

Quality of Nursing Care and Patient Satisfaction in Conditions of Resource and Labor Shortage by Applying Nursing Management Information System



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Editorial

Nursing is one of the most important healthcare professions that is very effective in patient care and mental support of their families [1]. Therefore, nurses are considered to be the most effective health care professionals whose high quality services maintains and improves patient health [2,3]. They perform a large part of physician treatment plan and are very effective in improving the medical status of patients by using various health care skills.

Nursing care scope and approaches are different from other health care providers [1,4]. In the past decades, some changes in health system have led to increased workload, reduced resources, increased neurological stress, and job dissatisfaction among caregivers. Studies show that these changes have had a negative effect on care quality of nurses and their competencies, and overly on the productivity of their services [5,6]. Therefore, the role of nursing managers in ensuring quality of their colleagues' services is also very significant in such a difficult situation. Nursing managers should have cognitive, affective and excellent communication skills so that nursing staff provide high quality care and provide a high level of satisfaction for patients and their families. Nursing management as an advanced profession, through designing, equipping, monitoring and assessing the nursing system, provides a dynamic and fresh work environment with adequate resources. It also provides effective changes, professional development, develops trust and accountability, and causes positive and encouraging effects on nurses.

In the late twentieth century, nursing managers in the face of increasing financial constraints, were forced to apply different nursing care delivery models because of the need to save costs. At that time, implementing the models of applying workforce, and improving patient care made nurses feel that their value was diminished and overworked. Thus in response to the need

to raise the value of nursing, the American Nursing Academy identified 14 characteristics that were known as Forces of Magnetism and as standards. These criteria were also used to evaluate the nursing organizations that were designed according to them [7-13].

Nursing managers nowadays act in different roles with varying degrees of influence. However, the main responsibilities of nursing managers, regardless of place of service, role or title, are the same. These main tasks include providing care, maintaining a healthy work environment, managing resources including human resources, financial, material and technology, improving safety, quality, health outcomes, community health management, and setting laws and regulations. Nursing managers will coordinate all aspects necessary to provide quality nursing care to patients and they supervise the nursing departments. Their goal is to ensure that the activities of the nursing departments are consistent with the strategic plans of the hospital. They try to generalize policies in order to improve the quality of services. These managers help their nursing staff in preventing trauma to patients [3,14].

In this regard, they not only plan, organize, direct, employ human resources, control and regulate the budget, but also provide health care and communicational coordination and create motivation in the nursing staff so that it causes quality improvement of nursing services [6-9]. In fact, nursing managers handle administrative and therapeutic affairs in the nursing departments [15-17].

Nursing management information systems play a supportive and significant role in order to facilitate and fulfill the duties of nursing managers. This supportive role is available at various levels of nursing management including Matron (as a top Manager); Supervisor (as a Middle Manager); and Head Nurse

(as an Operational Manager). In fact, nursing management information systems are used to make strategic, tactical, and operational decisions [17,18].

At the strategic level, decisions are made about the long-term goals of the organization, such as mission and vision. At the tactical level, decisions are related to short-term goals of the organization such as resources distribution, or task assignments, and at the operational level, making decisions is related to daily activities [12,18].

Nursing managers often decide on the tactical and operational levels at the hospital. Transferring a patient to different departments is an example for decision making at the operational level. Also, allocating workforces to the departments on holidays or seasons that are the peak of nursing work, is an example for decision making at the tactical level. At the strategic level, allocating patients to nurses in turns various work based on the needs of patients is one of the various decisions of nursing managers. Since most nursing management practices in hospitals occur at the tactical and operational levels, the impact of these systems are very significant for supporting the nursing decision makers at the levels, in particular the operational type [16-18].

These systems can be classified into four categories based on the purpose of their development:

- A. Planning and Performance Evaluation
- B. Measuring labor and allocating resources
- C. Manage work routines
- D. Communication [12].

Examining these systems in developing countries, shows that nursing information management systems have not been developed at all levels deal to supporting nursing managers. These systems are also less designed to support nursing decision makers at tactical and operational levels [19,20].

Another problem with the design of these systems in developing countries is the lack of support for real-time decisions, the difficulty of using them, their unambiguousness and their lack of flexibility in line with different needs [12,20].

In most cases, nursing management information system are not designed to meet the needs of nursing managers accurately and completely, or to be able to support nursing managers in any way in performing any tasks. The best way to correct this problem is to inform nursing managers about the features of a proper nursing management information system and provide a model which helps both nursing managers and system analysts in determining the information needs of nursing managers [21]. It seems that before designing an information system for these managers, it is necessary to review and optimize the professional processes. It can be used as a road map, an image or a tool to help

explain their tasks and link important elements that are in their profession [22].

It is worth noting that the theorizing and modeling in nursing management in compare with clinical nursing has been less. Malasanos and Dougherty stated that although many studies are ongoing in the field of nursing science and management science, there is still little information about nursing management knowledge. Rapid changes in the field of nursing management, especially in terms of developing their responsibilities indicates on conceptual model in the nursing management profession. In this regard, many efforts have been made in identifying the subscription items between clinical nursing and nursing management knowledge [22,23]. Among them, the efforts of Blair, Jennings, Meleis, and Kim, who have provided the models in relation to nursing knowledge and management, are considerable. In these models, the relationship between clinical nursing, management science and nursing management knowledge has been discussed. In addition, in another model that is known as the IOWA model, specific concepts in the management field has been highlighted at a higher [22].

This model also highlights the importance of the relationship between care and management activities with the outcomes; and states that both nursing care and management activities are effective on the patient's outcomes. These influences can be direct, indirect, independent or affiliated [9,22,23]. The IOWA model is a conceptual model used as a model for defining the field of nursing management. This model is based on a description that the American Nursing Association has expressed about the role of nursing managers. The IOWA model supports the organized decision-making process in challenging and constantly changing healthcare settings. Organized decision making is a decision made on the basis of multiple analyzes.

Having a simple model can be very useful when there is a time limit for thinking and action. Today, the IOWA model is used as an algorithm for evidence-based decision making [19,22]. This model has two parts: systems and outcomes. The elements of the system segment are: environment, resources, structure, process, controls. The elements of the outcome segment is: cost, quality, system performance and personnel (at the organization level). Each of these two levels has three levels: patient aggregates, the organization, and the health care. This model suggests that the relationships between the elements should be evaluated in each part of two segments (systems and outcomes) and between them [9,22,23]. The IOWA model enables nursing managers to define and measure the most important management activities. For example, nursing managers need to accurately measure the impact of different types of care delivery and the combination of personnel on the costs and quality of customer outcomes [22].

As a result, it should be noted that nursing management information systems, relying on conceptual models and the process of knowledge discovery or data mining, rapidly become

as knowledge-based systems. These systems help nursing managers to answer their questions and solve their complex professional problems. It also improves the quality of nursing care and satisfaction of patients in situations where even lack of resources is apparent.

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