was estimated (Chart 1).

Chart 1 – Minimum sample size per hospital for collecting data from Patient Measure of Safety and Care Transitions Measure. Florianopolis, 2021.

University hospital	Sample calculation	Sample calculation for comparison
UH1	63	73
UH2	112	112
UH3	136	136
UH4	74	74
UH5	80	80
UH6	64	73
UH7	28	73
UH8	85	85
UH9	26	73
UH10	61	73
Total	**729**	**852**

Qualitative data (CIT) sampling was carried out for convenience and data collection was interrupted when empirical data saturation was reached.

For presentation, an experience report was organized according to research development stages: 1) Operationalization of data collection via telephone; 2) Interviewing team training; 3) Monitoring and adjustments to data collection; and 4) Results of telephone contact with patients.

RESULTS

Data collection operationalization via telephone

Telephone calls were made by a work team made up of professors, professionals and undergraduate and graduate nursing students. The team was previously trained through training that took place in meetings via video calling application, conducted by the professors coordinating the research, lasting approximately 120 minutes.

During the nine months of data collection, 32 researchers were directly involved in carrying out the interviews. Of these, 19 were willing to make calls from their private phones and 13 received reimbursement for contracting a new plan, totaling an investment of R$ 2,180.68 (US$ 422.33) over the period.

To contact participants, spreadsheets were organized with the list of patients for each hospital and contact information, hosted in a folder on Google Drive®. Contact lists were organized by the local coordinators of each institution. Interviewers were divided between hospitals, accessing only the spreadsheets they were in charge of. An activity schedule of at least three weekly work periods per interviewer, on alternate days, totaling 12 hours, was standardized. Attempts to contact participants were recorded in a spreadsheet.

Seeking to facilitate contact with participants, telephone chips with the area code corresponding to the region of the hospital where data collection was carried out were made available to interviewers. Faced with at least three attempted calls on alternate days and periods, a message was standardized to be sent via a messaging application by the interviewers with a presentation of the project and the reason for contact, including an invitation to participate in the research and information about the project on institutional websites.

Interviewing team training

The decision to adopt the data collection strategy carried out via telephone call occurred considering contact restrictions during the COVID-19 pandemic. Furthermore, it was driven by the fact that it focused on patients who recovered from COVID-19 after hospital discharge.

To this end, during the data collection planning phase, the researchers developed guidance manuals on methodological procedures for data collection. Manual development involved the elaboration and validity stages. When preparing manuals, priority was given to using clear and concise language.

Manual textual elaboration took place from October 2020 to February 2021. This stage was supported by the researchers' experience in applying the research techniques in question. After approval of the text by the team's researchers, the material was finalized with layout. A professional graphic designer was consulted to organize the text in an attractive way. The manual layout was developed using Canva®, professional version.

Text excerpts were selected to be kept prominent, in order to allow easy viewing, ensuring greater assimilation and facilitating the search for information by interviewers. Priority was given to detailing the steps to be taken during data collection. However, despite the detail, using direct and objective language aimed to facilitate reading and avoid interference in interpretation.

The manuals were prepared in .pdf format, with the aim of being made available online, given the multicentric nature of the research, with national distribution to the researchers involved, allowing greater replication among interviewers. The content of the three manuals was organized into specific domains in each of the materials, as detailed in Chart 2.

The second stage involved manual validity and was carried out by consulting intentionally selected professionals specializing in the research topic. Professionals with at least one year's experience as a professor/researcher on the topic were included. Those who sent the instrument completed incompletely or who did not respond to the instrument within the established deadline were excluded. Nine judges were selected, all of whom were nurses, researchers and doctors in their area of expertise.

Judges were contacted via email and, upon acceptance, the manual to be assessed in .pdf format and the validity instrument were sent and organized in an Excel spreadsheet. A deadline of up to 30 days was agreed to return the material. The manuals were validated for clarity and relevance from a qualitative perspective. The adjustments suggested by experts concerned greater detail in data collection procedures, aiming to facilitate interviewers' understanding of the text. Therefore, all recommendations were duly met.

At the end of this process, three manuals were created, entitled: 1) Data collection manual for applying the Care Transitions Measure (CTM-15)[19]; 2) Data collection manual for applying the Patient Measure of Safety (PMOS)[20]; 3) Manual for approaching patient interviews using the Critical Incident Technique[21]. The three manuals had 26, 29 and 18 pages, respectively.

Chart 2 – Domains of research data collection manuals. Florianópolis, 2021.

Domain	Detailing
1) Data collection manual for applying the Care Transitions Measure	
Introduction	Brief presentation of the project and research instrument
Objective	Manual objective
Data collection	Data collection details: 1) Participant selection; 2) Telephone contact; 3) Call script; and 4) Instrument application
Reference	Material consulted during manual preparation
Appendices	1) Informed Consent Form (ICF); 2) Participant identification data; and 3) Characterization instrument
Attachment	Version validated for use in Brazil of CTM-15
2) Data collection manual for applying the Patient Measure of Safety	
Introduction	Brief presentation of the project and research instrument
Objective	Manual objective
Data collection	Data collection details: 1) General instructions on data collection; and 2) Phases of data collection and description of communication with interviewees
Flowchart	Visual tools for the data collection stages, divided into: 1) Pre-call flowchart; 2) Call flowchart; and 3) Post-call flowchart
Appendices	1) ICF; 2) Participant identification data; 3) Characterization instrument; and 4) PMOS validated for Brazilian Portuguese
3) Manual for approaching patient interviews using the Critical Incident Technique	
Introduction	Brief presentation of the project and research technique
Objective	Manual objective
Data collection	Data collection details: 1) General instructions on data collection; and 2) Phases of data collection and description of communication with interviewees
Flowchart	Visual tools for the data collection stages, divided into: 1) Pre-call flowchart; 2) Call flowchart; and 3) Post-call flowchart
Appendices	1) ICF; 2) Participant characterization questionnaire; and 3) CIT script

The data collection instruments were created in an online form to facilitate the organization of collected data. As part of manual validity, a pilot interview was carried out by a research nurse with a PhD in the field and experience in telephone research, following the procedures described in the manuals. The participant was a patient who was discharged from one of the institutions included in the study after hospitalization for COVID-19. Finally, the manuals were widely disseminated among researchers for consultation during the data collection period.

Training was carried out with interviewers based on manual content, guiding data collection. Training was carried out in three moments, before the beginning of the data collection period and in two other moments afterwards, aiming to prepare new interviewers who joined the research throughout the data collection period. Training sessions were recorded and made available for consultation by interviewers when necessary.

Monitoring and adjusting data collection via telephone

Content relating to data collection was audio recorded and the files were named with the participant's code and immediately sent to the research's institutional email in a message named with the same code. As an internal security procedure, a randomized conference of the audios was carried out with the completed questionnaires, considering one in every five interviews, starting with the fifth participant. It was not necessary to exclude any interviews after the conference.

A fixed weekly schedule was standardized with one of the researchers in charge throughout the data collection period, aiming to clarify doubts and share strategies by interviewers. In order to facilitate communication between coordinators and interviewers, a group was created in a messaging application, and the personal contact of one of the researchers in charge was made available, in case there was a need to clarify immediate doubts.

All interviewers were asked to send weekly reports informing progress in data collection during the period, including the days on which calls were made, the number of attempts, calls made and collections made. Data collection progress was shared with researchers, including professors and students, from all universities through general meetings, held approximately 45 days apart.

Results of telephone contact with patients

After collecting quantitative data, of the total of 3,950 contacts made available by hospitals, 844 were excluded when applying both instruments. Moreover,2,463 were considered losses for CTM-15 collection and 2,567 for PMOS collection.

After applying the inclusion and exclusion criteria, 541 participants were included in PMOS analysis and 643 in CTM-15 analysis. Thus, we kept all answers and no participant was excluded (Table 1).

Table 1 – Distribution of participants included, excluded and losses in data collection from Patient Measure of Safety and Care Transitions Measure. Florianópolis, 2021.

Description	UH*1	UH*2	UH*3	UH*4	UH*5	UH*6	UH*7	UH*8	UH*9	UH*10	Total
Contacts received	938	102	1139	695	124	227	76	404	245	–	3950
Exclusions[†]											
Patient under 18 years old	–	–	28	2	4	–	1	1	2	–	**38**
Non–fluent Portuguese	2	–	2	–	–	–	–	2	–	–	**6**
Hospital stay for less than 72 hours	13	–	183	42	2	8	1	21	–	–	**270**
Patient was not discharged home	4	–	15	14	1	2	–	–	–	–	**36**
Participant without capacity to consent to research	13	–	10	10	2	–	–	3	3	–	**41**
Weakened or distressed participant	5	1	6	4	–	8	1	2	1	–	**28**
Patient died after discharge	37	8	55	31	4	35	6	10	16	–	**202**
Patient was admitted after discharge	1	1	45	6	1	11	–	–	–	–	**65**
Patient did not have COVID	84	4	32	11	1	5	2	3	16	–	**158**
Total exclusions	**159**	**14**	**376**	**120**	**15**	**69**	**11**	**42**	**38**	**–**	**844**
CTM losses[‡]											
Patient telephone was not correct	222	12	48	33	11	18	6	28	25	–	**403**
Patient refused to participate	30	23	103	61	6	21	–	12	6	–	**262**
Contact not made after the period has expired	447	25	461	370	84	40	10	205	145	–	**1787**
Withdrawals	2	–	4	4	–	–	–	1	–	–	**11**
Total CTM losses[‡]	**701**	**60**	**616**	**468**	**101**	**79**	**16**	**246**	**176**	**–**	**2463**

Table 1 – Cont.

Description	**UH*1**	**UH*2**	**UH*3**	**UH*4**	**UH*5**	**UH*6**	**UH*7**	**UH*8**	**UH*9**	**UH*10**	**Total**
Contacts received	938	102	1139	695	124	227	76	404	245	–	3950
PMOS losses§											
Patient telephone was not correct	222	12	48	33	11	18	6	28	25	–	**403**
Patient refused to participate	30	23	103	61	6	21	–	12	6	–	**262**
Contact not made after the period has expired	442	26	466	394	86	42	17	245	147	–	**1865**
Withdrawals	11	–	10	4	1	4	–	2	3	–	**35**
Total PMOS losses§	**705**	**61**	**627**	**492**	**104**	**85**	**23**	**287**	**181**	**–**	**2567**
Inclusions											
CTM‡	78	28	147	107	8	79	49	116	31	–	643
PMOS§	74	27	136	83	5	73	42	75	26	–	541
Answer rates											
CTM‡	8.3	27.5	12.9	15.4	6.5	34.8	64.5	28.7	12.7	–	16.3
PMOS§	7.9	26.5	11.8	11.9	4.0	32.2	55.3	18.6	10.6	–	13.6

*HU=University Hospital; †All exclusions correspond to both questionnaires; ‡CTM = Care Transitions Measure; §PMOS = Patient Measure of Safety.

In the qualitative stage, semi-structured interviews guided by CIT were carried out. A total of 56 interviews were carried out with patients from five hospitals, with a mean duration of 15.8 (SD=13.1) minutes (Table 2).

Table 2 – Distribution of participants included in the qualitative stage of research. Florianópolis, 2021.

			UH*1	**UH*3**	**UH*4**	**UH*8**	**UH*9**	**Total**
Number of interviews (n)			11	14	10	6	15	56
Interview duration (minutes)	Mean		17.2	17.6	20	16.3	10.1	15.8
	SD†		7.7	14.9	22.9	5.5	5.1	13.1
Age (years)	Mean		47.0	55.1	61.4	51.7	33.1	48.4
	SD†		11.7	15.9	12.3	17.6	7.7	16.1
Sex	Male	n	7	7	5	3	2	24
		%	63.6	50.0	50.0	50.0	13.3	42.9
	Female	n	4	7	5	2	13	31
		%	36.4	50.0	50.0	33.3	86.7	55.4
	I prefer not to inform	n	–	–	–	1	–	1
		%	–	–	–	16.7	–	1.8
Education level	No education	n	–	–	–	–	–	–
		%	–	–	–	–	–	–
	Elementary school	n	4	6	3	1	2	16
		%	36.4	42.9	30.0	16.7	13.3	28.6
	High school	n	3	7	5	2	8	25
		%	27.3	50.0	50.0	33.3	53.3	44.6
	Higher education	n	4	1	2	3	4	13
		%	36.4	7.1	20.0	33.3	26.7	23.2
	I would rather not to inform	n	–	–	–	1	1	2
		%				16.7	6.7	3.6

*UH=University Hospital; †SD=Standard Deviation.

DISCUSSION

In large multicenter studies, such as this research, it is essential that the team of researchers is aligned with the project objectives, and the coordination carefully monitors the difficulties faced by interviewers. Training interviewers and holding periodic meetings was essential for the satisfactory conduct of the interviews. Relational skills such as attention, active listening, authenticity and flexibility in the face of unexpected situations are characteristics that contribute to research via telephone[22] and were points worked on with interviewers, seeking to optimize the opportunity to obtain quality data, in the case of qualitative collection, and ensure that telephone contact lasted until the end of the quantitative interview.

Conducting remote interviews requires some care on the part of researchers. In in-person research, attention must be paid to the appropriate physical space, certification of the recording device's functioning and reduction of the chances of interruptions. Similarly, in remote interviews, researchers may deal with problems with the telephone or internet network and inexperience in using the devices by participants. Therefore, interviewers need to develop skills to recognize and minimize the harm of these situations[2,23]. These aspects were highlighted during data collection training.

To carry out remote data collection, strategies are suggested such as testing devices before the call, informing interviewees in advance about the procedures that will be necessary during the call, having a secondary plan for carrying out the interview in case difficulties occur during the call, communicating participants about the estimated duration of the interview and request that, if possible, they remain in a private environment to avoid distractions and interruptions[2,23–24].

Using remote interviews in data collection can be a weakness considering possible difficulties related to some participants' access to electronic devices, especially elderly participants. Likewise, there may be greater difficulty in contacting socially vulnerable participants[23]. However, a study that sought to assess the feasibility of using several technologies when conducting interviews with a population of young people about health and sexual behavior found that using remote technologies in data collection has the potential to expand the inclusion of participants in this population[3]. Other benefits mentioned in literature are time and resource savings, especially when there is a greater distribution of participants, as in the case of multicenter research, representing an economical and convenient alternative[3,22–23].

The concern with maintaining the connection with interviewees during telephone contact in an empathetic and personal stance is emphasized. As strategies, additional comments from interviewees during the interview must be carefully considered, even if they do not directly relate to the topic investigated. The resumption of interview questions should be conducted gradually and subtly by the interviewer[22].

As form the form of data collection, unlike CTM-15, which provides for collection exclusively via telephone[16], qualitative interviews and collection through PMOS are carried out, *a priori*, in person. It is important to consider that, although in-person interviews are the most traditional way of conducting data collection, there are arguments that interviews conducted remotely via telephone call or videoconference have the potential to contribute to research equivalently, with specific advantages and disadvantages that must be assessed in each situation[10]. To this end, interviewees' financial costs and geographic distribution, in addition to the researcher's and participants' safety in the pandemic context, are fundamental factors to be considered when assessing the most appropriate form of data collection[5,24], which justifies carrying out telephone interviews in this national multicenter study.

Despite the undeniable optimization of resources when conducting telephone interviews, when compared to in-person interviews, it is important to highlight that research involving remote interviews must also include a budget allocated for this purpose. Although it does not include travel or rental of physical spaces, costs for telephone calls must be especially anticipated by contracting a telephone plan or reimbursing researchers.

Patients who did not respond to telephone contact stand out among the main reasons for losses. This may have been enhanced by the impossibility of prior personal contact, providing the opportunity for researchers to explain the anticipated future telephone contact and the importance of participating in the research, increasing participants' confidence in answering calls[22].

In research with data collection via telephone call, one possibility is to seek to recruit participants in person, increasing personality and previously linking participants to researchers. However, as in the case of this research, sometimes this is not possible. In these situations, the importance of other modes of communication in advance of telephone contact is highlighted in order to clarify the purpose of the study and the importance of participants' contribution when carrying out the interview, facilitating data collection[22], such as the text message strategy via messaging application sent to participants in this study.

After applying the inclusion and exclusion criteria, the CTM-15 sample was 643, whereas the PMOS sample was 541. This difference was mainly due to the possibility of CTM-15 also being applied to caregivers. This happened because patient experience can only be assessed based on their own perception, which cannot be measured by other individuals. Meanwhile, patient hand-off involves guidance on caring for individuals at home, and even in cases where patients are not able to manage their health condition, these guidelines should be directed to main caregivers, justifying the possibility of applying CTM-15 to both patients and caregivers[14,16]. It is also important to highlight that a study carried out in Brazil showed that there was no difference between the quality of patient hand-off based on instrument application between patients and caregivers[25].

It is noteworthy that the data collection strategy was designed with the CTM-15 sequence, PMOS and characterization questionnaire, which also influenced the difference in responses. This was done thinking about the time factor, starting with the instrument that required less time from participants. Participants' withdrawal in answering one of the instruments can be explained both by participants' time in answering both questionnaires and by the interviewer's ability to continue with participants on the line for longer. It should be noted that this and other skills were developed during the data collection period, which were reported by the researchers in fixed weekly meetings.

Following the example of successful initiatives in the country[13], the replicability of the methodological procedures detailed in this study can contribute to carrying out new work in the area of nursing and health that requires integration of a robust and heterogeneous research team, which requires leadership actions by coordinators.

CONCLUSION

This study sought to document in detail the operational aspects adopted during data collection via telephone call in national multicenter research on nursing care assessment during COVID-19. The study demonstrated the importance of meticulously planning data collection prior to its beginning as well as the need to supervise and monitor the research team to keep researchers engaged with the research project goals. The strategies adopted by coordinators in conducting data collection proved to be successful, since the minimum sample was reached in those places where the list of contacts made available was sufficient.

The main strategies adopted by the coordinating researchers were guidance manual construction and validity for data collection via telephone, and carrying out training and meetings and direct monitoring with interviewing researchers. Despite efforts, the estimated minimum sample size was reached in five of the ten hospitals participating in the study, which was especially due to the limited list of patients made available by the institutions. Non-response to phone call stood out as one of the main reasons for losses.

Despite this, as it is a multicentric project, whose network of researchers integrate different research centers and areas of expertise, the strategies presented in this study can redirect and improve data collection by telephone, especially when researchers from different institutions are involved. Thus, the replicability of reported experience can potentially contribute to the field of nursing and health science as a support for carrying out similar research.

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NOTES

ORIGIN OF THE ARTICLE

This article is part of multicenter research “Avaliação do cuidado de enfermagem a pacientes com COVID-19 em hospitais universitários brasileiros”, presented in 2020, which involved the participation of Universidade Federal de Santa Catarina (proposing), Universidade Federal de Santa Maria, Universidade Federal de São Paulo, Universidade Federal do Rio de Janeiro, Universidade Federal da Bahia, Universidade Federal do Rio Grande do Norte, Universidade Federal do Pará, Universidade Federal do Amazonas, Universidade Federal do Mato Grosso and Universidade Federal do Mato Grosso do Sul.

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CONFLICT OF INTEREST

The author José Luís Guedes dos Santos is an Associate Editor of Texto & Contexto Enfermagem, but did not take part in any of the article's evaluation and approval stages.

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