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Level of Knowledge regarding the Use of Hospital Information Systems among Healthcare Personnel in Hospital Practices

Blagoja Stoilov[a]

Milčo Stoilov[b]

Snežana Stoilova[c]

Abstract

Introduction: The objective of this paper is to compare the level of knowledge of hospital information systems and the extent of utilization of this knowledge by staff employed in the gynecological department of a public healthcare hospital and those in a private gynecological hospital. Materials and Methods: Data was collected from the software packages being used in two healthcare institutions. These packages are easy to use and capable of processing large volumes of information. A prospective study design was applied using an anonymous questionnaire, and the study period extended from 05/01/2013 to 01/06/2013. Results: Based on the study results, it was concluded that despite implementation of specific hospital information systems in both institutions, there were flaws in the daily work. In the PHI Clinical hospital there was no access to computers in a majority of the workplaces and use of the internet in the daily work of the healthcare personnel was almost absent. Moreover, communication between departments, exchange of certain data between the healthcare staff, connectivity between institutions and data usage were all seen to be functioning inefficiently. There was better access to information and network connectivity among the departments at Plodnost, Bitola, which is a PHI. Hospital specializing in gynecology and obstetrics and is also an in vitro fertilization (IVF) center for assisted human reproduction. This could be due to the younger age structure of the healthcare personnel and because they are generally exposed to wider opportunities for education and the nurses. Conclusion: The healthcare system and information technology are closely related, and in future, proper functioning of the medical staff will not be possible without continuous use of healthcare information systems.

Keywords: Hospital Information Systems • Healthcare Personnel

a **Corresponding author**
Blagoja Stoilov, Faculty of Informatics, European University, Blvd. St. Clement of Ohrid, No. 68, 1000 Skopje, Republic of Macedonia
Research areas: Hospital management; Health informatics; Health information systems
Email: blagojastoilov@hotmail.com

b Milčo Stoilov, Faculty of Informatics, European University, Blvd. St. Clement of Ohrid, No. 68, 1000 Skopje, Republic of Macedonia
Email: milcostoilov@gmail.com

c Snežana Stoilova, Faculty of Informatics, European University, Blvd. St. Clement of Ohrid, No. 68, 1000 Skopje, Republic of Macedonia
Email: stoilovasnezana@gmail.com

Hospital information systems are part of a comprehensive health information system. They can gather information and can analyze the operation of the hospital system as a whole as well as its individual segments in a fast and simple manner. The information thus obtained could also be forwarded to many other public and private users in the healthcare system as well as individual consumers (Informacioni sistem u zdravstvu, n.d.; Vogel & Perreault, 2006).

The users of information systems can access all data required by business processes (data for diseases and disease conditions, materials, equipment, organization, patients, etc.), which contributes to a better quality of clinical assessment and has great value in terms of scientific research and professional development. Information systems allow connectivity with other healthcare professionals and also help in the organization of e-learning (Kay & Santos, 2008; Majkić & Bela Balint, 2003; Vogel & Perreault, 2006).

The information support provided by the hospital information system mostly benefits the patients because it allows the provision of faster, better quality, and more relaxed healthcare services. It also provides equitable access and greater equality in hospital services, transparency in orders, etc. (Milošević, Bogdanović, & Stanković, 2011).

Objectives

The objective of this paper is to compare the levels of knowledge of hospital information systems and the extent of utilization of this knowledge by staff employed in the gynecological department of a public healthcare hospital and those employed in a private gynecological hospital.

Materials and Methods

Data was collected from the suitable software packages used in two healthcare institutions. These packages are easy to use and capable of processing large volumes of information.

A prospective study design was implemented and an anonymous questionnaire was used for the study. The sample included 30 respondents, and they were asked questions concerning the knowledge and attitudes towards the use of information technology in the healthcare system. The study period extended from 05/01/2013 to 01/06/2013. The sample consisted of 15 respondents (5 doctors and 10 nurses) from the PHI Hospital Plodnost, Bitola, and 15 respondents (5 doctors and 10 nurses) from the service for gynecology and obstetrics at the PHI Clinical hospital "Dr. Trifun Panovski," Bitola.

Results

When asked the following question, "Is the medical staff satisfied with the education provided on the use of information technology in their daily work?", 4 doctors (40%) gave positive answers, while 6 (60%) were dissatisfied with the education. Eleven (55%) of the nurses were satisfied with the education provided regarding the use of information technology at the workplace.

For the question "Is the use of the internet permitted at the workplace?", only 3 (30%) of the doctors gave a positive response. The difference in numbers was smaller amongst the nurses where 9 (45%) nurses said they did use the internet

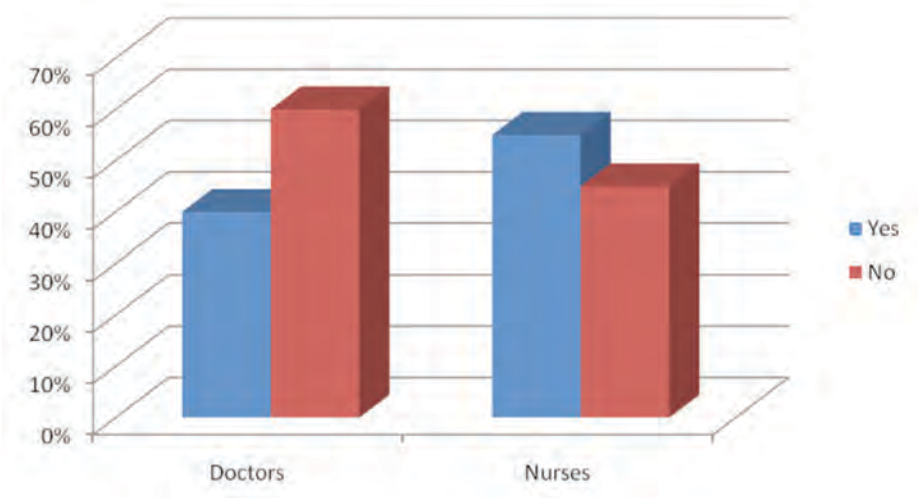

Figure 1: Education of employees regarding information technology.

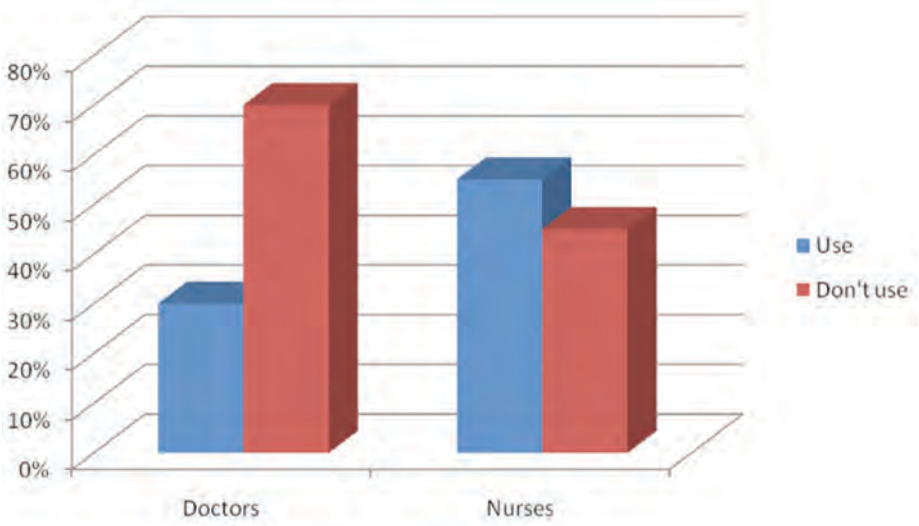

Figure 2: Internet use at the workplace.

and 11 (55%) said they did not use the internet. It is obvious that the number of internet users at the workplace is small among healthcare personnel.

When asked "Do employees use a computer at the workplace?", 6 (60%) doctors said they did. The nurses, on the other hand, showed much larger numbers with 13 (65%) nurses responding affirmatively compared to 7 (35%) who said they did not use a computer.

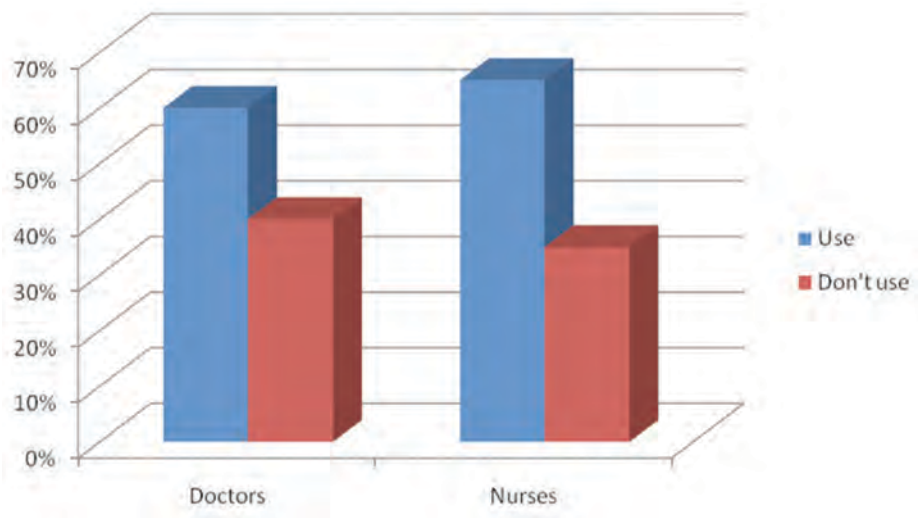

Figure 3: Use of computers at the workplace.

When inquiring about the duration of internet use at the workplace among doctors and nurses, 3 (30%) doctors said they used the internet once a week and the same %/number said they did not use it at all. 9 (30%) nurses said they used it once a week.

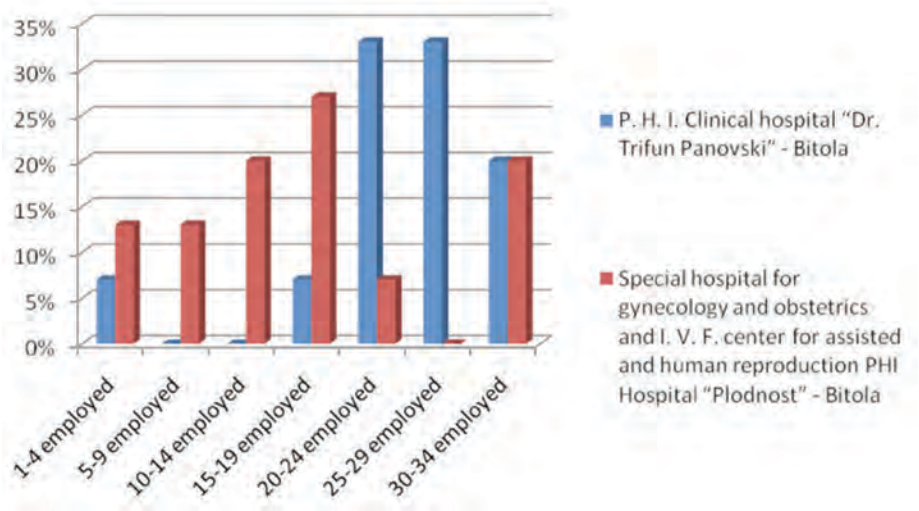

Figure 4: Frequency of internet use in daily work.

Discussion

The results of this study showed that information technology has not yet been fully incorporated into the healthcare systems in the country. The respondents revealed that a large proportion of employees did not use a computer at work at all, and the use of the same was mainly limited to certain segments.

The results from the study also showed a low proportion of internet usage among doctors and nurses, indicating that online communication within healthcare institutions is still underdeveloped.

An increasing number of institutions in countries with developed information technology in healthcare are encouraging patients to check their health information online. The online record system also helps doctors monitor key indicators in patients who are chronically ill, and enables them to inform the patients via e-mail. One study shows that 74% of Americans want to go

beyond caring for themselves and want to establish contact with their doctors via e-mail (Cummings, 2006; Shortliffe & Cimino, 2006).

When asked whether the hospital staff had sufficient training in information technology or how they were trained to use health information systems, a major proportion of doctors gave negative responses.

However, healthcare personnel with adequate knowledge in health and medical informatics are required for accurate system processing of knowledge, information, decision-making, and handling of data in health and medicine. This can only be achieved by improving the quality of education of healthcare personnel, thus increasing the number of well-educated people in the field of health and medical informatics. Achieving this goal will help decrease the lack of skills and knowledge seen currently among healthcare personnel (Hinman, 2002; Informacioni sistem u zdravstvu, n.d.; Major, 2003).

Conclusion

From this study, we can conclude that implementing health information systems and appropriate education of healthcare personnel will allow us to increase the level of utilization of the systems, bring about modernization of the system, save time, etc.

With the use of information technology (internet, network system), the hospital staff (doctors, nurses) can fully facilitate the implementation of daily work such as writing reports, faster and more efficient exchange of experiences, and contracting, which will help improve the healthcare services.

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