The e-SUS AB system: perceptions of the nurses of the Family Health Strategy

Sistema e-SUS AB: percepções dos enfermeiros da Estratégia Saúde da Família

Jaianne Ricarte de Araújo[1], David Correia de Araújo Filho[1], Lucas Dias Soares Machado[1], Rosa Maria Grangeiro Martins[2], Rachel de Sá Barreto Luna Callou Cruz[1]

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ABSTRACT The present study aims to understand the nurses' perceptions regarding the use of the e-SUS AB system in their work context of the Family Health Strategy (FHS). Regarding the methodological aspects, it is an exploratory and descriptive research, with a qualitative approach, carried out in the city of Crato, Ceará. There were 18 nurses participating in the study, who met the inclusion criteria of being linked to the city's FHS and who had used the system for at least one month. The results obtained from the reports of the participants were categorized as: Process of introduction and preparation of professionals to handle the e-SUS AB system; Potentialities and challenges encountered by nurses regarding the use of the e-SUS AB system; and Nurses' feelings regarding the e-SUS system. It is concluded that the use of this system, according to the nurses' perceptions, can constitute an important tool within the context of the FHS, contributing to the optimization of the work processes. However, there are still aspects and conceptions that hinder the complete incorporation of that technology.

KEYWORDS Health Information Systems. Nursing. Family Health Strategy. Primary Health Care.

RESUMO *O presente estudo teve por objetivo compreender a percepção dos enfermeiros quanto ao uso do sistema e-SUS AB no seu contexto de trabalho da Estratégia Saúde da Família (ESF). No tocante aos aspectos metodológicos, é uma pesquisa do tipo exploratória e descritiva, com abordagem qualitativa, realizada na cidade de Crato, Ceará. Participaram do estudo 18 enfermeiros que se enquadraram nos critérios de inclusão de estarem vinculados à ESF do município e que fizeram uso do sistema há pelo menos um mês. Os resultados obtidos a partir dos relatos dos participantes foram categorizados em: Processo de introdução e preparação dos profissionais para manuseio do sistema e-SUS AB; Potencialidades e desafios encontrados pelos enfermeiros diante do uso do sistema e-SUS AB; e Sentimentos dos enfermeiros em relação ao sistema e-SUS AB. Conclui-se que a utilização desse sistema, segundo as percepções dos enfermeiros, pode se constituir como uma ferramenta importante dentro do contexto da ESF, contribuindo para otimização dos processos de trabalho. Entretanto, ainda existem aspectos e concepções que dificultam a completa incorporação dessa tecnologia.*

PALAVRAS-CHAVE *Sistemas de Informação em Saúde. Enfermagem. Estratégia Saúde da Família. Atenção Primária à Saúde.*

[1] Universidade Regional do Cariri (Urca) – Crato (CE), Brasil.
jaianne.ra@hotmail.com

[2] Secretaria Municipal da Saúde – Milagres (CE), Brasil.

Introduction

In Brazil, information systems were included in the health context even before the creation of the Unified Health System (SUS). Initially, the objectives of these technologies were focused on decision making by the federal and/or state governments; municipalities only assumed the function of collecting data, and, often, underutilization of information occurred[1].

In 1996, from the Basic Operational Standard of SUS, the autonomy and responsibility of municipalities before the decision-making power of actions in their territory increased. The fulfillment of this new role has increased the need to produce reliable and more readily available information to support professionals and managers[2].

With the work developed by the Family Health Strategy (FHS) teams and its marked expansion, the discussion about the excess of data collected by them stimulated the need to create a system that would house and transform this data into a source of information and, thus, direct more factually health actions[3].

Then, in 1998, the Primary Care Information System (Siab) was created, whose purpose was to become the managerial instrument of the local Health Information Systems (HIS). For this, it had to incorporate concepts, such as territory, problem and sanitary responsibility, in line with the proposal for reorganization of health services of the SUS, based on Primary Care (PC), distinguishing themselves from other HIS existing until then in the Country[4].

However, with the advancement of technologies, as well as SUS, the Siab system became obsolete, pointing to the need for structural improvement related to data unification, computerization of the system and the inclusion of other areas of PC in the registration of information[5].

Thus, in 2013, the e-SUS AB system was instituted by the Department of Primary Care (DAB), with the purpose of computerizing, qualifying, unifying and enabling the information collected in the health units themselves, which, in turn, received computers with the system properly installed. The strategy refers to the process of qualified computerization in search of an electronic SUS, now counting on two software: System with Simplified Data Collection (CDS) and the System with Electronic Citizen's Medical Record (PEC)[6].

The PEC, as far as it is concerned, allows the construction of a database with all personal and clinical information of the patient, which should be stored in the system during care, having as its main objective to computerize the citizen's flow in the service[7]. This tool is understood as one of the complex readjustments of work processes, as it becomes another instrument used on a daily basis by health professionals, among them, the nurse.

It is noteworthy that the work process in the FHS is understood as a set of coordinated actions, developed by workers, in which individuals, families and social groups make up the central object. The knowledge and methods, combined with technological combinations, represent the instruments that originate health care[8].

The nurse, as far as he/she is concerned, plays a prominent role in the work processes in many health scenarios, especially within the FHS, regarding health management, planning and promotion actions, including in relation to the use of SIS. However, the transition from a systematization model can directly impact the work processes of these professionals, implying the need to incorporate new practices from a new methodology[9,10].

Thus, understanding the importance of the performance of nursing professionals in PC and the recent introduction of this new information system, this study aimed to understand the perception of nurses regarding the use of the e-SUS AB system in their work context in the FHS.

Material and methods

This is an exploratory and descriptive study, with a qualitative approach, structured as suggested by the Consolidated Criteria for Reporting Qualitative Research (Coreq), for greater reliability and transparency of its conduction[11].

The research scenario was the city of Crato, Ceará. It is observed that the criterion for choosing the city was due to the fact that this is the *locus* of action of the Multiprofessional Residency in Collective Health of an university in Ceará, of which the researcher is resident, facilitating accessibility to the units where the use of e-SUS AB system was already a reality, experienced by one of the researchers, according to the demand perceived in the work process.

The municipality currently has 41 FHS teams, distributed in 32 Basic Health Units (BHU), being 19 in the urban headquarters and 13 in the rural area[12], of which, by the end of data collection, 30 FHS teams had both PEC and CDS software that make up the system, the rest (11) made use only of CDS, which fed based on the filling of manual files.

Eighteen nurses who met the inclusion criteria of being linked to one of the FHS teams and who used the e-SUS AB system in their work context for at least one month participated in the research. It was used, furthermore, the criterion of saturation of responses to delimit the participants, which, according to Polit and Beck[13], consists in sampling until no new information is obtained, avoiding, thus, possible redundancies.

Data were collected during January and February 2019, at the BHU themselves, through a semi-structured interview, which lasted an average of 11 minutes per interviewee. The instrument contained guiding questions regarding the implementation process, the existence of previous training, challenges, potentialities, as well as the feelings of these professionals regarding the handling of this new technology. To ensure the confidentiality of participants, pseudonyms discriminated by the letter 'N' (nurse) were used, followed by an order number, from 1 to 18, according to the sequence of interviews.

Data analysis was performed according to the Content Analysis technique proposed by Minayo (2014)[14], chronologically comprised in the following steps: pre-analysis, in which the material to be analyzed through a reading was organized, seeking greater contact with the subject; exploration of the material through the technique of 'colorimetry', in which the lines that had similarities and distinctions about the same guiding question were highlighted, being identified through the use of different colors.

Then, the empirical categories were defined that encompassed elements and aspects with common characteristics or that were related to each other according to their relevance and presence of the theme, pointing out the relevant structure for the objective proposed in the research. Finally, there was discussion/treatment of the results and interpretation, seeking to unravel the underlying content to what was being manifested, establishing links between the data and the relevant literature.

The research was submitted to the Research Ethics Committee of the Regional University of Cariri – Ceará, obtaining a favorable opinion for its accomplishment, according to the opinion number: 3.139.513, of February 10, 2019. For application of the instrument and techniques of the research, the participants were given the Informed Consent Form (ICF) for reading and signing, with one copy for the researcher and one for the interviewee. It is noteworthy that all the guidelines and regulatory standards contained in Resolution nº 466/12 of the National Health Council/Ministry of Health were adopted[15].

Results and discussion

Characterization of research participants

Of the 18 nursing professionals who participated in this study, all were female. Most were married (n = 12), belonged to the catholic religion (n = 12), had a monthly income of four minimum wages (n = 10) and declared themselves as brown (n = 10).

Regarding age and degree, the interviewees had an average age of 43 years, and most of them had a postgraduate degree (n = 14), with a small portion of teachers and PhDs. Regarding the employment relationship of the participants, the most common form of hiring was through a public tender, and almost all have more than 10 years of experience in nursing. Through the participants' reports, the following categories emerged: Process of introduction and preparation of professionals to handle the e-SUS AB system; Potentialities and challenges found by nurses regarding the use of the e-SUS AB system; and Feelings of nurses regarding the e-SUS AB system.

Process of introduction and preparation of professionals for e-SUS AB system handling

The implementation of e-SUS AB represents an important advance in the qualification and use of the information recorded during the health actions developed in PC. However, as in every moment of change, there is a more critical initial period until the new processes and instruments used are incorporated into the routine of health team professionals[5]. It was possible to realize, through the speeches of most participants, that this initial moment was more complicated, generating fear and the emergence of many doubts, because, besides being something new, they mention that the implementation happened abruptly.

> *The implementation process was troubled, like the whole process, because it was all new and it was all very fast [...].* (N3).

> *Many questions arose after the implementation because we did not know the system, as it was also 'shoved down the throats' [...].* (N12).

However, a smaller and no less important portion reported not having felt so much difficulty at the beginning, that they even predicted a certain degree of complexity, but, after handling, they were able to cope easily. These issues may be directly linked with the individual capacity of each one, because there are people who can easily adapt to the new, and others that demand a little more time.

Nevertheless, the present study points out that there was a strong relationship between the initial difficulty identified by most of them and the way they were prepared to receive this new instrument.

> *It was a little confusing, because we didn't have a complete training [...].* (N5).

> *Of initial difficulty was exactly the lack of more complex guidance of the process, it was a very fast thing, but we had to learn by using, finding and with difficulty [...].* (N10).

It must be emphasized that, on that context, when referring to the existence of these previous training and how they occurred, most of the study participants (n = 17) reported that there was training, however they considered this process ineffective. A good part of them narrated that it was just a brief meeting, which did not include all the necessary information to use this new tool and that they were learning, in fact, in their daily work.

> *There was, but very light, only one person to teach ... we were learning 'by force' [...].* (N5).

There was a brief quick training, very quick, we actually learned by looking, visualizing the system itself [...]. (N10).

In addition, it is noteworthy that, due to the fragility of the preparatory process envisioned by the nurses involved, some did not even consider that there was training due to the way it happened and because it was a punctual moment.

Research related to e-SUS AB emphasizes that, in order to work with this new system, health professionals must be aligned and qualified by trainers who are involved in the implementation process, preparing them and sensitizing them about the importance of having an online system, so that it is properly fed. Professionals should be oriented on the new concepts, terminologies, features and support of the system, so that they feel prepared to use and handle these new technologies[16,17].

A study carried out in Sobral (CE), in 2017, also portrayed the process of implementation of the e-SUS AB system, based on the speeches of nurses (managers and assistants) and community health workers. The research showed that professionals who had training through weekly workshops appropriated all the necessary knowledge to manage the new tool, and that the initiative was extremely important to address this need, as some were unable to operate technological innovations[18].

In the present study, the lack of preparation, support and supervision in the handling of the SIS made the process of incorporation of these tools difficult, because what could be noticed is that each one was learning in daily life, in his/her own way and according to his/her own previous skill. Moreover, regarding skills and handling of information technology, although most of them reported satisfactory acceptance or that they simply adapted well over time, it was found that some of them do not feel prepared with this technology, because there is not so much proximity to the computer, especially those older, as evidenced by the speeches below:

Here the difficulty was this, because there were people who didn't even know where the computer's power button was, let alone typing, typewriting [...]. (N1).

[...] but since I had not so much contact, I had more difficulty, even the matter of age, I am older I don't deal with computer so much. (N5).

Even today I have difficulty, mainly because I am not someone 'used' to this part of the informatic... I do not really have this ability to use the system [...]. (N18).

Alves et al.[10] point out that it is important to train health professionals in PC, according to their needs for the use of e-SUS AB, whether these are basic or more complex difficulties, in order to avoid errors that become obstacles in the handling of the system, because the computerization process is continuous and gradual, and should provide professionals with a more resolute performance.

The introduction of a new technology in daily work, while referring to a process of innovation in health practices, as it is a technological tool, also brought with it several challenges, by requiring adaptation and professional preparation in relation to the acquisition of new knowledge, involving factors inherent to each one and the context that were inserted.

Potentialities and challenges found by nurses regarding the use of the e-SUS AB system

In this category the potentialities and challenges identified by nursing professionals through the use of e-SUS AB as a work tool are emphasized. Even though the initial process was difficult, they mentioned many good points of the system. One of the things

cited as easy was the layout, which was self-explanatory and easy to understand. In addition, it was classified as a complete system, which has fields that included PC and met the programs established by the Ministry of Health.

> *It was complete [...] you had the possibility to annotate, register in an organized way all that was pertinent to the user, within the programs [...].* (N1).

> *[...] all the nutrition markers, SHP* [School Health Program]*, everything that includes primary care [...], everything was already interspersed within it.* (N6).

It is pointed out that nurses have recognized some of the main purposes of the e-SUS AB system. The first one is that it is a technology that is easy to execute, self-explanatory and, at the same time, capable of integrating the information systems that make up the Health Care Networks (RAS) in one device. This thinking is in line with the strategic plan of e-SUS AB in Brazil, as it aims to develop, restructure and ensure the integration between information systems at the various levels of care, reducing data fragmentation[5].

Thus, the results of a narrative research are corroborated which aimed to describe the advances and challenges in the implementation of e-SUS AB in the work process of health professionals from PC, through the analysis of documents from the Ministry of Health and from other publications related to the theme, in which was also identified as positive aspect of e-SUS AB the fact that it is used by several professionals in various points of attention. This integration was cited as a benefit to the users and professionals that make up the teams of the Family Health Support Centers (Nasf), the street outreach office team, home care teams, under the School Health Program (PSE), among others[10].

Another facilitator mentioned was the issue of the electronic diary, which made it possible to organize the flow, as patients were scheduled by the employee himself during the service, and it was possible to reschedule for other professionals of the BHU, all within the system itself.

> *[...] One of the things that I found easy about the system is because it has an electronic calendar, so it's good because you organize the timetables, I scheduled for myself, I scheduled for the doctor, I scheduled for the dentist, so you had a greater practicality of scheduling within the system, right? [...].* (N1).

It is worth highlighting the mention that, prior to the implementation of the system in question, patients were scheduled by mid-level professionals, usually receptionists or administrative assistants, who, most of the time, did not know the individual needs of each user. The scheduling made by the professionals themselves, inside the office, enables a humanized and integral care, as well as enabling the autonomy in the organization of their agenda, optimizing the care among the team professionals.

The tools of the e-SUS AB system were developed to organize the citizens' flow in the system, such as the service list and the agenda, anchored in the guiding concepts of the 'Notebook of Primary Care' nº 28 – Volume I, which defines the process of receiving the spontaneous demand, observing the possible variations of this flow, starting from the need to attend the citizen, as well as when they already have a scheduled appointment or search for some specific service within the BHU[5].

The issue of easy and fast access to the medical record was also pointed out as potentiality, as well as patient data, by registering all such information in the system; this is because e-SUS AB aims to approximate the recording of the data from which they are being originated and ensure access to

the information produced from them, in order to support the essential processes of primary care[16].

> *[...], but generally it facilitates by having access to the chart, to all patient information [...].* (N3).

> *[...] I see the good side, it is this record that can stay and the other professional have easy access, and don't have to look in a pile of medical records.* (N14).

User data must be available in the system so that the healthcare professional can obtain information from their patients in the most integrated possible way. Once registered by the team, using the records, and having been entered through the system with CDS and/or PEC, the registration information will be available at the local base for access through the 'Citizen'[6] module.

Ease of access to information by computer was one of the factors that also stood out in the study by Matsuda et al.[19], conducted in the South region. In its context, easy access was directly related to the agility in decision making and care, as well as the smallest displacement of professionals within the work environment.

In addition, another relevant point indicated as positive by some nurses was that the system also reduced bureaucratic issues, as well as the use of paper, as these were often lost within the unit itself.

> *[...] It reduced the issue of bureaucracy, less paper for us to fill... we write much less, right? Typing everything, we got tired of writing a lot.* (N9).

> *[...], even improved the issue of paper records, which were often lost here in the post, besides accumulating a lot of stuff [...].* (N13).

In João Pessoa (PB), a survey carried out evidenced that the restructuring of health systems in the e-SUS AB is advanced and, although it is something new, also showed benefits in the work process of professionals involved, especially in reducing the amount of forms used in the records of care and procedures performed by each one[20].

This meets the objectives of the system, since it is intended to promote the reduction of role dependence and reduce the workload dedicated to the collection, insertion, management and use of information in Primary Health Care (PHC), allowing that this data collection is within the activities already developed by professionals, and not a separate activity. Consequently, it should also have the information easily available and accessible to PC professionals, allowing to expand the culture of the use of information for the planning of actions and the qualification of health care for the population[5].

However, regarding the reports emission of the system and the use of information for planning actions within the PC, it was clear in the interviewees' speech that this was an important weakness found. Many professionals did not know how to generate the indicators, much less it was part of the routine and work processes to have access to data to perform analysis/planning based on them.

> *If there is a report? It might even have one, but we don't even know where it has gone, this is my perception [...].* (N12).

> *[...] and another difficulty generated was the lack of a better transfer of information about the reports we built, because we had no direct access to those reports that were generated here initially, we lacked this feedback of the data in a timely manner. [...] So it is a lack, of a management's own look in planning and working with this data.* (N15).

A survey describing the evolution of SIS to PC in the years 2007-2017 showed that even with the training about systems and their significant importance, FHS professionals are not in line with the use of

collected data and their use at local level. It was also possible to identify weaknesses and lack of knowledge for the diagnosis of diseases in the assigned areas, as well as the planning of health promotion and prevention actions based on the reports issued[17].

Furthermore, another significant weakness mentioned was about the incompatibility of the data obtained through these reports. According to them, when they were able to access the indicators, many reported that the information did not match the reality, always appeared less than was done.

> *[...] to this day I still stay that way, because when we compare what we do manually, that control we have of patients, with what is exported and with the reports we receive, never matches, we always lose, we are always with less than we did, for the team is not good.* (N3).

> *[...] they were going to compare and sometimes the information did not match and then they ended up influencing negatively the indicators.* (N17).

In the study by Gava et al.[21] that portrays the incorporation of information technology in the PC of the SUS in the Northeast, difficulties similar to those identified in the context under study were pointed out. For them, information has a planned role to play in decision-making processes; however, it is still possible to observe, on the one hand, the presence of numerous difficulties to access and treat the data properly, having the necessary information for the health work process, at the appropriate time; on the other hand, the lack of connection between health planning and management processes and the information systems themselves lead to process discontinuity.

In Brazil, there is still a great difficulty both for proper data collection and the use of information for the construction of health indicators. This fact can be due to a number of factors, among which the lack of adequate training of professionals can be cited. It is noteworthy that data collection and periodic feeding of the systems are essential factors to make them more reliable, but, for this to happen, the professionals involved in this task must be aware of the importance of their work[22].

Since information technology has become prevalent, experience has shown that a poor project, improper implementation and misuse (intentional or not) can create damages. The implementation of this new system requires great care, as an inadequately fed system can lead to unnecessary costs and errors in the information to be generated, as well as consequent mistakes in the formation of public policies. Therefore, it is important that these records are reliable in relation to the health actions performed, in order to guarantee the quality of the data, as well as the care provided[6,16,23].

Feelings of nursing professionals regarding the use of the e-SUS system in the FHS

When asked about their feelings about the use of the e-SUS AB system in the FHS scenario, most of the nurses stated that, after the initial period, cited as more critical, they were already feeling well adapted and clarified about the tool as something that has been giving them a sense of efficiency and practicality.

> *It generated a feeling of ... Efficiency, quality, gain [...].* (N1).

> *Great practicality for the user, for us [...].* (N6).

> *So the feeling is of practicality, of being experiencing a technology to provide autonomy [...].* (N15).

A study by Matsuda et al.[19], which aimed to unveil the perception of care nurses about the use of the computer in their daily work, also found that, in general, nurses consider

that the use of the computer is related to ease, with agility and practicality in the execution of professional activities, being limited only by more technical and operational aspects, such, for example, access to the Internet and the system outage itself.

Other feelings mentioned by them were satisfaction and trust. What could be noticed is that, contradictorily, even though some difficulties were identified through the use of e-SUS AB, a good part pointed out that, after a period of use, feelings of trust and satisfaction prevailed. Health information systems imply the participation and constant involvement of nurses, so it is necessary to pay attention to what they feel/think about these information tools they have, and if they are satisfied with its use[24]. *"[...] was something that was acquiring a confidence [...]"* (N2); *"I was very satisfied with the system [...]"* (N4).

Moura[25], when studying the satisfaction of professionals using nursing information systems in electronic support, concluded that the frequency of use of the system can positively or negatively affect the degree of the user's satisfaction. It was also found that the use and degree of satisfaction of professionals are direct precedents of the impact on individual performance, as well as the nursing staff and the work environment as a whole.

In Portugal, several studies have been developed with the same objective, as is the case of a research carried out by Silva[24]. In his study, this issue was cited as current and essential given the continued growth, particularly with an increasing number of health professionals, and, in particular, the number of nurses who use this tool daily, as was also the case of the reality found in the present research. That's why it is important to know the nurses' satisfaction with the e-SUS AB system in their work context, because the evaluation of an information system is a fundamental activity to determine its success and ensure the continuity of its use.

However, it was possible to identify through the speeches that, even with the use of e-SUS AB over time, a part of the interviewees still mentioned that the feelings of anguish, doubt of what it represents and even disappointment about the system perpetuated themselves.

> *If I were to talk about good, bad, great or very bad issue, I would say very bad [...] I am very dissatisfied, very disappointed.* (N5).

> *[...] so it gives me anguish, but at the same time it gives me anguish, it gives me a sense of organization. So it's hard to say.* (N18).

Nurses, if not satisfied with the SIS in use, may compromise the quality of documented data, affecting decision making, continuity of care and access to information[25]. Dissatisfaction with the use of the system can also lead professionals to a demotivation process in their practice in nursing care, tending to reproduce their dissatisfaction in the relationship of care with others, and may compromise it.

When the satisfaction of a set of needs is not met, it causes less involvement of professionals in their activities and lower work performance. Therefore, excellence in nursing care is closely related to the satisfaction states of this caring team, as they are part of a dynamic and inseparable process within the work[26].

A focal point presented by some of the interviewees was the fact that they sometimes felt that the use of technological tools (computer/system) generated a feeling of detachment between the professional and the user. According to them, a mechanical barrier was created that could interfere with the humanization of patient care.

> *I also think we got very far away from the patient, because we got too attached to do the right thing on the computer and the patient on the side was half lost, it was like there was a wall between us*

and the patient, I didn't like it [...]. (N5).

The issue of computerization we have to be very careful so that we do not lose the humanization of care [...]. (N17).

[...] It limits you in some things, especially about the time to talk to the patient [...] I think it created a very strong mechanical barrier. (N18).

The production of care is understood as a process that involves hard, light-hard and light technologies. Communicative action promotes the linking and coordination of attention and includes all kinds of technologies, because communicative action is the only one capable of articulating the different worlds and their respective types of action. Although hard technologies require a kind of instrumental action related to strategic action contexts, it does not dispense with communicative action. Thus, humanization practices, often associated with light (relationship) technologies, should not be affected by the use of light-hard or hard technologies, because without them, the quality of care can be compromised[27].

However, what can be perceived in this study is that the introduction of this technological tool generated a feeling of distancing, a mechanical barrier between the professional and the patient. This may be because they could not associate the use of light technology (communication) with a light-hard technology (system/computer).

It is noteworthy that, as this research aims to know the profiles that are revealed in human perception, by analyzing the participants' discourses at other times, it is possible that many other perceptions about the study arise, however, the fact of having to finalize it causes one to write only about some profiles, which is close to the theory that knowledge is unfinished and that it is always necessary to make new readings of the experiential descriptions[28].

Final considerations

Based on the perceptions of the nurses interviewed, it is observed that the use of the e-SUS AB system leads to the emergence of several aspects that need to be frequently evaluated. It was possible to identify that the use of this system can be an important tool within the FHS, however, there are still aspects that hinder the incorporation of this technology.

It is considered important that managers pay attention to the perceptions and convictions of team professionals about e-SUS AB, especially nurses, in order to ascertain the needs and advances to be made to ensure the effectiveness of the system and -SUS AB, as well as the reliability of the data collected and information being produced, to ensure the quality of information and the planning of actions to support health interventions and decision making.

This article is considered, therefore, as an important knowledge for nurses' reflection, as well as for the entire team of the FHS and public health management, regarding the use of technological instruments in the scope of the SUS, since professionals need to be qualified, supported and supervised for the use, correct understanding of system variables and generation of faithful data of the population's health reality under their responsibility. In that sense, it is also believed in the pertinence of conducting new researches aimed at listening to other professionals involved in the use of the e-SUS AB system.

Collaborators

Araújo JR (0000-0003-3789-4928)* and Cruz RSBLC (0000-0002-4596-313X)* contributed substantially to the conception, planning, analysis and interpretation of data, to the elaboration of the draft, critical review of content and final approval of the manuscript.

Araújo Filho DC (0000-0002-2349-5531)* contributed to the elaboration of the draft and critical review of the content. Machado LDS (0000-0003-4450-3796)* and Martins RMG (0000-0002-2516-0719)* participated in the review and approval of the final version of the manuscript. ■

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*Orcid (Open Researcher and Contributor ID).

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