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RESEARCH ARTICLE

PROPOSAL OF A SOFTWARE: SUPPORT OF HEALTH PROFESSIONALS IN DECISION-MAKING ANTICOAGULANT THERAPY

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ABSTRACT

Objective: to describe the steps development for a software prototype that provides assistance with a safety view to orthopedic patient on anticoagulant therapy.
Methods: was based on concept of prototyping life cycle in stages of planning and defining requirements for a software future construction.
Results: using Microsoft Access® to build the instrument presented as partial result, 4 pages, initially, and proposed use of the nurse and medical professional therapeutic treatment with anticoagulant by an admitted patient in Orthopedic's clinic.
Conclusion: the evaluation of this resource as a basis for building a software will be studied later**,** in another opportunity.

INTRODUCTION

Today, a great advancement in technologies related to information and communication which increasingly take space interactivity and speed of transmission of the content communication. The immediately preceding the current context, man familiar with a new paradigm of society, the "Information Society ", is replaced by the certainty of a future based on what is called the New Information and Communication Technologies (NTIC). NTICs are defined as technologies and methods to communicate and is characterized by speed and flatten the contents of the information is by scanning in a simpler plan either through electronic communication in social networks, a broader plan. This allows among many other possibilities capture, transmission and distribution of a multitude of data that are stored electronically and digitally available (**Castells, 2012**). These technologies have given significant changes in a lot of fields of human work such as in the health area. Changes led to a new way of organizing the different institutions that work with services focused on the integrity of people's lives. Can highlight among them the way these institutions began to lead the management of the various actions of the professionals who work directly and indirectly providing patient care (**Hannah, 2009**). The experience of attendance area many issues can count on the help of information and communication technologies to facilitate and support the decision making among them the security of orthopedic patient who makes use of anticoagulant therapy. According to the World Health Organization (WHO) patient safety is defined as the reduction of risk of unnecessary harm associated with health care to an acceptable minimum. This "minimum acceptable" refers to what is feasible given the current knowledge of available resources and the context in which the assistance is held (**WHO, 2009**). It is known that anticoagulants cause significant adverse effects when used in an inappropriate manner, as having the most serious clinical outcome bleeding. Believing that the guidance to professionals and clarification of potential

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questions is an essential way to prevent errors and generate patient safety it is incessant search for mechanisms to facilitate the practice of professional health Area (**Moulim, 2010**).

It is a problem of orthopedics the absence of an instrument form or some system that helps and allows the practice of health professionals involved in anticoagulant therapy act fully understanding it not only from the point of view of its practical implementation but also what is on the prescription of anticoagulant medication, and the records or changing information of any changes with the patient, enabling the promotion of safe practice care and data collection for statistical purposes and institutional aid in the development of studies (**Santos, 2010**). Therefore, before the problem is pointed objective of the study describe the development stages for a software prototype to health professionals in hospitals registration prescription and decision making in therapy with anticoagulants to promote the safety of patients.

MATERIALS AND METHODS

The study was prototyping method since this concept appears to represent the best approach to building software since it allows the developer to develop a model that can be evaluated first, and then implemented by the client. This approach begins in the collection and refinement of requirements and advances for construction evaluation by professional customer and refinement occurs when remodeling project seeking better meet the needs of users before being submitted to the engineering product (**Pressman, 2011**). To create the records of instrument was used as a resource tool that Microsoft Access® is one of the most database programs used in the market, however, is not recommended for large database by overloading the system for high traffic information on the network. It allows rapid development of applications that involve both modeling and data structure with also the interface to be used by users (**Goldschmidt, 2013**).

RESULTS AND DISCUSSION

The creation to date, the four pages, including the access page, the home page and two pages for records called "Medical Assistant "and" Nurse", together, form the Health Management System - Anticoagulants (SGSAC). The SGSAC, still in development, was primarily drafted with Microsoft Access®, through the command "File" + "New" + "data access page" + " mode structure", which following stages:

Definition Phase

The activities concerning the definition phase were developed in three distinct stages namely: planning, analysis and pre definition of requirements and review. In developing the planning stage, we proceeded to the identification of the primary functions which the software is proposed. At that moment there was the perception that a multidisciplinary team would be necessary, consisting of a nurse, a doctor, a pharmaceutical and a programmer / systems analyst. It was elected as a prototype sketch tool for Microsoft Access® it allows rapid development of applications that involve both modeling and data structure as well as the interface to be used by users (**Silva, 2008**).

Development Phase

The software home screen will offer the professional the access to the electronic patient record options access to the content / activities of the attending doctor and nurse. Secondly, referring to the pharmaceutical part, administrative and transport of pharmacy for the hospital sector medications, as well as the return of any medication the hospital pharmacy will be developed. The homepage also offers the option to leave the system and print the information displayed on the screen.

Selecting the "doctor" option the professional will be directed to another page with specific information and the medical professional competence that performs patient care. On this page will be available the intake link the patient and clinical evolution both still in development. Below the anticoagulant options will be available to be prescribed, as well as the dose, route of administration, time to be administered and the Bubble which is a program of the differential. Clicking the option of prescription medication for both the Bubble this drug will be available to remedy any potential existing doubt the prescriber. Another unique feature is the fact that the prototype be designed so that when the filling of drug information in use on the " admission" these drugs are faced with the option of prescribing anticoagulant and, if any potential risk to the patient with the combination, will open a " flag" explaining the risk and this will be displayed by the prescribing physician.

Selecting the "Nurse" on the program's homepage the professional will be directed to another page with specific information and skills of the professional nurse who performs patient care. On this page will be available the intake link the patient clinical and care plan those still in development. Below will appear available for scheduling drug treatment plan previously prescribed by the doctor. The system also allows checking of the medication so that it is administered to the patient. In the case of having anticoagulant such as subcutaneous option it is possible to perform the marking area chosen for administration. In addition, the Bubble also present in the area designated for the nurse allows the clarification of potential questions in handling / preparation and administration of the drug. This fact becomes a program differential it prevents possible errors of professionals, such as applying the product in the same site where the last dose was performed or to carry inadequate dilution, in case the anticoagulant intravenous administration, among others.

This study aimed primarily at facilitating the creation of a future software through the development of an instrument records the activities performed by healthcare professionals in the care of orthopedic patients in a computerized way with agility in the process of collecting, recording , storage and handling data from each of these patients under their care and responsibility with a view to the safety of the patient and consequent search minimization of errors in therapy process with anticoagulant. The prototyping life cycle was used in this study with the prospect of developing software directed to anticoagulant therapy in patients of Traumatology Orthopedics

with the creation of nurse and active participation and set a multidisciplinary team in all phases of their creation process.

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