

Telemonitoring strategy in the face of the SARS-CoV-2 pandemic

Estrategia de telemonitorización ante la pandemia del SARS-CoV-2

Estratégia de telemonitoramento frente à pandemia do SARS-CoV-2

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Abstract

The aim of this study is to identify whether, in the perception of the Academic Scholars of Nursing and Medicine, the practical knowledge that was the object of desire at the time of enrollment for the academic scholar 2020 was achieved, since due to the pandemic of COVID-19 there was a need for the Secretariat Municipal Health Department of Rio de Janeiro to implement a new internship model, in the Telemonitoring modality. Methodology: a descriptive study with a descriptive and exploratory qualitative and quantitative approach. The research was carried out with three Family Clinics of the Basic Health Network of the City of Rio de Janeiro and 11 Academic Nursing and Medicine Scholars participated in the research. Data collection took place between September and November 2020 through semi-structured interviews using online questionnaires, using the Bardin methodology where the organization, coding and categorization of the data was carried out. It became evident that the internship in the Telemonitoring modality does not meet the expectations of Scholarship Scholars, it is important to note that, of these 63.7% did not fulfill their entire internship period in this modality, being directed to their units after the relaxation of the policies of social distance to carry out the practical internship.

Descriptors: Primary Health Care; Coronavirus Infections; Pandemic; Remote Consultation; Telemonitoring.

Resumén

El objetivo de este estudio es identificar si, en la percepción de los Académicos de Enfermería y Medicina, se logró el conocimiento práctico que fue objeto de deseo en el momento de la matrícula del académico académico 2020, ya que debido a la pandemia de COVID-19 existía la necesidad de que la Secretaría Municipal de Salud de Río de Janeiro implemente un nuevo modelo de pasantía, en la modalidad de Telemonitorización. Metodología: estudio descriptivo con abordaje cualitativo y cuantitativo descriptivo y exploratorio. La investigación se llevó a cabo con tres Clínicas Familiares de la Red Básica de Salud de la Ciudad de Río de Janeiro y participaron 11 Becarios Académicos de Enfermería y Medicina. La recogida de datos se realizó entre septiembre y noviembre de 2020 mediante entrevistas semiestructuradas mediante cuestionarios online, utilizando la metodología Bardin donde se llevó a cabo la organización, codificación y categorización de los datos. Se evidenció que la pasantía en la modalidad de Telemonitorización no cumple con las expectativas de los Becarios Becarios, es importante señalar que, de estos 63.7% no cumplió todo su período de pasantía en esta modalidad, siendo dirigidos a sus unidades luego de la relajación de las políticas de distancia social para realizar la práctica práctica.

Descriptores: Atención Primaria de Salud; Infecciones por Coronavirus; Pandemias; Consulta Remota; Telemonitorización.

Resumo

O objetivo desse estudo é identificar se na percepção dos Acadêmicos Bolsistas de Enfermagem e Medicina o conhecimento prático que era objeto de desejo no momento de inscrição para o acadêmico bolsista 2020 foi atingido, já que devido a pandemia da COVID-19 houve a necessidade da Secretaria Municipal de Saúde do Rio de Janeiro de implementar um novo modelo de estágio, na modalidade de Telemonitoramento. Metodologia: estudo do tipo descritivo, com abordagem qualiquantitativa descritiva e exploratória. A pesquisa foi realizada com três Clínicas da Família da Rede Básica de Saúde da Cidade do Rio de Janeiro e participaram da pesquisa 11 Acadêmicos Bolsistas de Enfermagem e Medicina. A coleta de dados ocorreu entre setembro e novembro de 2020 através de entrevistas semiestruturadas por meio de questionários online, utilizando a metodologia de Bardin onde foi realizada a organização, codificação e categorização dos dados. Evidenciou-se que o estágio na modalidade de Telemonitoramento não supre as expectativas dos Acadêmicos Bolsistas, sendo importante ressaltar que, destes 63,7% não cumpriram todo o seu período de estágio nesta modalidade, sendo direcionados as suas unidades após o relaxamento das políticas de distanciamento social para realização do estágio prático.

Descritores: Atenção Primária à Saúde; Infecções por Coronavírus; Pandemias; Teleconsulta Clínica; Telemonitoramento.



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Introduction

On December 31, 2019, the World Health Organization (WHO) received an official statement from China on the existence of a mutation of the virus known as Coronavirus, hitherto not found in humans, in the city of Wuhan. The virus had a high transmission capacity and was characterized by the ability to develop severe cases of pneumonia. The new virus was named Coronavirus (SARS-CoV-2), which produced the disease called COVID-19, a zoonosis. On January 30, 2020, the WHO declares a State of Emergency in Public Health and March 12, 2020 recognizes the disease COVID-19 as a pandemic, causing great health, economic and social impact in practically all countries of the world. In Brazil, the first symptomatic cases started to appear in February 2020, the first case being reported in the State of Acre, on March 14, 2020¹.

According to the Ministry of Health (MS) 2020, the transmission of the disease occurs through the upper airways (droplets) which causes acute respiratory syndrome that varies from mild cases (in 80% of cases) and with very severe cases (in 5 to 10% of cases). The groups most at risk for developing severe cases of COVID-19 are children under 5 years old (alert for children under 2 years old, the disease has a higher lethality rate in children under 6 months old), elderly (over 60 years old) , pregnant women, indigenous population in the villages with less access to health services and individuals with chronic non-communicable diseases, especially those that affect the respiratory, cardiovascular and hematological tracts, metabolic disorders, kidney diseases, liver diseases, neurological disorders and obesity².

On March 13, 2020, measures of social isolation were decreed by the State Government of Rio de Janeiro. Commercial and educational activities were halted, keeping only essential services in operation. The growing cases of the disease, the need to maintain the monitoring of patients undergoing treatment for other pathologies (transmissible or not), combined with the recommendations of keeping the population at home, except in cases of extreme need, provided a new design for the Telehealth program. which consists of remote patient care and thus emerged, Telemonitoring in Primary Health Care^{3,4}.

Primary Health Care is the first level of care and gateway to the Unified Health System (SUS), characterized by a set of actions aimed at individual and collective care that contemplate the promotion and protection of health, the prevention of diseases, diagnosis, treatment, rehabilitation, harm reduction and health maintenance, therefore, is understood as the country's main tool in tackling the new Coronavirus pandemic. The creation of new technologies that assist the assistance process is essential to maintain its good functioning and Telemonitoring came as a tool to collaborate with this set of actions in the middle of the pandemic^{2,3}.

Telemonitoring aims to reorganize the flow of care in the Health Care networks, expanding the service to patients and supporting the increased demand from those infected with the new Coronavirus, in order to avoid the crowding of patients in Basic Health Units, relieve others levels of Health Care, continue monitoring patients in

treatment for other pathologies in Primary Care, maintain the scholarship academic schedule for 2020, avoid contagion of these students, reduce the chances of contagion between patients and health professionals in health services Health and promote guidance to the population regarding the necessary measures to prevent the contagion and spread of COVID-19^{3,5}.

Telemonitoring is a new pioneering work tool, especially useful for Primary Health Care, meeting the multiple needs for follow-up, especially in the continuation of care for patients with chronic diseases, however this care model is only indicated for patients without severity. It consists of monitoring the patient's clinical case remotely (telephone call) by filling in a form (Formsus) with the patient's data and health status in calls with 24-, 48- or 72-hour return depending on the need for follow-up of the patient, decreasing the chances of complications and tracking cases of contamination among the contacts^{6.7}.

This new practice was implemented in the process of new teaching and learning methodologies and presented to scholarship scholars as an opportunity to maintain the internship in the year 2020 even in the pandemic period, without posing risks to the student's health, maintaining the learning proposal. practical of the supervised internship, expand the knowledge of students presenting this new learning tool and at the same time increase the physical resources in combating the health complications caused by the pandemic⁶.

This study aims to evaluate the perception of scholarship students in nursing and medicine in the use of Telemonitoring as a new technology in the teaching-learning process provided by the internship program supervised by the Municipal Health Secretary of the City of Rio de Janeiro. This technological tool is used in another sphere with similar objectives but used as a work tool by the professionals who make up a multidisciplinary team in Primary Health Care. The Telehealth Program is used to expand the access of all Brazilians to Primary Health Care. Health, taking treatment to the most remote areas of the country⁶.

Students, because they do not know the Telehealth Program or because they do not know how it works in practice, may have shown resistance to the proposed supervised internship modality, Telemonitoring. The scope within the scope of Telehealth is broad and the flexibility of digital technologies, with several application possibilities, allows health professionals to have greater coverage of the national territory, improvement in the quality of care for the population and improvement of education and communication in public health, providing solutions innovative services and the opportunity to expand the performance of health teams in the event of an epidemic and / or pandemic^{6,8}.

In view of the above, the following problem situation arises: what practical knowledge is expected and achieved by scholarship students in nursing and medicine during the 2020 internship, considering the need to change the practical internship model to the Telemonitoring modality due to the pandemic of the SARS-CoV-2?



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It is important to highlight the following hypothesis: in view of the necessary changes due to the SARS-CoV-2 pandemic and with the creation of the pioneering Telemonitoring model for the monitoring of Primary Health Care patients, it is possible that scholarship scholars in nursing and medicine have differences between practical knowledge expected and achieved in this type of internship.

For a long time, the incorporation of Information and Communication Technologies (ICTs) in the health area was seen as something negative, as there is a lack of physical and visual contact, but it is worth mentioning that the health professional needs to be in a constant process of improvement. of their techniques and skills and communication is undoubtedly the most challenging of them all. Face-to-face care should not be excluded, physical examination and anamnesis are extremely important for diagnosis and correct treatment choice⁹.

Telemonitoring comes with the proposal of avoiding several trips to the health services and making it possible to monitor the patient's health condition on an ongoing basis, aiming to precede actions in face of the possibility of health problems of the monitored individual. The creation of this innovative tool by the Rio de Janeiro Municipal Health Secretary, a pioneer, aims to give the conditions of health professionals the conditions to maintain their duty to act in an ethical and humanized way, individualizing the care provided according to your patient's needs and ensure that people's socioeconomic differences and cultures do not prevent healthcare services in times of pandemic¹⁰.

This analysis supported the general objective of the present study: to identify whether, in the perception of scholarship students in nursing and medicine, the practical knowledge that was the object of desire at the time of enrollment for the scholarship holder in 2020 was reached, since due to the pandemic of COVID 19 there was a need for SMS / RJ to implement a new internship model, in the Telemonitoring modality. Its secondary objectives: 1) Characterize the sociodemographic profile of the study subjects; 2) Identify whether, in the students' perception, the Telemonitoring internship system brought practical knowledge and what was this knowledge; 3) Assist the Institution responsible for the internship (SMS / RJ) to identify from the perception of the scholarship student a way to evaluate the positive and negative points of the internship model by Telemonitoring and improve it.

This study is justified, in the need to analyze the impact of the change from the practical internship model of scholarship scholars to the internship in the Telemonitoring model in the monitoring of Primary Health Care patients during the pandemic period of the new Coronavirus.

Methodology

This is a descriptive study, with a descriptive and exploratory qualitative and quantitative approach, in which the analysis and interpretation of the data collected did not suffer any interference from the authors. The purpose of the study is to achieve the proposed objectives with the production of reliable data that can confirm or deny the

, Silva WBH, Gomes IS, Costa CMA, Machado PRF, Marta CB, Gonçalves MLS presented hypotheses. The exploratory qualitative research method encourages the free exposure of the interviewee's thoughts on the proposed theme, in a way, where all specific phenomena are analyzed to try to reach a general conclusion of the exposed¹¹.

The research was carried out with three Family Clinics of the Basic Health Network of the City of Rio de Janeiro, located in different districts of the North Zone of Rio de Janeiro. Eleven Academic Scholars of Nursing and Medicine took part in the internship of the City Hall of Rio de Janeiro in 2020. The research took place between September and November 2020 in a place within the Institutions to be defined by the management of the units for interviews with academic scholars in nursing and medicine who want to participate in the research. Emphasizing that the three participating Family Clinics had together an average of 23 Academic Scholars of Nursing and Medicine and that the pioneer project in the use of the Telemonitoring system was carried out in a total of 05 Family Clinics and, of these, 02 were not the target of the research due to the authors' difficulty in accessing.

The research was carried out through semistructured interviews through online questionnaires by Google Forms with an ICF attached, due to the isolation measures due to the SARS-CoV-2 pandemic. The object of the study was Nursing and Medicine Scholarship Students from three of the five Family Clinics that worked with the pioneering Telemonitoring project for the Scholarship Scholar 2020 in the City of Rio de Janeiro. The inclusion criteria were Academic Scholars of Nursing and Medicine who agreed to participate in the research, who undertook the internship in the Telemonitoring model in the first semester of 2020 and are assigned to one of the three Family Clinics in the City of Rio de Janeiro that participated in the study, being pioneers in the use of Telemonitoring in the Scholar practice. Exclusion criteria were volunteer academics and undergraduate nursing and medical scholars under the age of 18.

All the ethical requirements proposed by Resolution No. 466/2012 of the National Health Council were respected, through the consubstantiated opinion No. 4,279,463 of the Research Ethics Committee of the Municipal Health Secretariat of Rio de Janeiro (SMS- RJ). Therefore, for the research to be carried out, it was requested to sign the Institutional Consent Term of the respective managers by the Family Clinics participating in the research and the data collection started after approval of the research by the Research Ethics Committee of the Municipal Health Secretary from Rio de Janeiro. Scholarship Scholars only had access to the research questionnaire after accepting the informed consent form, where they were adequately informed about the purpose of the study, the mode of application and the destination of the data obtained, being free to clarify any doubts before, during or after the participation. Your participation was voluntary and the survey offered minimal risks, and you can stop responding to the survey at any time without any penalty or personal injury.

Ferreira MA, Silva Junior MD, Côrtes EMP, Silva WBH, Gomes IS, Costa CMA, Machado PRF, Marta CB, Gonçalves MLS periods in total and the undergraduate medicine course has

As a main benefit of the research, it is possible to highlight the possibility of evaluating the students' perception of Telemonitoring, since this model is pioneering and was created by the Municipal Secretary of Health in a special system due to the pandemic of the new Coronavirus. This new teaching-learning model provides students with the development of communication skills, experience in teamwork, knowledge of pathologies attended by the Basic Health Network, knowledge of pharmacology regarding the drugs prescribed to patients being monitored. This new tool also gives them the experience on Teleconsultation, it is worth mentioning that professionals who work with this type of service need to develop this skill without prior training. All these experiences contribute to the formation of a professional with a greater theoretical and practical basis, facilitating his insertion in the job market 12,13.

The research is characterized as qualitative, descriptive, and exploratory as to the objective of survey in relation to the method, and quantitative as to the treatment and analysis of the data that were collected and tabulated by means of an interview from September to November 2020. The results were tabulated in percentage using Microsoft Excel 2010 software.

Regarding the survey of the qualitative method, the Bardin methodology was used, using the technique of coding the content of the participants' responses, analyzing the categories of analysis of the texts through speeches and repeated phrases in the responses obtained by the Data Collection Instrument, where the organization, coding and categorization of the collected data will be carried out, understanding the entire context of the analyzed responses¹⁴.

Results

The study participants were 11 Scholarship Scholars 2020. These were identified by a sequence of the initials Acad. of academics followed by Arabic numerals 1 to 11.

The participants had the following sociodemographic characterization: women 90.9% (n = 10) and 1 man 9.1% (n = 1). Age between 21-30 with a total of 72.8% (n = 8); 31-40 with a total of 18.2% (n = 2); 41-50 with a total of 9.1% (n = 9.1%), with the highest incidence being found in women (n = 10) and in age the highest incidence was between 20-30 years (n = 8).

Quanto ao estado civil, percebe-se a predominância de 72,7% de solteiros (n=8); casados de 18,2% (n=2) e em união estável de 9,1% (n=1).

As for the educational institution, there is a predominance of participants from Federal Institutions with 63.7% (n = 7) and from Private Institutions 36.3% (n = 4).

As for the participants' undergraduate course, Nursing students with 54.4% (n = 6) and Medicine students with 45.5% (n = 5).

As for the period of graduation, students of the 7th period with 36.4% (n = 4); 8th period students with 18.2% (n = 2); 9th period students with 9.1% (n = 1); 10th period students with 27.3% (n = 3) and 11th students with 9.1% (n = 1). Recalling that the undergraduate nursing course has 10 12 periods in total.

As for the place of occupancy, they were allocated to three Family Clinics, identified as Family Clinic 1, Family Clinic 2 and Family Clinic 3. Percentage of Family Clinic 1 was 45.5% (n = 5); Family Clinic 2 of 18.2% (n = 2) and Family Clinic 3 of 36.4% (n = 4).

Next, we will present the organization and analysis of the data, a process carried out in stages, a transversal reading of them and observations, the guiding concepts and the most relevant categories were made.

Category I allowed us to verify that, it refers to the Change of the chosen internship area to the internship area in the Basic Health Network, where the guiding concept of the news reaction, the need for changes and acceptance and the expectations and in concomitance with the thematic units, change in the Scholarship 2020 proposal and confronting the new Coronavirus.

After that, Category II Level of satisfaction emerges, which allows the assessment of interpersonal relationships, with guiding concepts: relationship with the patient and relationship with supervisors (Nurses and Doctors) and their thematic interpersonal relationship unit, multiprofessional team.

Finally, Category III Evaluation the Telemonitoring experience, with guiding concepts as a tool in the teaching-learning process and perception of the experience acquired and its thematic unit, evaluation, and level of achievement.

Discussion

Change in the internship area for Basic Network - CHANGE IN THE PROPOSAL OF THE SCHOLARSHIP ACADEMIC -Reaction to the news / Need for change

Resolution No. 46,970, of March 2020, suspended all face-to-face activities of public and private educational institutions and with that SMS chose to change the model of the Scholarship 2020 and took the opportunity to create a pioneering project for patient care asymptomatic of the new Coronavirus and to assist patients who needed continuous monitoring due to the treatment of chronic noncommunicable diseases. It was extremely important to try to control the spread of the new virus, keep the treatment of patients under monitoring in the Basic Health Networks and prevent them, considered to be at risk, from being infected.

> "[...] concern about not obtaining practical knowledge, since we did not expect to have a face-to-face return" (Acad.1).

"[...] I was surprised" (Acad.2, Acad.6 e Acad.7).

World Health Organization (WHO) recommends that 24-hour call centers be created to assist the Secondary and Tertiary Health Networks by preventing the collapse of the system, organizing the flow of networks, and creating service points. Ensure the proper functioning of the protection standards for workers and prevent the spread of SARS-CoV-215.



Change in the internship area for Basic Network - FACING THE NEW CORONAVIRUS - Acceptance of change / Expectation

It was extremely important to try to control the spread of the new virus, keep the treatment of patients under monitoring in the Basic Health Networks and prevent them, considered to be at risk, from being infected.

- "[...] because over the phone we had no previous contact with the patient, the monitoring was 100% by telemedicine [...]" (Acad.1).
- "[...] due to the pandemic, I was afraid if the learning would take place with the same quality" (Acad.5).
- "[...] was eager to know and participate in nursing care in primary care, in a practical way" (Acad.7).
- "[...] would not have practical experience in the internship" (Acad.10).

Primary Health Care plays a fundamental role in contributing to reducing the incidence of infections in the enrolled population. The practical internship gives the academic mastery over theoretical and practical instruments that will prepare him for his functions after his training^{10,16}.

Satisfaction level - RELATIONSHIP WITH THE PATIENT AND WITH MULTIPROFESSIONAL TEAM - Relationship with the patient / Relationship with supervisors (Nurses and Doctors)

It is essential to exchange knowledge between the multidisciplinary team and that they have a good relationship in their daily work. Such experience adds knowledge, avoids errors and improves patient care.

- "[...] on the contrary, it only added knowledge. The new internship field is great and the professionals are super helpful in teaching us" (Acad.4).
- "[...] no, it even improved. XXX tutors as well as residents are very attentive and available" (Acad.6).

According to the WHO, different professional groups qualify the health services offered to patients, the skills and knowledge of the team members are composed in the sharing and management of cases. This practice optimizes and improves the team's productivity, improves results, provides greater patient safety, motivates, and improves workers' confidence and results in better health care results¹⁰.

"[...] the communication with the patient, the reporting of symptoms and the discussion with the preceptors were fundamental in my view" (Acad.11).

The effective mode of communication is to reflect positively on care, giving quality to health services and providing patient safety ¹⁷.

Evaluation of Telemonitoring experience - EVALUATION AND LEVEL OF USE - Tool in the teaching-learning process / Perception of acquired experience

Telemonitoring was an innovative tool in this pandemic period, being essential to expand the capacity of health services in reducing the spread of the new Coronavirus and in assisting patients with chronic noncommunicable diseases who need to monitor their pathologies, preventing the worsening of the disease. However, the face-to-face experience in a practical way should not be replaced.

- "[...] I would like to participate in the day-to-day life of a Primary Care Unit of the Family Health Strategy (medical care, home visits etc.) and this was not possible, telemonitoring as an alternative for the time of pandemic was not able to supply that point, and it won't even be outside that context" (Acad.1).
- "[...] relatively provided. As I said earlier, the patient often fails to say important questions that in practice would be better to discover" (Acad.2).
- "[...] because effective practice does not occur remotely" [similar statements] (Acad.6, Acad.7 e Acad.8).
- "[...] because it was focused on COVID-19 and I would like to gain experience in services in other areas" (Acad.3).

To offer remote care, policy makers and health professionals must ensure that an adequate context exists for the regulation of the practice and professionals; as well as policies and standards that guarantee safe, professional, and ethical practice, as well as security, privacy, and confidentiality of information¹⁸.

The extracurricular internship is a didactic-pedagogical process that allows the student real contact to acquire experiences, aiming at the growth and maturation of the chosen profession. The experiences provided to the intern is a training process that will configure maturity for the professional future^{19,16}.

Conclusion

The analyzed sample showed by the surveyed sociodemographic data that the majority of Scholarship Scholars are women between 20 and 30 years old, single, and coming from Federal Universities. The course with the highest prevalence in the research was Nursing and the seventh period was the one with the highest percentage of students.

The study achieved its objectives by identifying that, in the perception of Scholarship Scholars 2020, the expected knowledge was not achieved during the period directed to Telemonitoring. Despite the affirmation that they had managed to have a good exchange of knowledge with their supervisors and achieved effective communication with patients during Telemonitoring, the students reported having missed the experience in face-to-face assistance. It is worth mentioning that, of these 63.7% have not completed their entire internship period in this



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modality, their units are directed after the relaxation of the social distancing policies to carry out the practical internship.

Despite the denial, these academics reported that they liked the experience of Telemonitoring and that if it were implemented in part of the internship it would be another source of knowledge, even if alone, not being able to provide the desired experience when searching for the extracurricular internship. Telemonitoring, therefore, gives academics more innovative knowledge and gives them more skills for professional life.

As points to be improved in the research, it is worth mentioning the small sample size, due to the impossibility of working with the other two Basic Health Units due to the lack of accessibility and the difficulty in contacting some academics from the three participating units to research adherence since they are not present at the Family Clinic of stocking due to the delicate moment experienced during the pandemic of the new Coronavirus.

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