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TECNOLOGIA DA INFORMAÇÃO E COMUNICAÇÃO: IMPACTOS NA GESTÃO DE ENFERMAGEM
INFORMATION AND COMMUNICATION TECHNOLOGY: IMPACTS ON NURSING MANAGEMENT
TECNOLOGÍA DE LA INFORMACIÓN Y LA COMUNICACIÓN: IMPACTOS EN LA GESTIÓN DE ENFERMERÍA

Michelle Lúcia Teixeira de Carvalho[1], *Liliane Agnelly dos Anjos Marreiro*[2], *Gyl Dayara Alves de Carvalho*[3], *Saemmy Grasiely Estrela de Albuquerque*[4], *Sérgio Ribeiro dos Santos*[5]

RESUMO

Objetivo*:** compreender como as tecnologias da informação e comunicação influenciam o processo de tomada de decisão de enfermeiros gestores em um hospital universitário. ***Método*:** trata-se de um estudo qualitativo, descritivo, realizado com nove enfermeiros gestores das unidades assistenciais de um hospital de ensino, por meio de entrevista semiestruturada. Submeteram-se os dados à Análise de Conteúdo Temática. ***Resultados*:** informa-se que emergiram duas categorias, "Descrevendo o uso do AGHU" e "Sugestões de melhorias para o uso do AGHU", e os gestores demonstraram possuir pouca qualificação no uso de Sistemas de Informação, apresentaram dificuldades quanto à implantação do sistema utilizado e acesso à internet. ***Conclusão: conclui-se que o sistema AGHU, da forma como se encontra estruturado, não está sendo utilizado de maneira coesa, tendo repercussão negativa na qualidade dos serviços prestados à gestão de saúde. ***Descritores*:** Tecnologia da Informação; Enfermagem; Gestão; Gestão em Saúde; Administração Hospitalar; Tomada de Decisões.

ABSTRACT

Objective*:** to understand how information and communication technologies influence the decision making process of nurse managers in a university hospital. ***Method*:** this is a qualitative, descriptive study, carried out with nine nurses managing the assistance units of a teaching hospital, through a semi-structured interview. The data was submitted to the Thematic Content Analysis. ***Results*:** it is informed that two categories have emerged, "Describing the use of UHMA" and "Suggestions for improvements for the use of UHMA", and the managers demonstrated to have little qualification in the use of Information Systems, presented difficulties regarding the implementation of the system used and access to the internet. ***Conclusion: it is concluded that the UHMA system, as it is

structured, is not being used in a cohesive manner, having a negative impact on the quality of the services provided to health management.

***Descriptors*:** Information Technology; Nursing; Organization and Administration; Health Management; Hospital Administration; Decision Making.

RESUMEN

Objetivo: comprender cómo las tecnologías de la información y la comunicación influyen en la toma de decisiones de los enfermeros gestores en un hospital universitario. ***Método:*** se trata de un estudio cualitativo, descriptivo, realizado con nueve enfermeros gestores de las unidades asistenciales de un hospital universitario, mediante entrevistas semiestructuradas. Los datos se enviaron a Análisis de Contenido Temático. ***Resultados:*** se informa que surgieron dos categorías, "Describiendo el uso de AGHU" y "Sugerencias de mejora en el uso de AGHU", y los gerentes demostraron tener poca calificación en el uso de Sistemas de Información, presentaron dificultades en la implementación del sistema usado y acceso a internet. ***Conclusión:*** se concluye que el sistema AGHU, tal como está estructurado, no se está utilizando de manera cohesionada, lo que repercute negativamente en la calidad de los servicios prestados a la gestión sanitaria.

***Descriptores*:** Tecnología de la Información; Enfermería; Organización y Administración; Gestión en Salud; Administración Hospitalaria; Toma de Decisiones.

[1,2,3,4,5]Federal University of Paraíba/UFPB. João Pessoa (PB), Brazil.

[1] http://orcid.org/0000-0001-5192-0438 [2] http://orcid.org/0000-0001-5224-6668

[3] http://orcid.org/0000-0001-6308-5142 [4] http://orcid.org/0000-0003-4944-3980

[5] http://orcid.org/0000-0002-7835-3151

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INTRODUCTION

It is known that computerized systems in health help the efficiency of an institution, making possible the access to several types of information, which are support for planning and decision making in health, thus, the health professional has a work tool that will help him/her in the assistance and management of care. It is noticeable that hospital managers are aware of the importance of the use of Information Technology (IT) in their institutions; however, there is still no prioritization of its use, sometimes being left in the background.[1]

The use of electronic records is consolidated, both in the global and national scenarios, as a reality, and is based on the improvement of institutional, bureaucratic or care practices. It was revealed, at the Brazilian level, by study, that there is absence of investments in the area of Information and Communication Technologies (ICTs) in health, besides the lack of qualification.[2]

Nursing needs to learn how to manipulate these tools on an ongoing basis, often having to re-signify their practices, since care goes through the generation, handling and processing of health information about patients, as well as the multiprofessional team.[3-4]

Therefore, ICT is gradually being used in hospitals with the purpose of guaranteeing the socialization and democratization of information. This has resulted in the implementation of Hospital Information Systems (HIS) whose purpose is to direct the management of health services, organizing, operating and generating reliable and rapidly accessible information.[5]

For success, ICT is necessary to achieve the hospital's goals and needs, to study the internal interactions of the sectors to promote process shaping and thus improve and develop systems for such purposes.[5] Thus, through the expansion of the means of communication and potentiation of the use of IT, the decision making process of the nurse is changing and the use of new skills and knowledge has become part of this process.[6]

Therefore, based on these assumptions and the urgent need visualized by the managers of the Brazilian Company of Hospital Services (EBSERH), linked to the Ministry of Education, the University Hospitals Management Application (UHMA), linked to the National Program for the Restructuring of Federal University Hospitals (REHUF) was implemented in 2009. The application has several modules and aims to bring administrative and welfare standardization to Federal University Hospitals, enabling the creation of standard indicators, which served as the basis for projects to improve these establishments.[7]

In this context, the aim was to broaden the knowledge about the theme related to the decision making field of nursing managers, providing subsidies for the improvement of Nursing actions, from the theoretical and practical understanding of the experience and perception of these health professionals in the use of information technology.

OBJECTIVE

To understand how information and communication technologies influence the decision making process of nurse managers in a university hospital.

METHOD

It is a qualitative study, of exploratory-descriptive character, developed in a university hospital in Paraíba. The population of the study was constituted by the managing nurses of the assistance units of the referred hospital, and the sample was defined by accessibility.

The data was obtained by means of a semi-structured interview, through a script containing questions related to the socio-demographic and professional profile, and the second part was composed of guiding questions related to the experience in the use of information technology in the hospital institution. The reports were recorded with prior authorization of the participants.

It is informed that the sectors that served as scenarios for the study were: Intensive Care Unit; Material and Sterilization Center; Infectoparasitic Diseases Clinic; Surgical Clinic; Medical Clinic and Pediatric Clinic of the referred teaching hospital. In general, these units are managed by two nursing managers, who are responsible for a care team of nurses and nursing technicians, totaling a population of twelve individuals, but of these, only nine accepted to participate in the research.

The interviews were scheduled with the research collaborators, individually, compacting the place, date and time for the accomplishment. An audio recorder was used, with prior consent of the participant, to assist in the process of recording the data. The interviews were digitized and transcribed later with the help of technological tools. In order to safeguard the anonymity of the participants, they were represented by the letter E, followed by numbering from one to nine.

Thematic Content Analysis from Bardin's perspective was used as a method of data treatment, which is described as a set of systematic techniques and procedures of message analysis and description, through the formation of sense and category nuclei, following three major steps: pre-analysis and organization of the material; codification and exploration of the data and information collected; inference and interpretation of the results, based on the literature pertinent to the theme.[8]

The project was submitted, following the formal and ethical procedures for conducting the research, to the Brazil Platform for consideration by the Research Ethics Committee (REC) of the aforementioned teaching hospital, and was approved with CAEE No. 82672218.7.0000.5183. It is emphasized that the ethical aspects that rule the research involving human beings were observed during the whole research process, disposed in the NHC/MH/BRAZIL Resolution no. 466/2012, especially the confidentiality and confidentiality of the information, as well as the signature of the Free and Informed Consent Term (FICT), which presents information about the benefits, rights and possible risks to those involved.[9]

RESULTS

The sample's sociodemographic profile showed the predominance of the female sex (9=100%), ages ranged from 31 to 40 years (four), 41 to 50 years (two) and more than 50 years (three) and, as for professional training, five have a specialization course, one, multiprofessional residence, two are nurses with a master's degree and one with a doctorate. Thus, the weekly working hours are distributed: five nurses with 36h/s; three with 30h/s and one with 40h/s; regarding the length of service in the institution, there are five nurses with a length of one to five years; one, between six and ten years; one, between 11 and 15 years and two nurses had more than 15 years of service in the institution. It was also found that the time in charge of the management of the sectors includes: five nurses with one to two years of experience; two over ten years; only one under one year and one with three years. On the other hand, it is shown by data related to computer training, that six have basic or intermediate courses and only three do not have computer training.

After reading the interviews and following the steps of the data analysis recommended by Bardin,[8] two central categories were identified: "Describing the use of UHMA" and "Suggestions for improvements for the use of UHMA".

Describing the use of UHMA

This category deals with the participants' conception regarding the use of the UHMA system. It is explained that the UHMA system is a university hospital management application whose objective is to support the standardization of the welfare and administrative practices of Federal University Hospitals and to allow the creation of national indicators, which facilitates the adoption of common improvement projects for these hospitals.

It was found, regarding the use of UHMA, that there was a predominance of professionals who use the application only for warehouse, pharmacy, health products unit orders, and that it is more used by the administrative team to make these orders.

Generally, as he has specific modules, who uses him more often is the staff who is administrative assistant, and today as some administrative modules at the warehouse level and the unit of products for health. (E8)

> *These orders are made at the pharmaceutical supply center, which is HFS, at the warehouse and at the health products unit, which is PHU. So, however, these orders, so routine, they are made by the administrative assistant and only in the absence of this, except in some cases, by us from the Nursing coordination. (E5)*

It was verified, in view of the conceptions of the interviewed managers regarding the use of UHMA, that most of the participants demonstrated significant knowledge regarding the purpose of the system and the importance for the professional practice, however, inefficiency of use occurs

due to the lack of availability of the modules applied to the system, causing losses to the decision making processes of the managing nurses.

By emphasizing the reports, it is highlighted that the nurses assume the management of their unit, elaborate the scales, inspect the professionals, act in the organization of the sector and in the production of the Standard Operating Procedures (SOPs), management and relocation of professionals and patients, among other activities. Thus, it is noted the great importance of the use of a tool that helps optimize the work, such as the UHMA system, which allows to aggregate such information quickly and completely.

The lack of activation of the module for the use of the Nursing Care Systematization (NCS), as well as the records in the patient's chart, which leads to an increase in the workload of the managing nurses, in view of the handling of papers, is also highlighted.

It does not have specific module of Nursing that the part of register and us. As a matter of fact, from the Systematization part of the Care for prescription, for evolution, there, we use less frequently. (E8)

Suggested improvements for the use of UHMA

In this category, the improvements proposed by the managing nurses regarding the use of the UHMA system are highlighted, among which the following were mentioned: expansion of the system's tools, since it has access limitations; implementation of other tools; increase in the number of computers available and improvement of the network quality that serves the hospital. With these measures, improvements can occur in the adherence to the program and in the making of decisions in health.

It could be a tool that we could evolve, make our Nursing prescription, neh, the systematization could be in it that, in other places, is already used for that. (E1)

So, how to use a system with only one computer for an entire team? On the other hand, how to activate the modules without available computers? And, finally, how do you activate the modules if you keep doing the same thing on paper? (E5)

Through the statements made by the interviewees, one can perceive the eagerness for UHMA to have an effective functionality in the sectors employed, the understanding about the tools and the expansion of them, being also primordial the accomplishment of training, which contemplates all those who make use of the system.

The training did not occur for everyone, it was not something developed by the hospital. I, individually, looked for the UHMA training on the Ebserh education platform and did the training on the platform, with separate registration. (E6)

I think that the change, in fact, is accessibility for everyone that today does not have the tool has many, many nuances, it has a record, you can prescribe, you can evolve the patient, however, at the moment, we are not using, we underuse the UHMA. (E2)

The need for training in the use of system tools was generally reinforced by managers on numerous occasions, since many felt unprepared and, therefore, there were barriers of the employees themselves, resisting the use of the system.

It was also reported in the research that the success of the implementation is in its full use, which does not happen instantly.

DISCUSSION

It becomes the cooperation of health professionals for the implementation of an Information System fundamental to ensure not only the adherence to new Technologies and their full use, but also to feed and control databases in order to contribute to the reliability of information.[5] The low adherence of professionals to the use of UHMA is noticeable in this aspect, indicating the need to feed the databases, to train professionals and to recognize, on the part of the hospital sectors, the importance of this system as a management tool.

The use of Health Information Systems is recognized for improvements in the quality and safety of health services, increasing the potential in performance and cost-effectiveness within the organization. When the information generated is applied in an intelligent way, in-depth analyses of health situations are allowed, leading to efficiency in the management processes.[10]

Historically, the nurse assumes management positions and naturally difficulties will arise in the performance of the function to provide quality assistance, organization and leadership of his team. It is therefore necessary to develop a dynamic work process in hierarchical relations, communication, human resources and material management.[11-12] The precarious working conditions of Nursing and the overload of work and low wages are considered factors that can negatively impact the implementation and use of new technologies.[13]

The need for training health professionals in the use of ICTs is thus reaffirmed, since the demands of the work environment are countless, making it extremely important that they have enough knowledge to handle tools that can optimize their work processes. It is considered a hospital institution of high complexity, possessing several types of technologies, which demand qualified performance of the professionals.[14]

The importance of NCS in the optimization and organization of the work process of the Nursing team is also highlighted. It is known that, within the UHMA system, there is a lack of activation for

the use of this modality, making the work of these professionals difficult. It was demonstrated, by study, the construction of a mobile technology to assist the nurse in the nursing process of the newborn, which favored the collection of data, diagnosis and grouping of clinical signs linked to the newborn in intensive care units.[15]

In another study on the use of Clinical Information Systems, it was found that significant improvements in workflows and efficiency of care were generated, adopting information from this software, since it helps to reduce clinical errors, medication and diagnosis, being a support for updated information on individuals who receive care. However, it was highlighted that there is a long way to improve the system to reach perfection, reporting the needs for changes in management and data integration, as well as the lack of some functionalities of the system.[16]

It is understood that the selection of an organizational software suitable for the needs of the organization is a major challenge for managers and the literature suggests following three steps for this choice: identify and evaluate what is indispensable for the institution; select from three options the best method related to internal production, purchase and order of special software for native use and, finally, evaluate, compare and classify the alternative software.[17]

In this way, it can be seen that there are several factors involved in the acceptance and use of ICT resources by professionals, highlighting here the training (capacitations) as fundamental to the improvement of users' skills, as well as assimilating the usefulness and simplicity in the handling of the system. It is detailed that, in the process of implementing new technologies, adaptation is gradual and, as the system is used and the benefits arise, will consequently increase the use of the tool.[18]

FINAL CONSIDERATION

In view of the objective proposed by this study, it is noted that the UHMA information system used in the aforementioned EBSERH network university hospital has no influence on the decision making process of nurses in the function of care management.

Therefore, it is perceived that UHMA, as it is structured, is not being used in a cohesive manner, having a negative repercussion on the quality of the services provided to health management and, even with the difficulties pointed out, it is an information system that must be improved every day for a better health care and quality of professional service. Its importance as an instrument of reorganization of the work process should be highlighted, even if its use by the multiprofessional team has proven ineffective in decision making.

It is believed that the constant evaluation, through the managers, of the difficulties of using the UHMA as an instrument in the local work programming of health professionals, is a fundamental requirement to achieve the objectives and goals mentioned by the managers themselves; after all, only the access to some modules of the system is not enough, it is necessary to invest in training. Therefore, the articulation and involvement of all professionals in the assistential and administrative areas are necessary in order to effect and consolidate partnerships in the search for promoting workshops, lectures and intersectorial activities for activating the modules already built up.

It is added that some limitations of the study are related to the difficulty of access and availability of managers and this led to a small number of nurses managers interviewed; in addition, research was conducted in only one public university hospital, and it is important that other studies show a panorama of how the process of computerization in the network of university hospitals EBSERH.

CONTRIBUTIONS

It is informed that all authors also contributed in the conception of the article, collection, analysis and discussion of the data, as well as in the writing and critical review of the content with intellectual contribution and in the approval of the final version of the study.

CONFLICT OF INTERESTS

Nothing to declare.

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Correspondence

Michelle Lúcia Teixeira de Carvalho
Email: michelle_ltc@hotmail.com

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