

Digital Competences in Health Professionals. Public Hospitals Case of Peru

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ABSTRACT

The advances of Information and Communication Technologies (ICT) have generalized the use of the internet, this has led to hyperconnected scenarios, data creators and a growing digitization, as a result, almost all production areas today are trapped in processes of constant changes, with the main objective of adapting to this new digital era. Given the events observed, it is inevitable to describe digital skills in health professionals, since it is an essential requirement to deepen knowledge, through the use of new technologies enhances their capabilities, thus optimizing health services, quality and the well-being of people in nursing work. The general objective is to describe the digital skills of health professionals. For the collection of information, the following was used: systematic review, for the bibliographic search search engines were used (Scopus, PubMed, ScienceDirect, Dialnet, Scielo, ProQuest) finding 10 investigations that were evaluated through the Boverieth Astete list, the search was carried out with different strategies through descriptors and keywords. The sample consisted of 10 articles. The results obtained showed 6 relevant categories: creation of digital content, and factors related to digital competence, problem solving, use and security of technology, information and information literacy, communication and collaboration.

Conclusions: Health professionals show various deficiencies in communication and collaboration, digital content creation, information skills and information literacy, use of technology and security; however, they show more skills when it comes to solving problems; the ability factors are correlated, and it is not a negative correlation, that is, the higher the ability, the younger they are.

Keywords: Health professionals, Digital skills, Computer skills

INTRODUCTION

ICT in the current era, facilitate the manipulation of information and provide the necessary means to store, achieve, produce, inspect, display, transfer and report data in previously unthinkable proportions, facilitating communication between all human beings, bringing to the world social transformation based on information (Arandojo, 2016). Thus, technological advancement has led to the widespread digitization of many work processes in healthcare settings, where, recently, the World Health Organization (WHO) defined and classified digital health interventions in the context of healthcare as a distinct role for digital technology in achieving health goals (World Health Organization, 2018).

In addition, there is evidence that professionals' opinions of their own digital health competence are mixed, with some participants feeling sufficiently competent while others perceive a lack of skills in specific areas, so digital health competence it is related to their ability to provide patient care, focused care through digital media, using technology and digital health systems (Jarva, 2021). In addition, Borneo (2020) in his study on the self-perception of digital skills in the Health personnel of Huánuco in Peru, found that most public workers had a basic level of digital skills, in addition, they excelled in the technological dimension, followed by digital participation, along with collaboration and communication, on the one hand, by mastering the four necessary aspects, only a small group felt digitally competent.

Digitization is not yet fully applied in clinical practice, and numerous issues, including the skills and abilities of healthcare workers, have been recognized as potential impediments. However, a synthesis of existing research has yet to be presented to characterize the digital health competencies studied among healthcare personnel, the instruments used to measure such skills, and the effective disruptors used to develop them (Longhini et al., 2022). Furthermore, what is not fully understood is what digital competencies are required for primary care providers and healthcare workers to implement and use digital health in primary care; this knowledge depends on a diversity of components, including the type of technologies used, the type of health worker, and the digital competence of the primary care provider (Jimenez et al., 2020).

On the other hand, health sciences cannot be exempt from developing this digital competence, so Cabero et al. (2021) express the need to implement such competencies in the professional, since for some professionals it is difficult to implement them in their performance, slowing down the improvement process during the preparation of future professionals. Consequently, healthcare workers must expand their digital competencies to keep up with changing user needs or risk failing to provide quality patient care (Baldwin et al., 2016).

Given the problematic reality found, since it is a fundamental requirement to have a greater knowledge of the use of ICT to enhance skills, improving health services, human health and well-being, it is necessary to describe the digital skills of health professionals. Therefore, it is important that the professionals who teach, provide comprehensive university training in accordance with the curricular requirements, which must be constantly updated

and related to digital skills, with the same university community and the community as beneficiaries. society.

METHODOLOGICAL FRAMEWORK

Type of Investigation

El presente estudio de revisión de literatura fue descriptivo, porque se logró comprender los eventos y comportamientos sobre el fenómeno investigado, por medio de una revisión de literatura (Hernández et al., 2014).

Aunque el estudio tiene un enfoque cualitativo, los trabajos bibliográficos encontrados son en su mayoría cuantitativos, por lo que se procede con datos numéricos.

Methodology

The study used a bibliographic approach with the aim of thoroughly investigating and analyzing the topic of interest. For this reason, a specialized bibliographic search was carried out in reliable databases (Scopus, PubMed, ScienceDirect, Dialnet, Scielo, ProQuest). In addition, an advanced search was carried out using various search tactics, where descriptors and keywords were combined. Considering as filters the language and the years (English, Portuguese and Spanish, 10 years, respectively). The sample consisted of 10 articles, of which 1 belongs to a qualitative study, 8 to quantitative studies and 1 to a mixed study.

RESULTS AND DISCUSSION

Of the 100% of the selected articles, 80% were quantitative studies, 10% mixed studies and only 10% qualitative studies (Table 1).

Table 1. Percentage of articles selected according to study methodology.

Study Methodology	%
Quantitative studies	80%
Mixed studies	10%
Estudios cualitativos	10%
Total	100%

After an in-depth reading of the 10 original articles, the themes found were grouped as a result of the thematic analysis into 6 categories named as follows: The first category refers to the dimension of digital information literacy and information literacy. In this context Cabero et al. (2021) describe the recognition of informative data with a low level (1.87%) in the context of COVID-19. On the contrary, Vialart and Medina (2018) indicate that there was evidence of a low proportion of nursing professionals with expert knowledge and the ability to convert information into personal and social knowledge (0%, average of 4.18 out of 10 possible points and 4.58%, respectively). On the one hand, in terms of obtaining and preserving

data, information and digital content, Cepeda and Paredes (2020) found that teachers had a basic (18%), intermediate (45%) and advanced (36%) level. Regarding the evaluation of digital content, Zelada & Valcárcel (2020) indicates that there is a shortage of training and development of skills; 23% of medical professionals sought information on a topic related to their work to a lesser extent (Vásquez et al., 2015). Regarding the use of informative data, more than 90% have never used it (De Groote et al., 2014). These findings, when compared with the study by Sánchez and Rodríguez (2021), detected a low percentage in terms of evaluation; Similarly. All these results are worrying, since less than 75% of the population surveyed in each study lacks the ability to create or use digital competence in their environment.

The second category refers to the dimension of communication, digital competence and collaboration. In correspondence with this, Cabero et al. (2021) represent the commitment to digital technology in the context of a pandemic with an intermediate level (2.08%). Regarding identity management in the digital environment, Cepeda and Paredes (2020) point out that it remained at a basic level (73%), 18% at intermediate and advanced (9%). On the other hand, 51.30% used digital tools to maintain virtual communication (Zelada & Valcárcel, 2020). Likewise, Fernández et al. (2016) indicate that 77.4% use social platforms (Twitter, Facebook, LinkedIn) frequently and 22.6% of them do not use them. In the same way, medical professionals use WhatsApp (52%) to communicate content (Vásquez et al., 2015). In response, one of the participants in a qualitative research indicated that he communicates with colleagues around the world using WhatsApp and Skype (Kashif et al., 2019). Regarding digital cooperation, 99.5% use email, 23% Google Docs, 21% Dropbox and 4% YouSendIt (De Groote et al., 2014).

The third category refers to the dimension of digital competence, security and technical use. Regarding the level of knowledge of nurses about the use of ICT, Rajalahti et al. (2014) investigated the engagement of nursing professionals in online learning environments such as Optima and Moodle, finding significant levels of 0.167, 0.109, and 0.207 when embedding and opening a record in an online learning environment, respectively. According to Vialart and Medina (2018), most nurses had access to ICT to carry out their responsibilities, but 57.1% used digital platforms such as email for personal and non-work matters. According to Sánchez and Rodríguez (2021), only 21.35% of professionals engaged and shared digital content using digital technologies in terms of secrecy and security of communication and information on electronic devices. In addition, Cepeda and Paredes (2020) state that online citizen participation and cooperation through digital channels presented various difficulties.

The fourth category indicates the dimension of digital competence creating digital content. According to Cabero et al. (2021) the degree of digital content production in the COVID-19 pandemic was low (1.93). Considering the re-elaboration and integration of digital content, according to Cepeda and Paredes (2020) they stood at 18% (basic level), 64% (intermediate level) and 18% (advanced level). Also, it is detailed regarding intellectual property rights, where none were identified (0%) at the basic level, 27% at the intermediate level and 73% at the advanced level. Furthermore, a considerable

number of nursing professionals have a limited affinity with digital information (Vialart and Medina, 2018). These results are similar to the study by Solís de Ovando and Jara (2019) who found a low score regarding development with digital content and diverge from other research.

The fifth category is related to factors associated with digital competence. The relationship between age and digital competence shows an inverse association, with the youngest people having the greatest digital competence (Sols de Ovando & Jara, 2019). In addition, gender influences digital competence, since men are more competent than women, with a significance greater than 0.05 (Sánchez & Rodríguez, 2021), which shows a 74% association between the male gender and the use of ICT. In the context of COVID-19, substantial disparities in years of experience were found among employees with 4 to 5 years of experience who demonstrated greater digital competence than those with 10 to 14 years and 20 or more years of experience (Cabero et al., 2021). In addition, it is said that professionals who participate in training courses have higher levels of digital competence than those who do not (Ávalos et al., 2016). These results coincide with what was found by Vásquez et al. (2015) who confirm that medical professionals master the use of smartphones, email, social networks and laptops well; that is, between 40% and 70% were able to master ICT.

The sixth category refers to the dimension of solving digital competence difficulties. With a score of 1.81, this category highlights the creative and inventive use of digital technology in the context of COVID-19 (Cabero et al., 2021). As for identifying needs and technological responses, 18% were obtained at the basic level, 9% at intermediate, and 73% at advanced. Also, the characterization of gaps in digital competence was taken into account, where the basic was positioned with 45%, receiving the intermediate and advanced levels 27% each. Similarly, 67% of technical troubleshooters use the link resolver (De Groote et al., 2014). In conclusion, the digital skills associated with the five aspects received a score of 3.15 on a scale of 1 to 5, indicating an intermediate level (Sols de Ovando & Jara, 2013). In fact, these findings are similar to those found by Sánchez and Rodríguez (2021), who found that in the dimension of solving technical conflicts and identifying responses and technological needs they had fewer difficulties (26.68%), while Cepeda and Paredes (2020) found that 27% had a low level of innovation and creative use of digital technology, as well as identification of gaps in digital competence.

CONCLUSION

According to the articles that made up the bibliographic review, it was discovered that most of the participants did not know how to locate, store, identify, analyze, acquire and organize digital content, data and information with regard to the dimension of digital information competence and literacy. informational.

Regarding the communication and collaboration competence, only a minority percentage affirmed that they communicate through different digital channels, sharing resources through online teams, in addition to linking

and favoring others through online tools, interacting and participating in associations and networks. where other nurses participate.

In the category of technical use and security, it was discovered that the majority of the participants had access to the Internet and mobile devices, which allowed their participation in the virtual educational environments; however, low levels of personal and environmental safety were observed.

Likewise, in the creation of digital content, the best management of the edition and creation of new content (videos, texts, images, etc.), creation of artistic productions, incorporation and re-elaboration of previous content and knowledge, multimedia content and computer programming., demonstrated the ability to exercise the use licenses and intellectual property rights.

On the other hand, regarding the factors associated with digital competence, age and gender were two of the most prominent influences. Age showed an inverse correlation, which means that the younger the age, the greater the digital competence. On the other hand, men are more digitally competent than women. However, academic degree and length of experience did not have any perceptible impact or difference on digital competence.

Finally, most of the health professionals show fewer difficulties in solving problems.

RECOGNITION

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