

DESIGNING AN ADMINISTRATIVE SYSTEM FOR HEMODIALYSIS UNIT AT BENI-SUEF UNIVERSITY HOSPITAL

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Received: 16 Dec 2017

Accepted: 30 Jan 2018

Published: 13 Feb 2018

ABSTRACT

Developing an administrative system is essential for quality evaluation and quality improvement; high quality care cannot be achieved in the absence of a well-designed administrative structure. The study aimed to design an administrative system for hemodialysis unit at Beni-Suef university hospital through; 1) assessing the present administrative system of the hemodialysis unit, 2) designing an administrative system based on the findings, 3) evaluating health care providers' feedback on the designed administrative system, and 4) assessing the validity of the designed administrative system. a descriptive methodological research design was utilized. The study was conducted at hemodialysis unit in Beni-Suef university hospital. A convenient sample of all nursing and medical staff working at hemodialysis unit in Beni-Suef university hospital was included. All available records and documents related to the administrative system were audited using three data collection tools; questionnaire, auditing checklist, and oppinionnaire. The study concluded that, there was no written administrative system for the hemodialysis unit at Beni-Suef university hospital. Majority of the participants reported absence of components of the administrative system and confirmed by auditing of the available documents in the unit. Based on these findings, a proposed administrative system was developed. The study recommended that the proposed administrative system should be used in the hemodialysis unit at Beni-Suef university hospital and other hospitals in Beni-Suef governorate; also, it is recommended to conduct similar studies on the other departments.

KEYWORDS: *Designing, Administrative System, Hemodialysis*

INTRODUCTION

Administrative system is the process of creating administrative components and supervising its flow from and to others within an organization. Components of the administrative system include the following: the mission, philosophy, goals, policies, documentation, safety measures and job description of the organization or the department; the mission statement is the highest priority in the planning process. It should include definition of nursing as outlined by professional nurses. For health care services, it means the provision of health care in order to maintain health, cure the sick, and decrease pain and suffering. Nursing managers are concerned with the extent to which the delivery of nursing care fulfills the mission statement (François, et al., 2010; and Bauer, Trondal, 2015).

Developing an administrative system is essential for quality evaluation and quality improvement. Quality improvement is a systematic approach to make changes that lead to better patient outcomes, stronger system performance, and enhanced professional development. It draws on the combined and continuous efforts of all stakeholders, health care

professionals, patients and their families, researchers, planners and educators to make better and sustained improvements. So hospitals have to establish its structural components that meet the accrediting agency requirements to be accredited (Sekavcnik, 2011; & Health Quality Ontario, 2012).

It is important to note that hemodialysis is an invasive procedure and patients are becoming uniquely vulnerable to the development of health care associated infections because of multiple factors, including exposure to invasive devices, immune suppression, the lack of physical barriers between patients in the hemodialysis environment, and frequent contact with health care workers during procedures and care (Hinkle & Cheever, 2014).

In the last several years, increased attention has been devoted to the quality of treatment in the health care sector in general and in the dialysis area in particular. Dialysis is an area of high technology that requires specially trained staff and high expensive equipment, in which a wide variability of clinical practice exist. End-stage renal disease (ESRD) is a growing problem worldwide and renal replacement therapy is increasingly exerting pressure on health care systems. The situation is particularly serious in developing countries where required resources are limited (Linton, 2012). The purpose of the current study is to design an administrative system for the hemodialysis unit at Beni-Suef university hospital to be used in the future as a basis for quality evaluation and improvement.

Significance of the Study

End-stage renal disease is increasing worldwide. Renal replacement therapy (RRT) is increasing the burden on health systems. This condition is particularly serious in developing countries where health resources are inadequate; the number of patients receiving RRT is estimated at more than 1.4 million, with the annual incident rate growing to 8% (Zahran, 2011). In Egypt, there are no recent data about the prevalence of ESRD; however, the last statistics was performed in 2010, with a prevalence of 483 per million. In the El-Minia governorate, one of the Upper Egypt governorates, the prevalence was 308 per million (Afifi, 2010; El Minshawy, 2011).

In order to ensure the smooth running of health care process, it is essential that efficient administrative systems are in place and working and used by all health care providers. To evaluate the effectiveness of an administrative system we need to be sure that it can provide the information to those who need it in an easy to access and in an understandable format. It is also important that the information is up-to-date. Administrative system is essential for achieving high quality care which is the right for all patients and the responsibility of all health care providers. So hospitals have to establish its structural components that meet the accrediting agency requirements to be accredited (Sekavcnik, 2011; Hassmiller, & Reinhardt, 2012; and Devon & Spriestersbach, 2012).

Also, clinical observations showed that the accountability is a basic requirement for quality nursing care. One of the most important prerequisites for accountability is the administrative structure. Designing an administrative system for the hemodialysis unit has great effect on the performance of health care providers that provide them with sufficient information about the unit and how to proceed in different situations. It also increase staff moral through equal treatment of all health care providers. On the other hand, administrative system can increase patients' satisfaction which subsequently enhances the reputation of the hospital. So the current study aims to deigning and administrative system for the hemodialysis unit at Beni-Suef university hospital to be used in future as a basis for quality improvement and evaluation.

Operational Definition

Administrative System is the administrative structural components for the hemodialysis unit that guide and direct employees activities within the unit which include organizational structure of the unit, personnel management items, material resources items, documentation system, safety measures items, and hemodialysis unit standards and policies.

Theoretical Framework

Donabedian (1980) describes the quality system as a balance of the three dimensions: structure, process, and outcome. Structure refers to prerequisites, such as hospital buildings, staff, and equipment. Process describes how structure is put into practice, such as employees' performance. Outcome refers to results of the process, now those three dimensions known as Donabedian triad. The Donabedian model will be used as a theoretical framework for the current study. The study will focus on the structural components of the administrative system based on Donabedian triad.

Donabedian emphasizes the critical role of health care structure, a prerequisite for process and outcome. Structure describes the attributes of the setting within which care is provided and includes physical infrastructure (e.g., facilities, equipment, supplies) and the structure of organizational capability (e.g., provider qualifications). Increasingly, it is believed that structure should include organizational operational capability since "leadership, human capital, information management systems and group dynamics...are essential structural elements of quality improvement in a health care organization and serve as primary catalysts for process change (Kunkel, Rosenqvist, &Westerling, 2012).

Aim of the Study

The current study aims to design an administrative system for hemodialysis unit at Beni-Suef university hospital.

Objectives of the Study

- Assess the present administrative system of the hemodialysis unit.
- Design an administrative system based on the findings.
- Assess the validity of the designed administrative system.
- Evaluate health care providers' feedback on the designed administrative system.

METHODS

Research Design

A descriptive, methodological design was utilized to achieve the aim of the current study.

Setting

The study was conducted at hemodialysis unit in Beni-Suef university hospital.

Sampling

A convenient sample of all nurses (one head nurse, one assistant head nurse, and 30 staff nurses) and all medical staff (one unit manager, nine physicians) working at hemodialysis unit in Beni-Suef university hospital who provide direct and indirect care to hemodialysis patients was included as a study sample. All available records and documents related to the administrative system were audited.

Ethical Consideration

A written approval was obtained from the ethics of research committee of the faculty of nursing, Cairo University. Each participating subject was informed about the purpose of the study and its importance. The researcher emphasized that, participation in the study was entirely voluntary and possibility to withdraw at any time. Anonymity and confidentiality were also assured through coding the data. An informed written consent was obtained from the participating subjects.

Data Collection Tools

Three data collection tools were used to collect data pertinent to the study variables; a) components of the administrative system questionnaire, b) administrative system components auditing checklist, and c) health care workers' opinionnaire. The three tools developed by the investigator based on review of related literature and based on Aly (2011).

Validity and Reliability

Content validity was examined by five expertise; one professor and one assistant professor affiliated to nursing administration department Faculty of Nursing Cairo University plus one professor and two assistant professors affiliated to nursing administration department Faculty of Nursing El-Minia University. They were asked to examine the instrument for content coverage, clarity, relevance, wording, length, format, and overall appearance. Based on experts' comment and recommendations minor modifications had been made.

Procedure

A written approval was obtained from the ethics of the research committee of the faculty of the nursing Cairo University. Permission was taken from the hospital director and nursing director to proceed with the study. An informed consent was taken from each participant. The study conducted through three phases; 1) Assessment phase: to assess the present administrative system of the hemodialysis unit, 2) Designing phase: based on the findings of the assessment phase, the administrative system was designed. A participatory approach was used through participation of health care providers in designing the administrative system to facilitate the acceptance of the designed administrative system, the designed administrative system was submitted to jury for assessing its relevance, validity, and applicability, and 3) Evaluation phase: health care providers' feedback about the proposed administrative system was evaluated using health care workers' opinionnaire regarding the components of the administrative system.

RESULTS AND DISCUSSIONS

The current study indicated absence of many administrative structure components such as written philosophy, goals, organization structure ... etc. as reported by health care workers and confirmed through auditing all the available documents in the unit. Regarding availability of mission and vision for the unit, the current study revealed that majority of the participants reported absence of written motion which confirmed by the auditing of the available documents in the unit. The same result revealed by Papulova (2014) who stated that majority of organizations' employees did not recognize the difference between the vision and mission. There is often confusion if the vision and mission should be viewed and prepared as the same statement.

The findings of the current study showed that the majority of the participants reported absence of written philosophy and confirmed by auditing of the available documents in the unit. The result confirmed by El Guindy, El

Shimey, & Abd El Gafar (2008) who indicated the absence and the importance of such component. The philosophy sets the foundation of shared values of employees and has a greater influence on organizational success.

Findings of the current study showed that the majority of the participants reported the absence of a well-defined organizational structure, consequently there is no written organizational chart and confirmed by the auditing of the available documents in the unit. The same result reported by Namara (2010) who mentioned that there is no written organizational chart at the nursing services department at Kasr El-Einy Center of Radiation Oncology and Nuclear Medicine, Cairo University.

The findings of the current study showed that the majority of the participants reported absence written job description for different nursing position and confirmed by the auditing of the available documents in the unit. The same result reported by Eid (2013) who reported that most of the studied nurses have agreed about the importance of presence of job description in dialysis unit that describe and clarify the role of every nurse in the unit, it must be clear and reviewed every 6 months.

Regarding scheduling policies, the current study showed that the majority of the participants reported absence written scheduling policies and confirmed by the auditing of the available documents in the unit. The study done by Aly (2011) revealed absence of written scheduling policies, participants mentioned that these policies are told to them orally during the orientation period, they indicated its importance because such policies clarifies the expected on and off hours.

The current study showed that the majority of the participants reported absence of written performance appraisal policies and confirmed by the auditing of the available documents in the unit. Abdel Motleb (2010) mentioned that evaluation of staff nurses performed annually by the nursing director not by the direct supervisor, in some departments the evaluation of nurses is performed by the medical staff, since medical staff is lacking knowledge and skills related to nursing, the evaluation will not be performed fairly.

The current study showed that the majority of the participants reported absence of orientation program for new employees, which was confirmed by the auditing of the available documents in the unit. Chester (2011) mentioned that orientation programs are required for unprepared new nurses to avoid stress and frustration in the work place and to help them gain necessary skills and confidence.

The current study revealed that approximately three quarters of the participants reported absence of the missing supply policies and requesting equipment policies. Additionally, more than half of them reported absence of requesting supplies policies. Robinson, Pawelzik, and Megentta (2015) recommended that efficient and effective management of material resources in health care organizations needs to be aligned with the needed care. Material resources management should include requesting equipment and supplies policies and missing supplies policies. Gaughey (2012) that the majority of studied nurses have agreed about the importance of material resources policies which should be written and available to all nurses working in dialysis unit.

The current study revealed that the majority of the participants reported absence of written patients' admission policies, patients' discharge policies, patients' transfer policies, and patients' death related policies which was confirmed by auditing of the available documents in the unit. National Health Service (NHS) Foundation of trust (2017) ranked patient access policies as one of the factors affecting patient quality of care. They are important to provide framework for

enabling timely, safe, and appropriate patient care. In the same line Rogers (2014) who reported that the presence of unified patient access policies is crucial to improve nurses' performance. Discharge, transfer, and death related arrangement is very important for patients and employees; patients receive high quality care within reasonable time frame and employees know what should be done in advance and prepare themselves to it.

The current study revealed that two thirds of the participants reported absence of written reporting patients' incidents policies and reporting employees' incidents policies which was confirmed by auditing of the available documents in the unit. Reporting incidents is very important for the identification of hazards in the work place, reducing the possibility of occurrence in the future, and serving as a record for future reference. The same result reported by Aly (2011) who found that majority of the participants indicated absence of incident report policies; they reported the importance of such policies as it direct and show them the steps that should be followed when an incident happened. Staff may not report incidents due to lack of policies, fear of punitive actions, lack of time for paper work and lack of knowledge about consequences of in effective reporting of incidents. So health care providers should have clear understanding of the importance of incident report and how it can be written

The current study revealed that more than three quarters of the participants reported the presence of infection control procedures and waste management policies, and more than half of the participants reported the presence of system for assessing and monitoring the application of infection control procedures and blood transmitted diseases related policies. By auditing of all the available documents in the unit, there is an infection control policies but not specific for the hemodialysis unit, these policies was reviewed by the infection control department in the hospital and specific policies for the hemodialysis was designed. Ahmed, Ezzat, and Mohamed (2007) mentioned that the presence of infection control policies and procedures is very important and should be reviewed periodically by infection control committee. Scotlan (2010) recommended that hospital committees such as occupation health and safety committee and infection control committee should have a definite role in designing and reviewing infection control related policies and procedure. Hospitals should have infection control manual that involves detailed policies and sufficient instructions.

Table 1: Percentage Distribution of Participants' Responses Regarding Availability of Organizational Structure Items (n= 42)

Organizational Structure Items	Yes		No	
	No.	%	No.	%
1. Vision.	6	14.3	36	85.7
2. Mission.	3	7.1	39	92.9
3. Philosophy.	10	23.8	32	76.2
4. Goals.	7	16.7	35	83.3
5. Organizational chart.	9	21.4	33	78.6
6. Job description.	12	28.6	30	71.4

Table 2: Percentage Distribution of Participants' Responses Regarding Availability of Personnel Management Items (n= 42)

Personnel Management Items	Yes		No	
	No.	%	No.	%
1. Scheduling policies.	13	31	29	69
2. Performance appraisal policies.	7	16.7	35	83.3
3. Orientation program for new employees	6	14.3	36	85.7
4. Staff development plan	29	69	13	31

Table 3: Percentage Distribution of Participants' Responses Regarding Availability of Policies for Material Resources Items (n= 42)

Policies for Material Resources Items	Yes		No	
	No.	%	No.	%
1. Requesting supplies policies.	17	40.5	25	59.5
2. Requesting equipment policies.	11	26.2	31	73.8
3. Missing supplies policies.	9	21.4	33	78.6

Table 4: Percentage Distribution of Participants' Responses Regarding Availability of Patient Access Related Policies (n= 42)

Patient Access Related Policies	Yes		No	
	No.	%	No.	%
1. Patients' admission policies.	7	16.7	35	83.3
2. Patients' discharge policies.	5	11.9	37	88.1
3. Patients' transfer policies.	10	23.6	32	76.2
4. Patients' death related policies.	6	14.3	36	85.7
5. Medical recording policies.	10	23.8	32	76.2
6. Patients' progress notes policies.	14	33.3	28	66.7
7. Unit recording policies.	14	33.3	28	66.7
8. Reporting patients' incidents policies.	12	28.6	30	71.4
9. Reporting employees' incidents policies.	12	28.6	30	71.4
10. Record keeping policies.	15	35.7	27	64.3

Table 6: Percentage Distribution of Participants' Responses Regarding Availability of Safety Measures Related Policies (n= 42)

Safety Measures Related Policies	Yes		No	
	No.	%	No.	%
1. Infection control procedures.	33	78.6	9	21.4
2. Assessing and monitoring the application of infection control procedures.	24	57.2	18	42.8
3. Waste management policies.	32	76.2	10	23.8
4. Blood transmitted diseases related policies.	23	54.8	19	45.2

CONCLUSIONS

The study concluded that, there was no written administrative system for the hemodialysis unit at Beni-Suef university hospital. Majority of the participants reported absence of components of the administrative system and confirmed by the auditing of the available documents in the unit. Hemodialysis unit should have its written administrative system. Based on these findings, a proposed administrative system was developed and validated by number of expertise.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

- The proposed administrative system should be used in the hemodialysis unit at Beni-Suef university hospital and other hospitals in Beni-Suef governorate.
- The proposed system should be reviewed, revised, and updated periodically to ensure continuous improvement.
- Job description should be updated periodically.
- Staff development program should be implemented and generalized for other departments.

- The administrative system should be included in the orientation program for new employees.
- Policy and procedure manual should be available for all medical staff at all the time.
- Infection control department should emphasize on the specialized units and develop general infection control policies and specific policies for the specialized units such as hemodialysis, critical care units, operation room, and endoscopy unit.
- Participative management approach should be used through committees and group discussion in all administrative activities.
- Similar studies should be conducted on the other departments.

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