

# Best Practice of Development of Nursing Knowledge Management System at Universitas Airlangga Hospital Indonesia

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**Keywords:** Nursing Knowledge Management System, Knowledge Management Cycle.

**Abstract:** Increased knowledge of human resources in hospitals is needed in an effort to improve the quality of services. These activities require a very high cost so that required a knowledge management in order to be useful for the institution. Universitas Airlangga Hospital is a new operational hospital so it does not have knowledge management system yet. Objective of this study is to develop knowledge management system in nursing services by using knowledge management cycle. The methods that we used in this research was a qualitative study with data collected from semi-structured interviews with strategic management team, nurses and then give intervention to the nurses. The results from the first identification that more than 73% of employees said that they do not understand about knowledge management because it has not been applied at Universitas Airlangga Hospital. After intervention to the nurses there is an increase in internal and external stakeholder satisfaction. From this research we can conclude that implementation of knowledge management system should be extended to all employees at Universitas Airlangga Hospital.

## 1 BACKGROUND

Knowledge is very important to increase productivity so it must be considered and managed well (Drucker, 1998). In reality, however, most of the existing knowledge in the organization has not been properly managed. The high level of employee turnover, creating individualized knowledge, will come out along with the individual of each employee (knowledge walkout). The new employee turnover should be provided with additional training so that the time and cost of the training also impact on the slowing performance of the organization. If the knowledge possessed by employees is not developed, then no knowledge is shared to be utilized by the organization. Knowledge that has been well managed and accessible will be very useful for organizations to avoid the same mistakes. Knowledge must be well maintained, so it can be developed, updated and used continuously. That way, an organization can find out how to take appropriate steps to address problems and explore organizational performance by promoting the use of structured information.

According to Groff and Jones (2003), there are two main types of knowledge. The first and most

common type is tacit knowledge. The second type is explicit knowledge. Tacit knowledge refers to personal knowledge inherent in individual experience and involves factors such as beliefs, perspectives and personal values. Tacit knowledge is difficult to move. Explicit knowledge refers to the tacit knowledge that has been documented. Explicit knowledge is usually in the form of a formal language and is more easily transferred between individuals. In tacit knowledge shows that the largest portion of knowledge (42%) is faith in the human brain only. While explicit knowledge in the form of paper documents (26%), electronic documents (20%) and knowledge-based electronic objects (12%). According to Tobing (2007), the main components of knowledge management are people, process and technology. Each of these components will be interconnected with each other and integrated into each other to form a solid foundation for knowledge management. According Tobing (2007), to organize and manage the knowledge contained in the organization can be started by grouping and categorizing problems encountered within the organization. This is done to identify activities that are considered as core

knowledge management processes that are related to each other.

The data on the number of nurses who were trained and attended the seminar at Airlangga University Hospital in 2016 was 21.3%. The low number of nurses who were trained due to financial factors in institutions is still small because it is still prioritized for the use of repair and development of facilities and infrastructure. Besides, the training and seminars are done by sending the nurses to other institutions so it needs a high cost. Based on that, at the beginning of 2017 a knowledge-sharing program from nurses who have participated in training to representatives of nurses who did not attend the training. The results of these activities have little impact on improving knowledge and quality in providing services to patients. Because not all nurses are exposed to the same knowledge and unstructured implementation. Evaluation result of this activity is still 26, 6% nurse who have gain knowledge to support in effort to improve service quality. Based on the above experience, we want to develop a structured KM system to have a positive impact on the quality of services provided by the nurses.

## 2 METHODS

Implementation of Knowledge Management at Airlangga University Hospital was conducted in two stages, the first was to design the application of Knowledge Management using Wiig's KM cycle. Wiig's KM cycle addresses how knowledge is built and used as individuals or as organizations. There are four major steps in this cycle, such as building knowledge, holding knowledge, pooling knowledge and applying knowledge. The methods that we used in this research was a qualitative study with data collected from semi-structured interviews with strategic management team and nurses and than give intervention to the 263 nurses.

## 3 RESULTS

Before starting the KM system, We start from the entire head of nurse to set the strategy to be used. We set the KM day of the nursing field is on the day of every Wednesday afternoon. We set a Wednesday afternoon due to the fact that the number of patient visits in Wednesday is less than the other day so as not to interfere with patient care. On the first Wednesday trained were the head of nurses to

become trainer for the nurses. The number of nurses at the Airlangga University Hospital is 263 nurses and there are 19 head of nurse, so the total nurse is 244 nurses. Each meeting can be attended by 30 nurses, so in one topic we need 8 meetings.

At the stage of building knowledge, we determine the source of information can be obtained with formal and informal education. In upgrading nurses' capacity, we send nurses for further study to nursing faculty at a qualified university, that is for undergraduate and master's degree in nursing. By 2017 we can send five nurses for further study in the master's degree education in nursing. For informal education, we set by using the KM system with selected topics are customer services, nursing care in patients with respiratory and respiratory failure, ECG training, intravenous infusion, and ICU nurse training. Setting topics, we use the PDCA approach and the concept of Kaizen. Example of PDCA cycle implementation, When there is patient with respiratory failure requiring referral to higher level hospital, We have problem to contact by phone so that the risk of impairment in the handling patient. P: Increase nurse knowledge about nursing care in patient of breath and respiratory failure. D: Provide training to all nurses. C: Evaluate of nurse's ability to provide treatment to the patient. A: Make standard, make job description specification each member of code blue team (ABC and CPR management team). All activities are conducted at Airlangga University Hospital with an experienced internal resource person and experienced in the field. At the holding stage of knowledge we create a list of training that must be followed by each nurse in the competence book that is distributed to all nurses based on career path that has been set. This will be able to monitor and evaluate the development of knowledge in each nurse. The first meeting will attended by all head of nurse with trainer from expertise. At the next meeting, the participants were 30 nurses and head of nurse as trainer. At the pooling knowledge stage we do by using role play and bedside teaching training methods that adjust to real conditions in the field. Participants are given the opportunity to try to demonstrate and try the skills they need when giving services. Training materials are provided in ppt format so as to facilitate the participants to understand and can be saved and where needed at any time can be accessed again. At the applying knowledge stage, all nurses must apply what has been obtained in the training and if required standard operational procedures, it must be made SOP it.

The results of the implementation of this KM system can be seen from the results of patient

satisfaction survey has increased above the minimum standard of service set by the Ministry of Health of the Republic of Indonesia, which is more than 90%. Nurses who received training and knowledge upgrading have reached 100%. to try to demonstrate and try the skills they need when giving services. Training materials are provided in ppt format so as to facilitate the participants to understand and can be saved and where needed at any time can be accessed again. At the applying knowledge stage, all nurses must apply what has been obtained in the training and if required standard operational procedures, it must be made SOP it.

## 4 DISCUSSION

Based on the above results, the development of a structured KM system is very important to be applied in the field of nursing because it is able to improve the knowledge and ability of the nurses in an effort to improve the quality. This is in accordance with the concept of Becerra at all, 2004, that knowledge is information that has value and can be used for decision making with a specific purpose. For example in the provision of customer services material on all nurses, there is an increase in good hospitality behaviour of the nurses in contact with colleagues, doctors, patients and families and the community who visit the hospital. The KM system that has been designed in Airlangga University Hospital has taken note of the things that can foster a knowledge sharing culture in the nursing environment in order to improve the quality of service. Some of the things you can do to developing a culture of knowledge sharing were: 1) Creating know-how, where every nurse has the opportunity to innovate by providing opportunities to synergize knowledge into service delivery at the hospital; 2) Capturing and identifying knowledge that is considered to be valuable and represented in a logical way; 3) Managing knowledge to ensure the current information to be reviewed for relevance and accuracy; 4) Monitor and evaluate the level of nursing knowledge and skills in stages.

In the implementation of KM in the nursing area of Universitas Airlangga hospital also aims to build mutual information or knowledge sharing among nurse colleagues so that all information or knowledge is not keep itself by individual but can be utilized by all nurses in Universitas Airlangga hospital. In this case shows that the area of Nursing Hospital of Airlangga University has conducted the process of tacit and explicit knowledge. Tacit knowledge is the knowledge that remains in the mind of the individual

who possesses that knowledge. Filemon in 2008 suggests that explicit knowledge is related to the document or something that has been implemented from human thinking and also related to facilities, products, processes, services and systems.

The results of KM activities have a positive impact on quality improvement efforts at Universitas Airlangga Hospital because there are increasing knowledge, skills and behaviour of nurses who provide direct services to patients. The KM approach followed by the competent people and the right time will create value. KM is also closely related to human resources, documents and expertise so as to avoid waste of time, waste of money and its impact is the achievement of goals.

## 5 CONCLUSIONS

Knowledge that has been well managed and accessible will be very useful for organizations to avoid the same mistakes. Knowledge must be well maintained, so it can be developed, updated and used continuously. That way, an organization can find out how to take appropriate steps to address problems and explore organizational performance by promoting the use of structured information. The development of unstructured knowledge sharing has no impact on improving the quality of service so that a structured KM system should be implemented. This is evident in what has been done by the Nursing Departement of Airlangga University Hospital.

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