

# IMPACT OF EDUCATIONAL PROGRAM ABOUT ECONOMICS OF HEALTH CARE SERVICES FOR NURSE MANAGERS ON QUALITY MANAGEMENT OF PATIENT CARE

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## Abstract

Background: Nursing are crucial to cutting costs and assisting hospitals in maintaining their financial stability all around the world. As a result, the discipline of health care economics is rapidly developing and has an impact nurse management. Therefore, acquiring knowledge in this area can aid nurse managers in managing quality care efficiently. Aim: to assess the Impact of Educational Program about Economics of Health Care Services for Nurse Managers on Quality Management of Patient Care. Design: A quasi-experimental design was used. Sample: A convenient sample of all thirty nurse managers who agreed to take part in the study. Setting: The research was carried out in various department and units at the new teaching Kaser El-Aini hospital. The following tools were used: Demographic and work - related characteristics form; 'Knowledge Questionnaire on the Economics of Health Care Services,' health economic performance checklist, and quality management performance checklist. Result: A significant improvement in the study participants' total health care services economics and the management of patient care quality Knowledge and performance was found in the post- test as compared to that in the pre-test and the follow-up stage. Conclusion: Designing and delivering the training programs to meet the needs of the nursing management staff, enhancing the knowledge and performance related to the healthcare services economics and managing the quality of patient care. Recommendation: To bridge knowledge and practice gaps, nursing management staff should be included in the development of mandatory, ongoing educational training programs on health care services economics and patient care quality management.

**Keywords:** Educational program, health care services economics, nurse managers, quality management, patient care

## INTRODUCTION

The provision of healthcare at any level is complex, and healthcare institutions throughout the world confront several obstacles, such as the ever-increasing cost of treatment and the growing number of budget cutbacks to the sector. Because of this, it's crucial for nurse managers to exercise restraint while overseeing their units' finances and come up with creative solutions to the problems that arise. Nurse Managers are responsible for the bulk of a hospital's labor budget, thus it's imperative that they demonstrate competent financial management abilities if the goals above are to be attained (Paarima, Kwashie & Asamani, 2021).

The study of health economics is a recent academic development. Uncertainty and the Welfare Economics of Medical Care, a document written by Nobel Prize-winning economist Kenneth Arrow, was published in 1963 and marked the beginning of the topic. Many others have expanded upon Arrow's foundational research to reveal how health economics affects medical practice. In order to make sense of the complex, contradictory, and mostly unseen but ubiquitous ways in which economics impacts the organization, funding, and delivery of health care, nurses need a grasp of health economics in the context of nursing. In addition, many policy choices at the federal, state, and institutional levels concern economic incentives and the channels through which money is channeled. Therefore, nurses need a firm grasp of economic terminology and ideas and the ability to use them in the practice environment in order to serve patients and contribute to a world in which the holistic, patient-/family-/community-centric vision of the profession of nursing may become a reality (Rambur, 2021).

The Nurse Manager oversees and directs the healthcare facility's nursing staff. Due to slow economic development and competition from other social services like education and social assistance, there are limits on government expenditure on health care. This has resulted in Nurse Managers being asked to do more with less, both in terms of resources and monetary funding, and to reduce costs across their departments without increasing the quality of care they provide. Nurse Managers, in order to deal with the present health care financial scenario, must acquire a deeper familiarity with financial matters and healthcare expenditures (a process known as "cost containment") (Naranjee, Ngxongo & Sibiya, 2019).

Unfortunately, a significant proportion of nurses are unaware of the impact they have on healthcare expenditures or the value they provide to the industry in terms of income. Several studies have shown that nurses do not have enough financial literacy. Only 30% of nurses, according to Caroselli (1996), have even rudimentary understanding of health economics, and a qualitative research demonstrated that nurses did not use cost management in their practice because they were too preoccupied with patient care to worry about finances (Dash, 2019).

Health economic programs or courses provide the theoretical and practical foundations for developing skilled health professionals, adequate to today, knowing the principles of functioning, interaction, financing, and maintaining the complex and diverse health system in its various forms of ownership and management (including state, municipal, private, and non-profit). Key economic performances relevant to health are learned, as are the means for identifying and resolving fundamental economic problems within the health system, as are statistical methods and orientation in the planning of the resources required to carry out medical and healthcare institutions' missions (vaidya,2020).

Programs and courses for education Health economics is the study of how to maximize efficiency and value in the delivery of healthcare by making choices based on limited resources. In a time of crisis, it might be difficult to make judgments on vital resources

like supplies, personnel, square footage, and money. Decisions may benefit from health resource management

## **SIGNIFICANCE OF THE STUDY**

Regarding to the complexity of health care and the current economic challenges, attention should be paid to Nurse Managers who have a direct control over staff nurses who consumes the great's bulk of the hospital resources. Also, they are responsible for monitoring nurses' attitudes towards the economics of health care. There is no evidence of studies has previously been conducted in Egypt regarding the economics of health care training programs for nurse managers. Thus, this study will be directed toward piloting an educational program regarding health care services economics for nurse managers that could significantly impact the quality management of patient care & to recommend a new well-informed dynamic recommendation backed on the sound evidence-based data generated from the study results, for further nursing administration researches, leading and managing nursing work force and nursing education.

### **Aim of the Study**

Is to assess the impact of educational program about economics of health care services for nurse managers on quality management of patient care

### **Research Design**

A quasi-experimental, correlational, longitudinal design was used.

### **Research Hypotheses**

To fulfill the aim of the study, the following research hypothesis was formulated:

- H1** - Immediately after the Educational Program implementation and 3-months later, the study participants' knowledge scores will be improved compared to pre-program Implementation
- H2**- Immediately after the Educational Program implementation and 3-months later, the study participants' Quality Management of Patient Care mean scores will be improved compared to pre-program Implementation
- H3**- Immediately after the Educational Program implementation and 3-months later, the study participants' economic performance mean scores will be improved compared to pre-program Implementation
- H4**- A significant positive relationship will be found among the study participants 'knowledge, economic performance and quality management of patient care throughout the Educational Program (Pre-Program Implementation / Immediately after the Implementation and 3-months later)

## TOOL FOR DATA COLLECTION

1. Demographic and work-related characteristics form: It consisted of 8 main categories with 17 items
2. Economics of Health Care Services 'Knowledge Questionnaire: to assess the study participants' knowledge throughout the program (pre- immediate – evaluative follow-up) & it will consist of 6 dimensions with 90 items
3. Nurse Manager' Health Care Economics Performance of Observational Checklist: to assess the study participants Health Care economic performance throughout the program (pre- immediate –evaluative follow-up) & it will consist of 9 dimensions with 99 items.
4. Quality Management Practices of Patient Care Observational Checklist: It will be used to assess the study participants 'Quality Management Practices of Patient Care throughout the program (pre- immediate –evaluative follow-up) & It will consist of 5 dimensions with 70 items

### Validity

To assess the data collection tools, the developed tools were presented to a jury of three experts in the field of study from Cairo University's Faculty of Nursing. The change was made in accordance with the recommendations of academic nursing experts.

### Reliability

A probability (p-value) of less than 0.05 was regarded as significant, and a p-value of less than 0.001 was regarded as extremely significant when the tool's reliability was examined.

### Pilot study

The tools of data collection were pretested on random sample (30) to ensure accessibility of the sample and the clarity of the content of data collection tools; There were no modifications in the data collection tool after conducting the pilot study.

### Procedure

An official approval was obtained from Ethical and Research Committee, faculty of nursing- Cairo University and the director of new care Al Aini teaching hospital; and written informed consent from study participants was obtained to conduct the current study. In the light of the selected total quality management process; preparation, planning, assessment, implementation, Evaluation

## RESULTS

**Table 1:** Show that nearly half (46.7%) of studied nurses were in the age group >45, married nurse managers were (56.7) and all are females. Also, the education of the majority (80%) was bachelor degree, and 76.7% were assumed the role of head nurses

with 96% of them working morning shift. Around half (43.3%) had 16-20 years of experience in hospital and 56.7% had 1-4 years of experience in current place. The source of knowledge for all of them was formal education program.

**Table 2:** Show that there is no significant relation between levels of knowledge and quality management in each stage of assessment.

**Table 3:** Show that there is no significant relation between levels of knowledge and health economics in each stage of assessment.

**Table 4:** Show that there is a significant correlation between quality management and economic ethics level at pre,post and follow up where high quality management always has the highest percent of health economic and vice versa.

**Table 1: Demographic characteristics of studied nurses (n=30)**

Items	No.	%
<b>Age</b>		
25-35	3	10.0
36-45	13	43.3
>45	14	46.7
<b>Gender</b>		
female	30	100.0
<b>Marital status</b>		
Currently not married	13	43.3
Currently Married	17	56.7
<b>Education</b>		
Associate degree	2	6.7
Bachelor	24	80.0
Masters	4	13.3
<b>Job</b>		
Assume the role of Head nurse	23	76.7
Head nurse and supervisor	7	23.3
<b>Experience in hospital</b>		
5-15	5	16.7
16-20	13	43.3
21-25	6	20.0
>25	6	20.0
<b>Experience in current place</b>		
1-4	17	56.7
5->10	13	43.3
<b>Source of knowledge</b>		
Formal education program	30	100.0

**Table 1** show that nearly half (46.7%) of studied nurses were in the age group >45, married nurse managers were (56.7) and all are females. Also, the education of the majority (80%) was bachelor degree, and 76.7% were assumed the role of head nurses with 96% of them working morning shift. Around half (43.3%) had 16-20 years of experience in hospital and 56.7% had 1-4 years of experience in current place. The source of knowledge for all of them was formal education program.

**Table 2: Correlation between the studied nurse’s knowledge and quality management levels throughout the program (pre, immediate post and follow-up)**

Knowledge Pre- program Post- program Follow up- program	Quality management																	
	Pre-program $X^2 = 1.2$ p-value=0.87						Post-program $X^2 = 0$ p-value=1						Follow up-program $X^2 = 3.3$ p-value=0.5					
	Low		moderate		high		Low		moderate		high		Low		moderate		high	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Low	19	86.3	7	100	1	100	0	0	0	0	0	0	0	0	1	8.3	2	12.2
Moderate	2	9.0	0	0	0	0	0	0	0	0	0	0	6	85.7	9	75.0	9	81.8
High	1	4.7	0	0	0	0	0	0	9	100	21	100	1	14.3	2	16.7	0	0

Table 2 show that there is no significant relation between levels of knowledge and quality management in each stage of assessment.

**Table 3: Relation between the studied nurse’s knowledge and health economics levels throughout the program (pre, immediate post and follow-up)**

Knowledge Pre- program Post- program Follow up- program	Health economic																	
	Pre-program $X^2 = 1.9$ p-value=0.74						Post-program $X^2 = 0$ p-value=1						Follow up-program $X^2 = 2.6$ p-value=0.61					
	Low		moderate		high		Low		moderate		high		Low		moderate		high	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Low	16	84.2	10	100.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	2	12.5	1	10.0
moderate	2	10.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	75.0	12	75.0	9	90.0
high	1	5.3	0	0.0	0	0.0	2	6.7	13	43.3	15	50.0	1	25.0	2	12.5	0	0.0

Table 3 show that there is no significant relation between levels of knowledge and health economics in each stage of assessment.

**Table 4: Relation between the studied nurse’s quality management and health economics levels throughout the program (pre, immediate post and follow-up)**

Health economics Pre- program Post- program Follow up- program	Quality management																	
	Pre-program $X^2 = 9.9$ p-value=0.04*						Post-program $X^2 = 10.6$ p-value=0.03*						Follow up-program $X^2 = 13.7$ p value=0.0001*					
	Low		moderate		high		Low		moderate		high		Low		moderate		high	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Low	33	58.9	22	73.9	0	0	0	0	6	23.1	2	3.2	4	22.2	6	15.8	1	2.9
moderate	19	33.9	8	26.1	4	80.0	0	0	12	46.2	30	48.4	8	44.4	25	65.8	14	41.2
high	4	7.2	0	0	1	20.0	1	100	8	30.8	30	48.4	6	33.3	7	18.4	19	55.9

**Table 4** show that there is a significant correlation between quality management and economic ethics level at pre,post and follow up where high quality management always has the highest percent of health economic and vice versa.

## DISCUSSION

The results of this study showed differences in the nurse managers knowledge and the health economic and quality management performance in the post and follow up phase of the introduced health economic educational program and the Potential reasons for this knowledge deficit may be a lack of health economics education during nursing training courses, no nurse participation in decision-making regarding economic issues, an absence of continuing education courses and workshops, and little attention to nurses' capacity to impact on health system costs. Reported that the nurses' lack of commitment toward economic issues is related to either a lack of time or to a lack of interest regarding management issues, with the justification being that they have received no academic education in relation to economic management and had no understanding of these.

The result of the current study shows that all nurse managers are female. The researcher found that result is related to cultural and traditional perception of nurses to the nursing profession as they consider nursing is a feminine profession as well as to the organization direction too and patient east culture. But finally, this perception was changed and the males are introduced to the profession and started to join the administrative line but still need time to handle the nurse manager position officially. This was approved with Vandali, (2017) who focused on the concept of nursing profession is continuously developed in fast and modern way among medical profession. This result was convenient with Elewa & Elkattan, (2017) who indicate that less than three-quarters of his study sample of nurse managers were females and more than one-quarter of them were males. He conducted an educational program on Improving Quality of Nursing Care on 30 on charge nurses in 6 critical units affiliated to Ain Shams University Hospital. This result is incongruent with Alaraki, (2018) who stated that more than three-quarters of them were males, and less than one-quarter of them were females (Vandali, 2017).

The current study revealed also that the majority of the nurse managers were aged above 45 years and this result was accepted as having manager position required years of experience which also appeared as the majority of them have experience in hospital from 6-20 years. Regarding marital status, most of them were currently married, have bachelor degree and assume the role of Head nurse. This result was inconvenient with study done by Ofei (2020), who used a quantitative exploratory design to collect data from 522 nurses in 19 hospitals in the Greater Accra region in Gana to explore the management competencies of nurse managers. His findings revealed that nurse managers possessed all the management competencies were 25-35 years of age and clinical experience at least 15 years (Ofei, 2020).

As well as the majority are having Experience in current place from 1-4 years and gained their knowledge about health economic from formal educational program which is a result of lack of nurse manager time to have any additional courses and this new topic is not added or discussed through the education department plan .this was relevant to contributor (2020) as he said that the nurse manager need heavy clinical experience before administrative experience and taking different diplomacy according to their specialty of administration unit position as well as having ability of leadership before any position (Gab Allah & Elshrief, 2020).

This result was convenient with Mohamed (2021) which revealed that less than half of the nursing staff was between 30 – 40 years old, more than a quarter of the studied nursing staff was graduated from the Secondary School of Nursing and the majority of them were staff nurses. On the other hand, less than half of the studied nursing staff had experienced between 10 < 20 years, and less than half of nursing staff did not have any training courses. But this result is incongruent with Mohamed, (2016) who stated that the majority of the respondents had attained a Bachelor's degree followed by diplomas then a Master's degree, and finally certificates in various fields. This showed that the respondents had the adequate ability to understand and answer the questions relating to TQM and competitive advantage (Mohamed, 2021).

The study revealed that there is no correlation or significant difference between the studied nurse's knowledge and quality management levels as it appeared throughout the 3 phases of the program. This result not answering the study hypothesis which stated that Immediately after the Educational Program implementation and 3-months later, the study participants' Quality Management of Patient Care mean scores will be improved compared to pre-program Implementation was achieved. This result was inconvenient with Dehaghi, Sheikhtaheri and Dehnavi (2015). Who concluded that there are strong correlations found between implementation of knowledge management and participation of nurse managers in quality management decision making ( $r = 0.82$ ;  $P < 0.001$ ) (Dehaghi, Sheikhtaheri and Dehnavi, 2015).

Also, in another study that is done on nurse managers in surgical intensive care units revealed that knowledge as an important tool for the professional and job success. And the majority of nurses achieved and performed care in safe and quality care based on their own knowledge and other factors as patient and family satisfaction as well as theoretical conception, involves a dialectical relationship between the know-how manage and the know-how caring, dimensions in the nursing work process (Rabenschlag, 2016).

From the research point of view the nurse manager demonstrates the quality of care based on the hospital quality polices states rather than their own gained knowledge although there were interested with the new knowledge and concepts they gained during the educational program. in addition to work burdens they face with lack of time to discuss the application of new concepts.

Also, as shown in the result that was no significant difference between the knowledge and health economics levels throughout the program although there was significant



difference between health economic levels throughout the pre-post and follow up phases of the program. This result was inconvenient with study done on thirty staff nurses working in different hospital in Puducherry, India. Found a substantial and favorable correlation ( $r = 0.28$ ,  $P = 0.01$ ) between nurses' economic knowledge and their performance of health economics. (Dash, 2019).

From the researcher point of view this result was expected as the nurse managers knowledge in practice was accepted because that they had basic practice knowledge based on demonstrating their routine work standards of care, as the appropriate use and preservation of tools and supplies, the documentation of medications and diagnostic tests, and more. Additionally, even though nurse managers were excluded from the hospital budgeting process, they had a favorable view of the cost reduction and management of supplies and equipment. Which clearly appeared through the health economic performance during the program especially post and immediate phase. But, in relation to their theoretical gained knowledge, they didn't achieve significant correlation as they didn't have the chance to share in budgeting or apply the new gained cost containment concepts in their work as there were many barriers with hospitals authoritative

In Addition, the current study showed that there is a significant difference between quality management and health economic level at pre, post and follow up. This result was on convenient with study done by Deng,(2017) on 200 nurse managers and directors in of large public hospitals in Zhejiang Province, Chin, to test the hypothesized relationship between quality management practices and hospital performance regarding economic decisions and the conclusion was there is positive relationship between quality management of nurse managers and the hospital economic performance as managers' understanding of the nature of quality management practice-performance relationship and help mangers re-allocate more resources to those elements of the quality management systems that have the most significant impact on hospital performance (Deng& Zhang, 2017).

These results answered the current study hypothesis that there is a significant positive relationship will be found among the study participants 'knowledge, economic performance and quality management of patient care throughout the Educational Program. As it was clear throughout the discussion how the nurse manager's knowledge and performance was changed at the 3 phases of the program.

## **CONCLUSION**

There was a highly statistically significant difference between pre -program and post program as well as in the follow up after 3 months of demonstrating the program regarding to most items of health economic and quality of care performance for the nurse

## RECOMMENDATION

### Management

- 1- hospital administrators must give the nurse managers the opportunity to share in the unit financial decisions
- 2- Hospital administrator should include health economics concept and strategies in their continuous educational programs and training plans.
- 3- Provide incentives for nurse managers and nurse who keen to apply cost containment strategies
- 4- develop & apply cost containment policies as part of quality assurance in different units of the hospitals.

### Education

- 1-Nurse managers must start their health economic education and awareness before graduation to be prepared for performing cost containment strategies in their units
- 2- Continuous follow up and monitoring for the new nurse to increase their awareness of cost containment strategies as part of the education department responsibility in the education plan

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