The Effect of Leadership and Managerial Skills Program on Newly Graduates Nurses' Competencies

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ABSTRACT

Background: Nursing professionals play a crucial role in the global health care system and the worldwide health care system depends heavily on nurses due to the rising acuity of patients and the continued nursing shortage, so the newly graduated nurses should pick up nursing management and leadership skills to collaborate with other healthcare professionals. ***Aim:*** The study aimed to explore the effect of leadership and managerial skills program on newly graduates nurses' competencies. ***Design:*** A quasi experimental design was utilized in this study. ***Setting:*** The study was conducted at the hospitals of EL- Qalioubia Branch of Health Insurance which include three hospitals (EL-Nile, Benha and Bahteem hospital). ***Subjects:*** A convenient sample of (60) newly graduates nurses were included. ***Data collection Tools:*** Three tools were used for data collection, *(1):* Newly Graduates Nurses' knowledge questionnaire regarding leadership and managerial skills, *(2):* Newly Graduates Nurses' leadership and Managerial skills and *(3):* Structured questionnaire about newly graduates nurses' attitude toward managerial competencies. ***Results:*** There was a satisfactory level of newly graduates nurses' knowledge, a competent level of newly graduates nurses' skills and a positive level of newly graduates nurses' attitude during post and three months follow up compared with pre phase regarding leadership and management skills among the studied newly graduates nurses. ***Conclusion:*** There was a highly statistically significant difference between total mean score of knowledge, skills and attitudes during pre, post and three months follow up before and after the implementation of the leadership and managerial skills program among the studied newly graduated nurses. ***Recommendation:*** Create and design a job description which involves leader and manager roles for the newly graduate nurses should be provided and explained to them during the orientation program.

Keywords: Leadership Skills, Managerial Skills, Newly Graduates Nurses and Nurses Competencies.

INTRODUCTION

Nurses constitute an integral part of the health-care organization globally, though frequent changes in the health care environment require from nurses to have an updated level of knowledge, but newly graduated nurses, when joining this progressively complex health care environment, still need to have sufficient learning experiences to meet the expectations for such demanding practice. An increased ratio of patients, lack of health-care facilities, and the absence of nurse educators contribute to the inadequate knowledge of the graduate nurses ***(Ulupinar & Aydogan 2021).***

The ongoing nursing shortage and the increasing acuity of patients are being the causes which make the new graduate nurses must master their skills rapidly. Inadequate orientation leads to high turnover rates for new graduates, so the Health care leaders must examine the skills needed for the new graduate nurses to succeed in the health care environment. By reviewing the studies were conducted to identify crucial skills that are needed for new graduate nurses to be successful, there

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were six areas were identified in which new graduates lacked skills: leadership, communication, organization, critical thinking, specific situations and stress management *(Alharbi & Alhosis 2019)*.

Several studies argue that students' lack of exposure to the actual health-care learning environment has accelerated dropout rates. This is due to the challenges they encounter while going through the transition from an academic setting to an actual delivery setting. The inability to devise effective and prompt decisions leads to anxiety. Nurses face these challenges once they enter the actual health-care environment. This includes inadequate practice of knowledge which serves as a source of stress and anxiety among the new graduate nurses *(Omar, 2020)*.

According to the global statistics, developing countries are reported to have high turnover rates and shortage of qualified nurses with frequent repercussions on the quality of health-care services. Furthermore, the heavy reliance of the health-care sector on the expatriate nurses emphasizes developing their competence for adequately responding to the changed working environment as it constitutes 60% of the overall nurse population. Furthermore, an anticipated 25% of new graduate nurses experience issues related to problem-solving and critical reasoning skills which lead to inadequate patient care. Education, experience, and personal factors, which include general career expectations, economics, and parental relationships, contribute to acclimatize new graduate nurses' ability to professional practice *(Omar, 2020)*.

Leadership and management development will need to begin in the first year of practice so that new graduates nurses are capable of understanding and influencing their practice environments to promote patient care quality and fiscal effectiveness. Leadership skills are analyzed in terms of the effectiveness of communication within the therapeutic team as well as the quality of medical care. Thus, leadership skills that would be most effective in clinical work are sought. Effective leadership in nursing is crucial for patients' safety. Management is a set of principles relating to the functions of planning, organizing, directing and controlling, and the application of these principles in harnessing physical, financial, human and informational resources efficiently and effectively to achieve organizational goals *(Do Valle et al., 2021)*. So, it's a necessity for designing a program to improve leadership and managerial skills for newly graduate nurses, and explore the effect of the program on their competencies.

Significance of the study:

Newly graduates nurses in Qalioubia Branch of Health Insurance hospital carry out full work responsibilities that need well-trained nurses. Clinical experience showed that newly graduates nurses have inadequate performance of leadership and managerial role. The predictors of these inadequacies appear in the following: improper communication skills, lack of appropriate leadership and managerial skills, inability to manage unplanned staff absences, gap in planning and priority setting and Inability to solve work problems. Moreover, international studies revealed that the nurse managers realized the importance of leadership and managerial competencies and scored (50%) of the competencies at a mean of 3.5 or above, signifying that the competencies contribute significantly to or are essential for the job of nurse managers *(Zeinab, 2016 & Ruby, 2016)*.

While national studies revealed that the majority of the newly graduated nurses had average level of competency skills in pre-program self-assessment and in observation pre-program, all (100%) newly graduated nurses had low level of competency skills and also in knowledge about competency skills before implementation of the program. And the program had a positive effect on newly graduated nurses' level of competency skills' performance and knowledge. And the studies recommending training programs for the newly graduates nurses regarding leadership managerial skills *(Kantanen, et al, 2015)*.

It is assumed that developing of the newly graduates nurses several competencies that will enable them to effectively perform the leadership and managerial function. Pertinent leadership and

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managerial skills development of nurse managers enables retention of staff, decreased turnover of staff, and optimal patient outcomes to be attained, which leads to enhanced fiscal health for the organization *(Mackoff& Meadows, 2017).*The current study will be conducted to develop the leadership and managerial skills of newly graduates' nurses by application of leadership and managerial skills program.

Aim of the study: The aim of this study was to explore the effect of leadership and managerial skills program on newly graduates nurses' competencies through the following:

- Assess the newly graduates nurses' leadership and managerial knowledge.
- Assess newly graduates nurses' leadership and managerial skills.
- Recognize the newly graduates nurses' leadership and managerial attitudes.
- Implement and evaluate leadership and managerial skills program for newly graduates' nurses.

Research Hypothesis

There will be a significant difference between newly graduates nurses' knowledge, skill and attitude before and after the implementation of the leadership and managerial skills program.

MATERIAL AND METHODS

Study Design: A quasi-experimental design was used to carry out this study.

Setting: The study was conducted at three hospitals named (EL-Nile hospital, Benha hospital and Bahteem hospital for Specific surgery). This affiliated to EL- Qalioubia Branch of Health Insurance which affiliated to General Authority for Health Insurance Cairo, Egypt.

Subjects: All available newly graduate nurses' (n=60) of a convenient samplewho were presented at the time of data collection in aforementioned setting.

Inclusion Criteria:

Newly graduate nurses' who agreed to participate in the study and presented at the time of data collection in the aforementioned settings.

Exclusion Criteria:

The old graduate nurses who work at the time of data collection in the aforementioned settings.

Tools of Data Collection:

Three tools were utilized in this study:

First Tool: Newly graduates nurses' knowledge regarding leadership and managerial skills developed by the researcher based on related literature **(Afandi, 2018 & Pascalia et al., 2016)** and it consists of two parts:

Part1.Personal Characteristics Data Sheet: This part included the personal characteristics of the newly graduate nurses involved the following: (age, gender, educational qualification, social status, department and attending training courses).

Part2. Newly graduates nurses' knowledge regarding leadership and managerial skills Questionnaire Sheet: It was used to assess the knowledge of newly graduate nurses' about leadership and managerial skills in their work place before and after applying the leadership and managerial skills program. It represented a set of (34 questions) using MCQ-short version, encompassed 6 dimensions: Management, leadership and competencies related concepts (13 questions), Communication (8 questions), Staff management (3 questions), Financial management (3 questions), Planning and priority setting (3 questions) and Problem-solving (4 questions).

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Scoring system: Each item of newly graduates nurses' knowledge regarding leadership and managerial skills was given (2 score) for correct answer and (1 score) for incorrect answer. For total level of knowledge regarding leadership and managerial skills among newly graduates nurses as following: Un-satisfactory level of newly graduates nurses' knowledge (< 70%) and Satisfactory level of newly graduates nurses' knowledge ($\geq$ 70%) according to statistical analysis.

Second Tool: Leadership and Managerial Skills Checklist.

This tool was developed by the researcher based on related literature **(Afandi, 2018 & Pascalia et al., 2016).**It was used to evaluate the nursing personnel skills before and after applying the leadership and managerial skills program. It was consisted of (35 items), it encompassed six dimensions: Communication skills (8 items), Leadership and management skills (5 items), Staff management (6 items), Financial management (4 items), Planning and priority setting (5 items) and Problem-solving (7 items).

Scoring system: The subjects' responses rated on 5-point Likert scale from (1=Never) to (5=Always). The score for each item was summed up and then converted into a percent score to assess the level of newly graduates nurses' leadership and managerial skills as following: In-competent level of newly graduates nurses'leadership and managerial skills (<70%) and Competent level of newly graduates nurses' leadership and managerial skills ($\geq$ 70%).

Third Tool: Newly graduates nurses' attitude toward managerial competencies checklist.

This tool was developed by the researcher based on related literature **(Afandi, 2018 & Pascalia et al., 2016).**It was used to assess the attitude of newly graduate nurses' toward managerial competencies in their work place before and after applying the leadership and managerial skills program. It was consisted of (24 items) divided into three dimensions which were: Critical thinking and decision making (11 items), Environment (5 items) and Health team member (8 items).

Scoring system: The newly graduates responses were rated on 5-point Likert scale from (1=strongly disagree) to (5=strongly agree). The score for each item was summed up and then converted into a percent score to assess the level of attitude of newly graduate nurses' toward managerial competencies as following: Negative attitude of newly graduate nurses' toward managerial competencies (< 70%) and Positive attitude of newly graduate nurses' toward managerial competencies ($\geq$ 70%).

Validity of tools

Validity of the tool was done namely face validity and content validity. It was translated into Arabic and was tested by a jury group of five experts specialized in nursing administration from different two Universities namely (Beni-Suef University and Menoufia University) through an openionnaire sheet to measure the validity of the tool.

Face validity

Face validity was done based on jury opinions which were elicited regarding the tools' format, layout and clarity the part.

Content validity

Content validity was conducted to determine the appropriateness of each item to be included in questionnaire sheet. Minor modifications were done based on jury recommendation.

Reliability of tools:

Reliability for the utilized tools was tested to determine the extent to which the items of the tools are inter-correlated to each other. Alpha Cronbach test was used to determine the reliability of tools. The Alpha Cronbach test for newly graduates nurses' knowledge regarding leadership and

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managerial skills is (0.989). Also, test reliability for newly graduates nurses' leadership and managerial skill showed (0.996). And test reliability for newly graduates nurses' attitude toward managerial competencies is (0.977). The following table discusses reliability.

II. Operational Design:

The operational design includes: preparatory phases, pilot study and filed work.

Preparatory Phases: It included review of related literature and theoretical knowledge from various aspects of the study using national and international books, internet, periodicals and journals.

Pilot Study: A pilot study was conducted on 10% of the sample (6) newly graduate nurses and chosen randomly. The aim of the pilot study was to test the applicability, feasibility, practicability, clarity of constructed tools and to estimate the time required to fulfilling the questionnaire sheet. Total timewas ranged between (35-50) minutes. Based on pilot study no modifications were done for the tools, so that the pilot subjects were included in main sample and the final version of tools were prepared for distributing to the newly graduate nurses.

Field Work: The actual field works started at the beginning of July 2021 to the end of July 2022. The researcher met the directors of EL-Nile hospital, Benha hospital and Bahteem hospital for specific surgery either medical or nursing to explain the aim of the study to obtain their approval for data collection. The researcher collected the data by herself through meeting the newly graduate nurses and explained the purpose of the study to them in the study setting. The researcher met participants for filling the forms to answer any questions. Also, the researcher checked the completeness of each filled sheet after the newly graduate nurses completed it to insure the absence of any missing data. The data was collected through three phases (pre-test, post-test and follow-up phases) for assessment, designing, implementation and evaluation.

Process of educational program:
 The educational program of the current study was conducted at three phases; assessment, designing, implementation and evaluation phase.
First phase: Assessment: The researcher was developed the tools for data collection, then jury by 5 experts to examine the clarity of questions some modifications on tools done. The researchermet the directors of EL-Nile hospital, Benha hospital and Bahteem hospital for specific surgery either medical or nursing to explain the aim and process of the study, collected all information about the newly graduate nurses in hospitals as (age, gender, qualification, department and social status) and a pilot study was conducted on (10%) of newly graduate nurses, initiated from the beginning of **July 2021** to the end of **August 2021** (2months). Additionally, the researcher starts to collect data from the beginning of **October 2021 to the end of November 2021** (2 months) by using developed tools with selected sample participants in their setting according to the available time for each of them after explaining to them the purpose of the study, the data collection was started by distribution of 3 tools on newly graduate nurses according to their work schedule. Knowledge, skills and attitude were assessed to determine the training needs of the newly graduate nurses regarding leadership and managerial skills. The researcher organized the selection process under supervision and support of the nursing director as following; (2) visits per week, every visit was ranged from (1.5 to 2 hours) at the morning shift (from 10 am to 12 pm).

First, the researcher used the knowledge questionnaire sheet regarding leadership and managerial skills for the newly graduate nurses before providing educational program (per-test) to assess the

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newly graduate nurses' knowledge regarding leadership and managerial skills. The time needed by newly graduate nurses to complete this sheet is ranged (15-20) minutes.

Second, the researcher used the leadership and Managerial skills checklist before providing educational program. The time needed by newly graduate nurses to complete this sheet is ranged (10-15) minutes.

Finally, the researcher used the newly graduates nurses' attitude toward managerial competencies checklist. The time needed by newly graduate nurses to complete this sheet is ranged (10-15) minutes. Total time needed to complete this sheet is ranged (35- 50) minutes.

Second phase: Designing and Implementation: In this phase the researcher started after the assessment phase to develop leadership and managerial skills program according to needs assessment of the participants, and then contents of the program designed and implemented regarding leadership and managerial skills. According to the pre-test results, leadership and managerial skills educational program general objectives were settled, to develop leadership and managerial skills for newly graduate nurses. This phase started at the beginning of **December 2021 to the end of January 2022** (2 months). The researcher divided the newly graduate nurses to (5) groups each group consists of (12) newly graduate nurse. Educational program was taken (2) months as following; each group took (2 day) per week to deliver the educational program content, every day include (3 sessions) with 2 breaks, every session took (2 hour) with (30 minutes) for break time. By the end of each session the newly graduate nurses informed about the next session and its time.A different teaching method was used as: lectures, group discussion, brain storming and demonstration and using suitable media and learning materials.Each group received the same program content using the same teaching strategies and hand out. The program theoretical sessions were held in the training center in coordination with the training department of the pre mentioned hospitals.

Third phase: Evaluation: This phase was started immediately after finishing the program to evaluate the immediate effect learning program and after three months post programon knowledge, skills and attitude regarding leadership and managerial skills of newly graduate nurses on their competencies.

❖**Immediate evaluation:** Following completion of the educational program the newly graduate nurse given the knowledge, skills and attitude questionnaire sheets regarding leadership and managerial skills (tool I, II & III) which distributed to the newly graduate nurses to assess the newly graduate nurse knowledge, skills and attitude after providing educational program. Immediate evaluation post program was conducted from the beginning of **February 2022 to the end of March 2022** (2 months).

❖**Follow Up Post Program:** Measurement was done after three months post program. Newlygraduates nurses were given the same tools used in immediate evaluation post program phase (tool I, II and III). Following up was done after three months post program which started at the beginning of **June 2022 to the end of July 2022** (2 month).

Administration Design:

To carry out the study, official letters were issued from the Dean vice of Faculty of Nursing Helwn University explained the aim of the study to the directors of the EL-Nile hospital, Benha hospital and Bahteem hospital for Specific surgery either medical or nursing for obtaining the permission for data collection. Individual oral consent was obtained each newly graduate nurse in the study.

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Statistical Design:

Data entry and analysis were performed using SPSS statistical package version 25. Categorical variables were expressed as number and percentage, while continuous variables were expressed as (mean ± SD). Chi-Square (x2) was used to test the association between row and column variable of qualitative data. The Kolmogorov–Smirnov test and Shapiro Wilk tests has a significance value below 0.05, indicating that the data did not follow a normal distribution; therefore, nonparametric tests were used for analysis. ANOVA test was used to compare mean in normally distributed quantitative variables in more than two groups. The Kruskal–Wallis tests are nonparametric tests used to compare the mean ranks of scores and determine significant differences in mean values for more than 2 groups. Pearson correlation was done to measure correlation between quantitative variables. For all tests, a two-tailed p-value ≤ 0.05 was considered statistically significant, P-value ≤ 0.01 was considered highly statistically significant. While p-value>0.05 was considered not significant.

RESULT

Table (1): Frequency distribution of personal characteristics among the studied newly graduated nurses (n=60)

Items		No.	%
Age (year)	▪ 20-≤25	41	68.3
	▪ 26-<30	19	31.7
	▪ **Mean± SD**	24.7+2.4	
Gender	▪ Male	11	18.3
	▪ Female	49	81.7
	▪ Male to female ratio	4.5:1	
Marital status	▪ Single	25	41.7
	▪ Married	35	58.3
Educational level	▪ Bachelor nursing degree	30	50.0
	▪ Technical Institute of Nursing	30	50.0
Department	▪ Operating theater	8	13.3
	▪ Emergency department	12	20.0
	▪ Dialysis unit	9	15.0
	▪ Intensive care unit	17	28.3
	▪ In patient Department	14	23.3
Attending training courses	▪ Yes	20	33.3
	▪ No	40	66.7

Table (1): shows personal characteristics of newly graduated nurses, It shows that, more than two thirds of the study subjects (68.3%) age range was (20–25) years old, with a mean age of (24.7+2.4). Moreover, more than four fifths (81.7%) of them were female and married, and (58.3%), respectively. As regards educational level, about one half of them (50%) had technical institutes' degrees, and about one half of them (50%) had bachelor's nursing degrees. As concerning the department, about one-third of the newly graduated nurses (28.3%) were working in the intensive care unit, while the minority (13.3%) was working in the operating theater.

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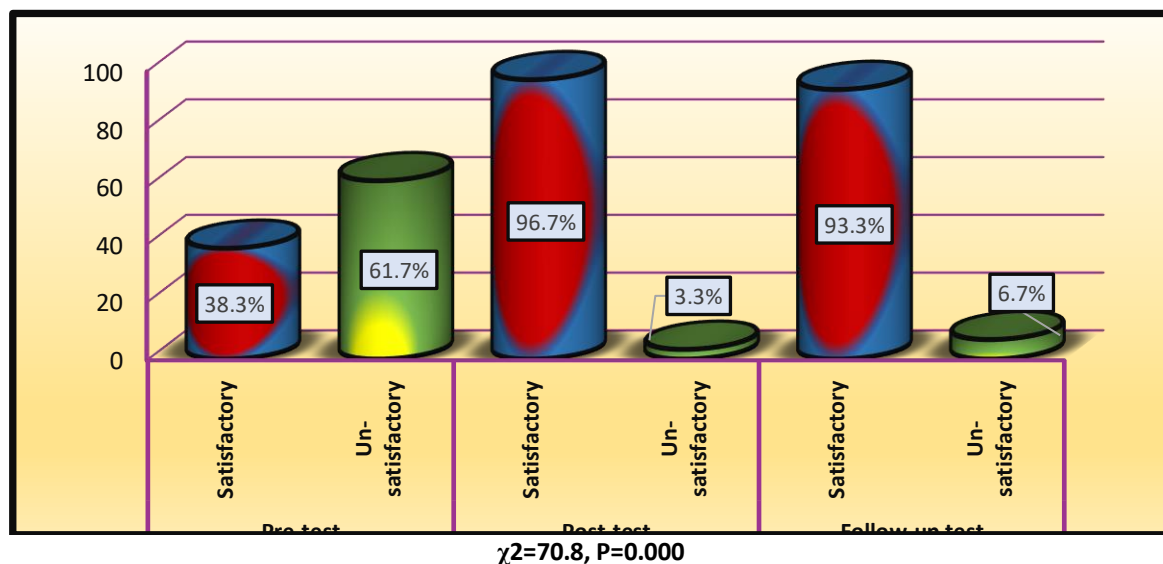*Eur. Chem. Bull. 2023,12(Special Issue 12), 1 – 15*

χ2=70.8, P=0.000

Figure (1): Total knowledge regarding leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurses

Figure (1): presenting total knowledge regarding leadership and managerial skills during pre, post & three months follow up among the studied newly graduated nurses. It denotes, during the post-test phase, the newly graduated nurses gained higher knowledge (96.7%) followed by the phase of follow-up test (93.3%) as compared with the phase of pre-test less than two fifths (38.3%). In addition to presence of difference between observed and expected values with a significant statistical difference at (χ2=70.8, P=0.000).
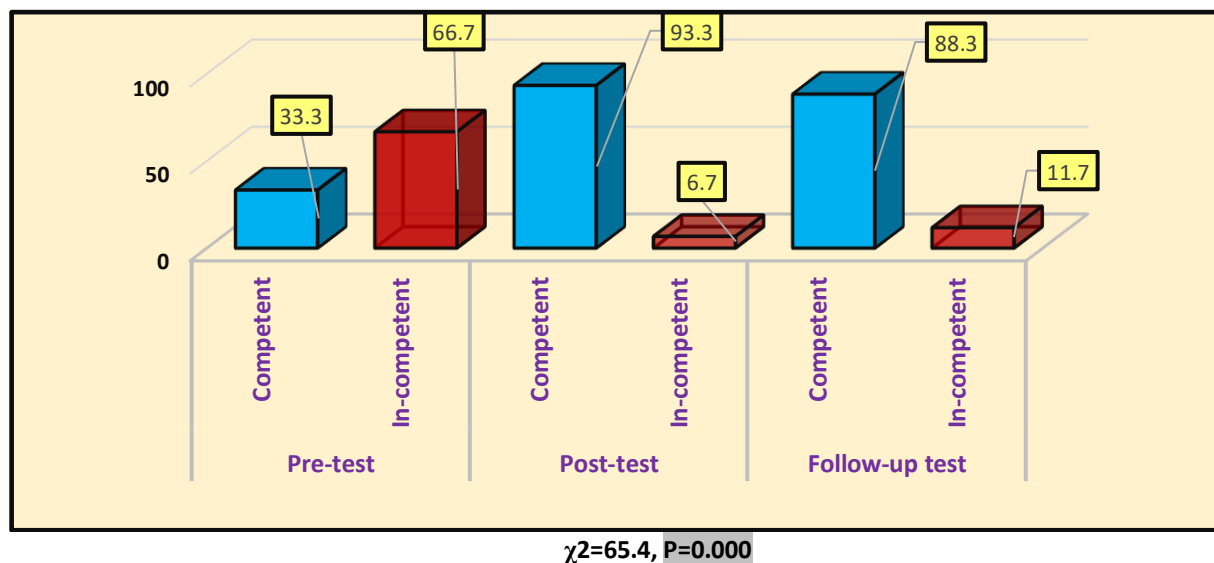

χ2=65.4, **P=0.000**

Figure (2): Total leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurses

Figure (2): clarifies total leadership and managerial skills during pre, post, and three-month follow up among the studied newly graduated nurses. It denotes, during the post-test phase, the newly graduated nurses gained a higher percentage of leadership and managerial skills (93.3%), followed by the phase of follow-up test (88.3%), as compared with the phase of pre-test (33.3%). In addition to the presence of a difference between observed and expected values, with a significant statistical difference at (χ2=65.4, P=0.000).

Table (2): Total attitudes regarding leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurses (n=60)

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Items		Pre	Post	3 months follow up	F	P-Value
		$\overline{x} \pm SD$	$\overline{x} \pm SD$	$\overline{x} \pm SD$		
▪ Critical thinking	Positive	43.6±1.1	46.3±4.5	46.5±4.6	39.6	0.000**
	Negative	34.3±2.5	36.3±1.5	33.5±2.6		
	Total	43.1±6.38	45.8±4.9	45.2±5.9		
▪ Environment	Positive	19.8±0.4	21.4±2.2	21.4±2.3	38.7	0.000**
	Negative	13.6±1.9	14.2±0.4	14.1±0.3		
	Total	19.2±3.83	20.8±2.9	20.5±3.2		
▪ Health team member	Positive	31.4±0.9	34.1±3.6	34.4±3.6	26.3	0.000**
	Negative	25.1±3.1	25.5±1.0	23.3±2.9		
	Total	31.3±5.21	33.5±4.1	32.5±5.4		
Total	Positive	94.8±2.6	102±10.1	102±10.7	35.3	**0.000****
	Negative	73.1±7.5	77.8±3.7	70.7±6.3		
	Total	**93.6±15.2**	**100±11.9**	**98.4±14.4**		

*Statistically Significant p ≤ 0.05　　　****Highly Statistically Significant p ≤0.01**　　　**F: ANOVA Test**

Table (2): shows, total attitudes regarding leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurses. it denotes that during the phase of post-test, the newly graduated nurses gained higher total mean of score of attitudes regarding leadership and managerial skills (100+11.9) as compared to phase of pre-test (93.6+15.2). Additionally, during the phase of follow (3 months after program) the newly graduated nurses gained slightly lower total mean of score of attitudes regarding leadership and managerial skills (98.4+14.4) than the phase of post-test. Moreover, there was a highly statistically significant difference between total mean score of attitudes regarding leadership and managerial skills during pre, post & three months follow up among the studied newly graduated nurses at (F= 35.3& P = 0.000).

Table (3): Correlation matrix between cumulative total of knowledge, skills and attitude regarding leadership and managerial skills among the studied newly graduate nurses

Items		Cumulative		
		Total Knowledge	**Total skills**	**Total attitude**
Cumulative total knowledge	R		0.902	0.961
	p-value		0.000**	0.000**
Cumulative total skills	R	0.902		0.955
	p-value	0.000**		0.000**
Cumulative total attitude	R	0.961	0.955	
	p-value	0.000**	0.000**	

*Statistically Significant p ≤ 0.05　　　****Highly Statistically Significant p ≤0.01**　　　**r-Pearson Correlation Coefficient;**

Table (3): illustrate, correlation matrix between cumulative total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses. It clarifies that, there was a high statistically significant positive correlation between cumulative total of total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses at (P= 0.000).

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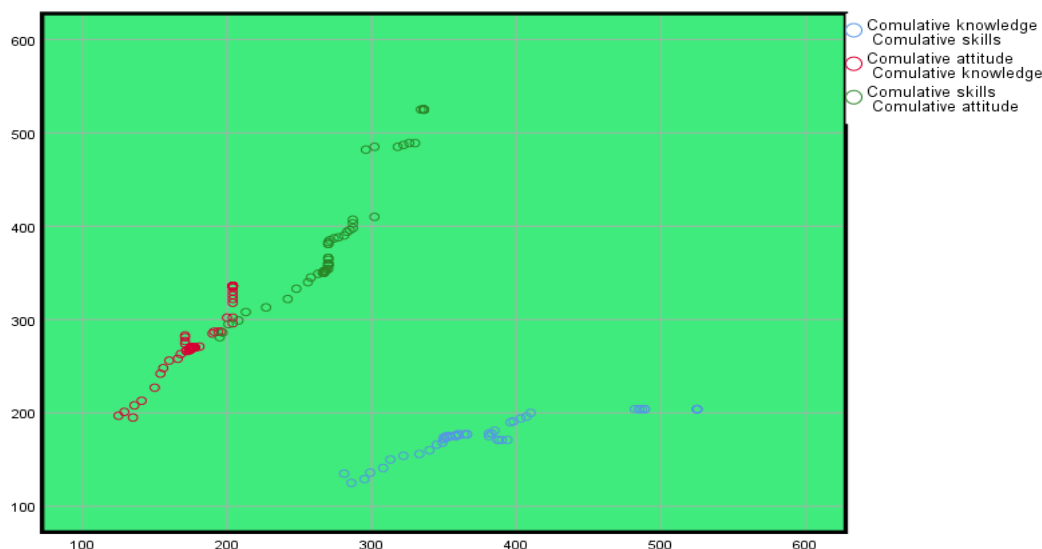*Eur. Chem. Bull.* **2023**,*12(Special Issue 12), 1 – 15*

Figure (3): Scatter dot correlation matrix between cumulative total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses

Figure (3): illustrates, scatter dot correlation matrix between cumulative total of knowledge, skills and attitude regarding leadership and managerial skills among the studied newly graduated nurses. It clarifies that, there was a high statistically significant positive correlation between cumulative total of total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses at (P= 0.000).

DISCUSSION

Leadership has become an important aspect of management practice in the changing health care environment. Leaders around the world today are facing numerous challenges, as they are regularly struggling to adapt for acceleratingchanges in the organization internally and externally. Head nurse plays an important role for providing ongoing leadership and accountability for quality care process. Nurse Managers as a leader can enhance followers' levels of performance, motivation, and encourage team effectiveness using suitable leadership style *(Alluhidan et al. 2020).*

Management that helps to maximize efficiency and to achieve organizational goals using leadership which is an important function of management and it has been always a critical issue since organizations and companies are permanently in a constant struggle to be increasingly competitive. The word leadership has been described in terms of the position, personality, responsibility, influence process; and an instrument to achieve a goal *(Paais & Pattiruhu, 2020).*

So, the aim of this study is to explore the effect of leadership and managerial skills program on newly graduates nurses' competencies through: Assess the newly graduates nurses' leadership and managerial knowledge, assess newly graduates nurses' leadership and managerial skills, recognizing the newly graduates nurses' leadership and managerial attitudes and implementing and evaluate leadership and managerial skills program for newly graduates' nurses, also, to fulfill the aim of this study, one research hypothesis was formulated which was"there will be a significant difference between newly graduates nurses' knowledge, skill and attitude before and after the implementation of the leadership and managerial skills program".

Regarding to personal characteristics of newly graduated nurses, the study results showed that more than two thirds of the studied newly graduated nurses age was ranged between (20 to 25) years old, with a mean age of (24.7±2.4). Concerning gender, the majority of the studied newly graduated nurses were female. Moreover, the majority of them were married. As regards education, equal percentages were holding technical institutes and bachelor's nursing degrees. As concerning the department, about one-third of the newly graduated nurses were working in the intensive care unit,

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while the minority was working in the operating theater. From the researcher point of view, this reflects the ratio of male and female enrollment in nursing colleges at the majority of EgyptianUniversities and emphasizes the feminine nature of the nursing profession.

Concerning, comparison between knowledge regarding leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurses. The study results showed that, during the phase of post-test, the newly graduated nurses gained higher total mean score of knowledge regarding leadership and managerial skills as compared to phase of pre-test. Additionally, during the phase of follow up the newly graduated nurses gained slightly lower total mean score of knowledge regarding leadership and managerial skills than the phase of post-test. Moreover, there was a highly statistically significant difference at ($F = 67.5$ & $P = 0.000$).

From the researcher's point of view, the decline in mean score of knowledge in the pre-test phase may be due to the fact that the studied newly graduated nurses cannot apply the theory they learned during their formal education to their daily work and, as a result, find it hard to implement what they learned. Also, it may be due to a lack of standardized training, and continuing education of nurses, which later reflects on their knowledge post-graduation.

While the improvement of mean score of knowledge in post-test phase may be due to leadership and managerial skills program contributing to the development of studied newly graduated nurses' knowledge. Moreover, there was slightly decline in follow up phase as compared with post phase. This finding may be due to organizational stressors which can include lack of support within the unit and from management, as well as a lack of resources such as time, guidance, and available equipment to accomplish daily nursing tasks.

On the same line, the study finding was consistent with study result conducted in Ain Shams University Hospitals on (100) nurse interns by **Abd Elfatah et al. (2022),** which evaluated transition program and its effect on nurse interns' role perception, revealed that, minority of nurse interns had high roles perception level at preprogram phase. As observed, at post program phase the nurse interns' high roles perception level was improved markedly in all roles in relation to nursing care planner, provider, evaluator, giver, health educator, communicator, recording, reporting, role as a manager and researcher. Moreover, some declines occurred in follow up phase however the levels remained significantly high compared with preprogram phase.

As regarding to comparison between leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurses, it denotes that, during the phase of post-test, the newly graduated nurses gained higher total mean score of leadership and managerial skills as compared to phase of pre-test. Additionally, during the phase of follow (3 months after program) the newly graduated nurses gained slightly lower total mean score of leadership and managerial skills than the phase of post-test.

Moreover, there was a highly statistically significant difference between total mean score of leadership and managerial skills during pre, post and three months follow up among the studied newly graduated nurse at ($F = 40.7$ & $P = 0.000$).   From the researcher point of view, these results may be due to every head nurse in need to acquire theoretical and technical information that is necessary to develop their skills regarding leadership and managerial skills which is a part of their managerial role in their work. Also, leadership and managerial skills helps to complete work and enhances the role of head nurses.

In a similar vein, the study findingwas supported by **Ahmed et al. (2019),** which studied the effect of nursing interns career preparation educational workshop on their professional competencies and career development readiness, showed that, there is more than three quarters of studied subject are incompetent regarding professional competency at pretest, on the other hand, about two thirds of them are competent regarding professional competency at post educational workshop test, also, there are highly significant differences at ($p.$ value < 0.01) between scores of students' professional competency pre and post educational workshop in relation to informatics, quality improvement, safety and prevention, client centered care, team work and collaboration.

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Conversely, the study finding incongruent with result on (647) nurse managers managing (964) patient care units in (54) hospitals and by **Warshawsky& Cramer (2019),** which described nurse manager role preparation and competency, findings suggested that nurse managers rate themselves as competent for the (1to 6) years as a nurse manager.

Considering comparison between attitudes regarding leadership and managerial skills during pre, post & three months follow up among the studied newly graduated nurses. The study results showed that during the phase of pos-test, the newly graduated nurses gained higher total mean of score of attitudes regarding leadership and managerial skills as compared to phase of pre-test. Additionally, during the phase of follow (3 months after program) the newly graduated nurses gained slightly lower total mean of score of attitudes regarding leadership and managerial skills than the phase of post-test. Moreover, there was a highly statistically significant difference at (F= 35.3 & P = 0.000).

From the researcher point of view this might be due to the leadership and managerial skills program on newly graduates nurses' competencies was successful and using different teaching methods and practical situations which improved newly graduates nurses' knowledge and performance which in turn reflected on their attitudes regarding leadership and managerial skills.

On the same direction, the study finding was in agreement with study result conducted in Egypt at Benha University Hospital on a convenient sample of (60) head nurses and (269) staff nurses by **Shawkey, Mohammed & Ghoneimy (2022),** which studied delegation training program for head nurses and its effect on their nurses' competence, demonstrated that, more than two-fifths of studied nurses had negative attitude regarding delegation at preprogram phases. While the majority of them had positive attitude immediate post and follow up phases. Also, there was a statistically significant difference in nurse's performance regarding delegation at pre, immediate post and follow up program phases.

On contrast, the study finding was incongruent with study result conducted in Egypt at Belbeis general hospital affiliated to ministry of health by **Abd El Muksoud, Metwally & Ata (2022),** which studied leadership behaviors and innovative work behaviors among nurses, showed that, the highest percentage of staff nurses had a positive perception of leadership behavior.

Finally,the study results supported that, during the phase of post-test, the newly graduated nurses gained higher total mean of score of knowledge, skills and attitude regarding leadership and managerial skills as compared to phase of pre-test. Additionally, during the phase of follow (3 months after program) the newly graduated nurses gained slightly lower total mean of score of knowledge, skills and attitude regarding leadership and managerial skills than the phase of post-test.

This finding was prescribed in correlation matrix, between cumulative total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses, It clarified that, there was a high statistically significant positive correlation between cumulative total of total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses at (P= 0.000). From the researcher point of view, leadership and managerial skills program on newly graduates' nurses improved nurses' knowledge, attitude and performance which reflected on their staff nurses and increase their competence at work.

On the same line, the study finding was consistent with result conducted in Beni-Suef university hospital on a convenient sample of nurse interns (184) by ***Mohamed,Hassan & Mostafa (2020)***, which apply application of management development strategy for developing nurse intern's managerial skills, concluded that, statistically significant a positive correlation between nurse interns' knowledge and their performance throughout the intervention using management competency (P < .001).

In agreements with study finding conducted in a pediatric teaching hospital by **Nghe et al. (2020),** who reviewed developing leadership competencies in midlevel nurse leaders, found that, during the phase of post-intervention, the midlevel nurse leaders gained higher total mean of score of leadership and managerial skills as compared to phase of pre- intervention regarding to leadership and managerial skills in relation to leadership and management, influencing behavior, managing

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change, and communication as areas of increased confidence.In contrast, the study finding was incongruent with the study result for ***Khong, et al. (2020),*** which evaluated operating room nurses' self-reported knowledge and attitude on preoperative pressure injury, stated that there wasn't relation between knowledge and attitudes.

CONCLUSION

In the light of the current study results, it can be concluded that:
There was a highly statistically significant difference between total mean score of knowledge, skills and attitudes during pre, post and three months follow up before and after the implementation of the leadership and managerial skills program among the studied newly graduated nurses,which achieves the research hypothesis.

Additionally, there was a satisfactory level of newly graduates nurses' knowledge, a competent level of newly graduates nurses' skills and a positive level of newly graduates nurses' attitude during post and three months follow up compared with pre phase regarding leadership and management skills among the studied newly graduates nurses. Supplementary, there was a high statistically significant positive correlation between cumulative total of total of knowledge, skills, and attitude regarding leadership and managerial skills among the studied newly graduated nurses at (P= 0.000).

RECOMMENDATIONS

Based on the study findings, the following recommendations were suggested as the following:
Managerial level:
Focus on newcomers' academic preparation for the newly graduated nurses to promote their perceptions about the role transition including leader and manager roles in the professional nursing practice. Create and design a job description which involves leader and manager roles for newly graduate nurses should be provided and explained to them during the orientation program. Conduct an orientation program for nurse students before the newly graduate nurses' program and before each training period to clarify goals, roles and responsibilities and discuss nurse students' expectation regarding leadership and management skills. And setup a framework for assessing and evaluating the leadership and management competencies of the newly graduate nurses in the healthcare system to promote their potential capabilities.

Further Research:
Replicate the effect of leadership and managerial skills program on the newly graduate nurses' skills in private, governmental and different settings. Examine the effect of leadership and managerial programs on internship nursing students on organizational engagement and commitment. Examine the effect of leadership and managerial programs on job performance and productivity. And reassess the effect of leadership and managerial programs on quality of work and patients' outcomes.

Ethical aspects and conflict of interests
The authors have no conflict of interests to declare.

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