Effect of Leadership Styles Educational Program on Nurses' Autonomous Decision Making

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Abstract

Background: Leadership style is viewed as a combination of different characteristics, traits and behaviors that used by nurse managers for direct interacting with their staff nurses. Therefore nurse managers have the ability to influence nurses autonomy and their ability to make decisions that positively influences health outcome that lead to organizational success **Aim of the study**: assessment the effect of leadership styles training program on nurses autonomous decision making. **Design**: A quasi-experimental research design was used in carrying out this study. **Setting**: this study was carried out in critical departments at Ain Shams University. **Subject**: the study subject include two groups as (46) nurse managers and (94) staff nurses. **Data collection tool**: included four tools will be used to collect data for this study as leadership styles knowledge questionnaire, leadership styles attitude questionnaire, leadership styles skills checklist and autonomous decision making scale. **Result**: displays, more than quarter (28%) of the head nurses had satisfactory knowledge of the leadership at the pre-intervention phase. This increased to 69% at the post-intervention phase and 83% at follow up. In addition, more than one third of the head nurses had paternalistic leadership style at the pre-intervention and post-intervention phase. While, more than two fifths of the head nurses had democratic leadership style at follow up phase. Also more than half of the head nurses had high level of leadership skills at the pre-intervention, this improve to most of them at post intervention phase and less than three quarters of them at follow up phase. **Conclusion:** there was highly statistically significant strong positive correlation between head nurses scores of knowledge and skills. There was highly statistically significant weak positive correlation between attitude of head nurse regarding leadership styles and autonomous decision-making of staff nurses. **Recommendations:** nurse managers should foster nurses' autonomy by enabling them to exercise clinical decision making and activity supporting nursing decisions and nursing accountability.

Key Words: Leadership, Educational program, Autonomous decision making& Nurse.

Introduction

Leadership is one of the key determinants associated with the success and failure of any organization. The role of leadership in an organization is crucial in terms of creating a vision, mission, determination and establishment of objectives, designing strategies, policies, and methods to achieve the organizational objectives effectively and efficiently along with directing and coordinating the efforts and organizational activities top quality leadership is essential to achieve the mission and vision along with coping with the changes occurring in the external environment **(1)**.

In current time, many organizations are facing problems related to unethical practices, high labor turnover, poor financial performance, etc. This may be due to the lack of effective leadership. The main aim of many organizations is to accomplish its stated objectives; hence, there is a need of effective leaders for coordinating and motivating the employees. Unfortunately, some organizations do not take account of the leadership style adopted by their managers. There are several types of leadership styles such as transformational leadership, transactional leadership, autocratic, democratic leadership and participative leadership style **(2)**.

Leadership style is viewed as a combination of different characteristics, traits and behaviors that are used by leaders for interacting with their subordinates. Consider leadership as the pattern associated with managerial behavior, which is designed to integrate the organizational or personal interest and effects for achieving particular objectives. Leadership style can be defined as the kind of relationship that is used by an individual so as to make people work together for a common goal or objective. According to modern leadership styles, leadership styles can be categorized as follows: (1) transformational leadership style, (2) transactional leadership style, (3) culture based leadership, (4) charismatic leadership, and (5) visionary leadership **[1].**

Decision making is needed at all stages of organizational and management activities, for example in the planning stage many decision-making activities are needed throughout the planning process. Decisions made in the planning process are aimed at the selection of alternative programs and their priorities. Size and structure, leadership style, type of control system, and environmental stability of an organization are several factors that influence the work environment in which planning occurs. The work environment or organizational culture influences behavior so that it affects the planning process. Organizational size, structure an culture, leadership style, management control systems, that affect the planning environment and planning process also requires decision making **[3].**

Nurse Managers have a direct contact with staff nurses; therefore, they have the ability to influence nurses' autonomy. Nurses' practice needs autonomy to become powerful because it is noticed that nurses need to take more accurate and urgent decisions in their work. One of the major responsibilities of nurse managers is to

support staff nurses to promote their autonomy by improving their skills, abilities, and practices that preserve their autonomy [4].

Nursing autonomy does not only refer to decisions at the bedside about the care of an individual patient, but also on ward or unit level to decisions about what care the nursing staff delivers and what that care looks like. ICUs focus on treatment for those who are critically ill and interventions to prolong life. Ethical issues arise when decisions have to be made regarding the withdrawal of life-sustaining treatment and the shift to comfort and palliative care. These issues are particularly challenging for nurses when there are varying degrees of uncertainty regarding prognosis [5].

Therefore, nursing practice needs autonomy to become powerful and sound. If nurses do not recognize that they work in an autonomous and independent work climate, they will not have the capability to practice in a professional manner. Autonomy is considered as a very critical part of nurses' professional identity and an origin of power during nurses' clinical practice. Although few researches concentrated on the roles of nurse managers, some researches demonstrated that nurse managers have necessary roles in impacting nurses' autonomy. One of the major responsibilities of nurse managers is to promote staff nurses' autonomy. Thus, they should possess the skills, abilities, and practices that preserve autonomy of staff nurses [6].

Aim of the Study

This study aimed to assess the effect of leadership styles training program on nurses' autonomous decision making

Research Hypotheses

There will be an improvement of head nurses' knowledge, attitude and skills regarding leadership styles after implementing the program and it will improve nurses' Autonomous Decision Making.

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Subjects and methods

Research design:

A quasi-experimental research design with pretest and posttest assessment was used in carrying out this study.

Research Setting:

The current study was conducted at critical care units at Ain Shams Specialized hospital affiliated to Ain Shams University. This hospital provides inpatient and outpatient services to all categories of community. The hospital's capacity is 800 beds distributed into four buildings: A, B, C and D. Each building consists of 3 floors and underground floor.

Research Subjects:

The study subjects consisted of two groups: The first group: This group included 46 head nurses who are working in the abovementioned study settings. The second group: This group included 94 stuff nurses who are working in the abovementioned study setting having at least one year of job experience and who are working full time.

Tools of data collection

Four tools were used to collected data for this study:

Tools [I]: Leadership styles knowledge questionnaire:
It included two parts:

Part I: this part include personal data which collected for head nurses characteristics as gender, education, age, years of experience in nursing, years of experience in management.

Part II: Leadership styles knowledge questionnaire:

It was developed by the researcher based on reviewing related literature as (7); (8) to assess head nurses knowledge about leadership styles. It consisted of (110 true or false questions) and (12 multiple choices questions). All questions were divided into four items as difference between leadership style management, importance of leadership, situational factors of effective leadership and factors affecting leadership styles.

Scoring system:

The questions were scored as (1) for correct answer and (zero) for incorrect answer. Satisfactory ≥ 60% of total knowledge score, unsatisfactory < 60% of total knowledge score.

Tools [II]: Leadership styles attitude questionnaire:

This tool was developed by the researcher based on review of related literature as (9); (10); (11). It included 19 items to assess head nurses attitude towards leadership styles at work divided into 5 dimensions

Scoring system:

Subjects' responses were scored on a 5-point scale ranged from (5) strongly agree, (4) moderately agree, (3) neutral, (2) moderately disagree, (1) strongly disagree. The scores were summed up and giving a mean score of item, these scores were converted into a percent score. Total attitude score was calculated as follows: Point for each question against the question number blow, and total up each column to paint a picture of which leadership styles. Your behavior matches most ciosely; however leaders in reality can exhibit several different styles at once to help lead their organizations to success.

Tools [III]: Leadership styles of skills scale:

This tool was adopted from (8); it included 27 items to assess head nurses skills toward leadership styles at work.

Scoring system:

For answers in each question scores were allocated as follows: (5) Very frequently, (4) Often, (3) Sometimes, (2) once, (1) rarely. High level ≥ 75% of total scores, Moderate level ≥ 60% of total scores, Low level < 60% of total scores

Tools [IV]: Autonomous decision making scale questionnaire:

The autonomy decision making scale adopted from (**13**). It was used to measure nurse's autonomy. The questionnaire was a self-report tool consisting of 53 items: (21) items related to decisions about patient care and (21) items related to decisions about unit operations and (11) items related to nurses managers action. A five-point Likert scale with responses ranging from 1 to 5.

Operational design:

The operational design for this study included: Preparatory phase, pilot study and filed work.

Preparatory phase:

This phase lasted for 3 months started from July till November 2021. In this phase, the researcher reviewed the recent national and international literature related to various aspects of the study using textbooks, internet, theses and scientific journals on review. The researcher prepared the tool for data collection.

Validity:

The tool for autonomous decision making was translated back to back into Arabic language by researcher to achieve the criteria of trust worthiness of the tool of data collection. The tool was tested and evaluated for their face and content validity by Jury group. The five experts were from Faculty member in the nursing field with specialties of nursing administration to ascertain relevance, clarity and completeness of the tool. Experts elicited that responses were either "agree" or "disagree" for the face and content validity. The required corrections and modifications were done. The items on which 95% or more of the experts have agreed were included in the proposal tool.

Reliability:

The reliability of the tool that was assessed through measuring their internal consistency by determining Cronbach alpha coefficient proved to be high as indicated in the Autonomous decision making items =0.86

Pilot study:

A pilot study was conducted on December 2021. It was done on 5 head nurses and 10 nurses selected randomly which representing approximately 10% of the main story subjects. A pilot study was done for testing the clarity and applicability of tools and their relevance to study it; also helped to estimate the time needed to complete the data collection forms since there wasn't any change done in the tool the pilot sample were included in the main study sample.

Field work:

The field of the study lasted for five months; started at the beginning of January 2022 and was completed by the end of May 2022. The study involved four phases (knowledge assessment program, designing, implementation and follow up).

A. Phase I: Assessment phase:

The process of data collection was carried out in January 2022 to asses head nurses' knowledge, attitude, skills regarding leadership styles and assess nurses autonomous decision making before implementing the training program. At the beginning, the researcher welcomed the head nurses and nurses gave a brief idea about the aim of the study and activity of the program for all head nurses and nurses then the research collected data by using different tools of data collection in the available hospital classroom and during their working hours. It was three days per week. The time required to fill your tools for head nurses and nurse around 30-45 minutes.

B. Phase II: Planning phase

This phase took one month from February 2022 to March 2022 based on baseline data obtained from pretest assessment. The training program was developed based on determined needs and relevant review of literature. Program construction in Arabic form and included different topics to enhance leadership styles knowledge, attitude and skills. Also, the researcher prepared PowerPoint presentation of the topics. Difference instructional strategies method of teaching media and methods of evaluation were selected to suit the learner's needs and achieve the objectives and contents of the program. The teaching sessions were achieved by using available resources. Relevant contents and instructional strategies for each session. Instructional media included data show; white board and handout prepared by the researcher and distributed to all head nurses in the first day of the training program.

C. Phase III: Implementation Phase

This phase was initiated on April 2022. The researcher visited each previously-mentioned setting in the two shifts (morning and afternoon) three days/week; then the researcher divided the subjects into three groups; each group composed of 15 head nurses. The training program involved 7 sessions. These sessions were lasted for 14 hours; 10 hours theoretical and 4 hours practical; each session was took 2 hours. These sessions were repeated with the same to each group of head nurses achieved by using available resources. Relevant contents and instructional strategies for each session. The program consisted of two main parts; the first theoretical part covered the following: knowledge about introduction to the program. The concept of leadership styles skills needed in leadership styles. Principles of leadership styles. Characteristics of leadership styles.

The second part is the practical part in the form of giving activities and assignment of head nurses to apply leadership styles method. Different methods of teaching were used such as lecture. Group discussion and brain storming. Feedback was given at beginning of each sessions about the previous one and at the end of each session about the current session.

C. Evaluation and follow up phase:

Three months from the beginning of May 2022 to end of July 2022 during this phase. The effect of the training program was evaluated for all subjects using the same *** which were used before the program immediately after implementation of the program and follow up after three months of program implementation. All the study tools were applied for head nurses and nurses.

Ethical considerations:

Approval of the Faculty ethics committee for scientific research was done at the interview with head nurses and nurses to collect data. They were informed about the purpose and benefits of the study and their participation is voluntary and they have the right to refuse to participate in the study without giving any reason. In addition, Confidentiality and anonymity of the subjects were assured through coding of all data.

Administrative design:

Before embarking on the study, official and formal letters were issued from the Dean of Faculty of Nursing to the hospital directors of Ain Shams Specialized hospital; explaining the aim of the study and the expected benefits to obtain their cooperation during the study assured complete confidentiality of the obtained information and the study would not affect in any way their working in the hospital meetings were held between the researcher and head nurses and their assistants. The aim of the study was discussed with them. The time for data collection and program implementation were also determined based on their views to gain their approval and cooperation.

Statistical design:

Data entry and statistical analysis was done using (SPSS version 20.0), statistical software package. Data were presented using descriptive statistics in the form of frequency and percentage for qualitative variables and mean standard deviation and median for quantitative variables. Cronbach alpha coefficient was calculated to assess the reliability of the developed tool through its internal consistency Chi-square test of significance paired (t) test; Pearson correlation coefficients were used for investigation of the relationships among scores. The P-value is the probability of error that indicates significance of the results through observed difference. A significant level value was considered when $P<0.05$ and a highly significant level value was considered when $P < 0.01$.

Results:

Table 1: shows that, majority of head nurses 82.6% were female, more than half of them 55% had master degree in nursing, and three quarter of them 75% of them attend education programs related to leadership.

Table 2: shows that, slightly less than three quarter of them 74.5% of staff nurses were female, less than two third of them 63.7% had bachelor degree in nursing, and all of them 100% not attend education programs related to autonomous decision making.

Table (3): illustrates that there was highly statistically significant improvement in head nurses' knowledge regarding all leadership concept items in the post intervention phase $p<0.01$. In addition, there was highly statistically significant improvement in head nurses' knowledge regarding all leadership concepts items in the follow up phase $p<0.01$ as compared to the pre intervention phase.

Figure (1): displays, more than quarter (28%) of the head nurses had satisfactory knowledge of the leadership at the pre-intervention phase. This increased to 69% at the post-intervention phase and 83% at follow up.

Table (4): shows that compares in head nurses' leadership styles items throughout intervention phases. It shows no statistically significant differences among them throughout intervention phases.

Figure (2 displays, more than one third (33%) of the head nurses had paternalistic leadership style at the pre-intervention and post- intervention phase. While, (43.5%) of the head nurses had democratic leadership style at follow up phase.

Table (5): compares the leadership styles skills of head nurses throughout intervention phases. It shows no statistically significant differences among them throughout intervention phases. Meanwhile, the scores of leadership styles skills levels demonstrate improvement in in the post-intervention phase as compared to the pre-intervention phase.

Figure (3): displays, more than half (24%) of the head nurses had high leadership level at the pre-intervention, this improve to 80% at post intervention phase and 72% at follow up phase.

Table 6: compares the autonomous decision-making among staff nurses throughout intervention phases. It shows improvement of all items of Autosomes decision making throughout intervention phases. The post- phase demonstrated statistically significant improvement in nurse managers' actions and total autonomous decision making among staff nurses with medians ranging from 2.00 to 3.00.

Table (7) shows that there was strong positive correlation between all knowledge areas scores (r=0.6 to 0.7).

Table (8): shows that there was negative correlation between all leadership styles scores $p<0.01$.

Table (9): shows that there was highly statistically significant strong positive correlation between head nurses scores of knowledge and skills (r=0.907). Meanwhile, moderate positive correlation were revealed between the scores of attitude of head nurses regarding leadership styles and their knowledge and skills scores.

Table (10): shows that there was highly statistically significant weak positive correlation between attitude of head nurse regarding leadership styles and autonomous decision-making of staff nurses (r=0.184). While, there was no statistically significant correlation between their knowledge and skills scores and autonomous decision-making scores.

Table (1) Demographic characteristics of head nurses in the study sample (n=46)

Personal characteristics	Frequency	Percent
Age:		
<30	18	39
30-45	16	34.2
+45	12	26.8
Gender:		
Male	12	17.4
Female	34	82.6
Marital status:		
Single	15	32.6
Married	22	47.8
Widow	6	13
Divorce	3	6.6
Qualification in nursing		
Bachelor of nursing	20	43
Master degree	25	55
Doctorate degree	1	2
Years of nursing experience		
<15	16	34.8
15≥ 25 years	22	47.8
+ 25 years	8	17.4
Attend education programs related to leadership		
Yes	12	25
No	34	75

Table (2) Demographic characteristics of staff nurses in the study sample (n=94)

Personal characteristics	Frequency	Percent
Age:		
<30	37	39
30-45	32	34.2
+45	25	26.8
Gender:		
Male	24	25.5
Female	70	74.5
Marital status:		
Single	26.5	25
Married	49	46
Widow	17	16
Divorce	7.5	7
Qualification in nursing		
Bachelor of nursing	59	63.7
Master degree	31	32.9
Doctorate degree	4	3.4
Years of nursing experience		
<15	35	37.3
15≥ 25 years	38	40
+ 25 years	21	22.7
Attend education programs related to Autonomous Decision Making		
Yes		
No	0	0
	94	100

Table (3) Knowledge of leadership concepts among head nurses throughout intervention phases (n=46)

| Leadership concepts	Phases Pre No	%	Post No	%	Follow up No	%	x^2 (p-value) Pre-post	x^2 (p-value) Pre-follow-up
Difference between leadership and management:							7.42	13.78
Satisfactory	6	13	40	87	37	80	(0.006**)	(<0.001**)
Unsatisfactory	40	87	6	13	9	20		
Importance of leadership styles:							15.67	24.35
Satisfactory	26	56.5	43	93	40	87	(<0.001**)	(<0.001**)
Unsatisfactory	20	43.5	3	7	6	13		
Situational Factors of effective leadership:							16.39	51.30
Satisfactory	12	26	41	89	36	78	(<0.001**)	(<0.001**)
Unsatisfactory	34	74	5	11	10	22		
Factors affecting leadership styles:							2.15	39.91
Satisfactory	10	21.7	42	91	43	93	(0.001**)	(<0.001**)
Unsatisfactory	36	78.3	4	9	3	7		

(**) highly statistically significant p<0.01
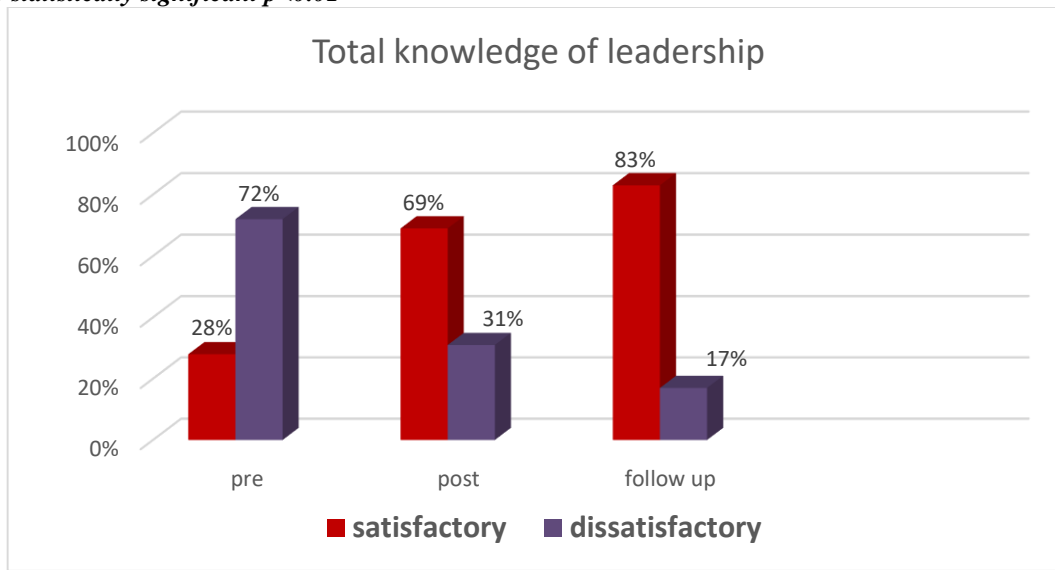
Fig. (4) Knowledge of leadership among head nurses throughout intervention phases (n=46)

Table (4) Leadership styles among head nurses throughout intervention phases (n=46)

| Leadership styles	Phases Pre No	%	Post No	%	Follow up No	%	x^2 (p-value) Pre-post	x^2 (p-value) Pre-follow up
Democratic leadership style	13	28	13	28	20	43.5	21.60 (<0.44)	20.99 (<0.54)
Autocratic leadership style	3	6.5	3	6.5	7	15.5	23.03 (<0.63)	15.74 (<0.43)
lassie-fair leadership style	12	26.5	12	26.5	8	17	29.32 (<0.54)	26.28 (<0.22)
Paternalistic leadership style	15	32.5	15	32.5	9	19.5	16.82 (<0.43)	20.99 (<0.54)
Bureaucratic leadership style	3	6.5	3	6.5	2	4.5	21.60 (<0.44)	20.99 (<0.54)
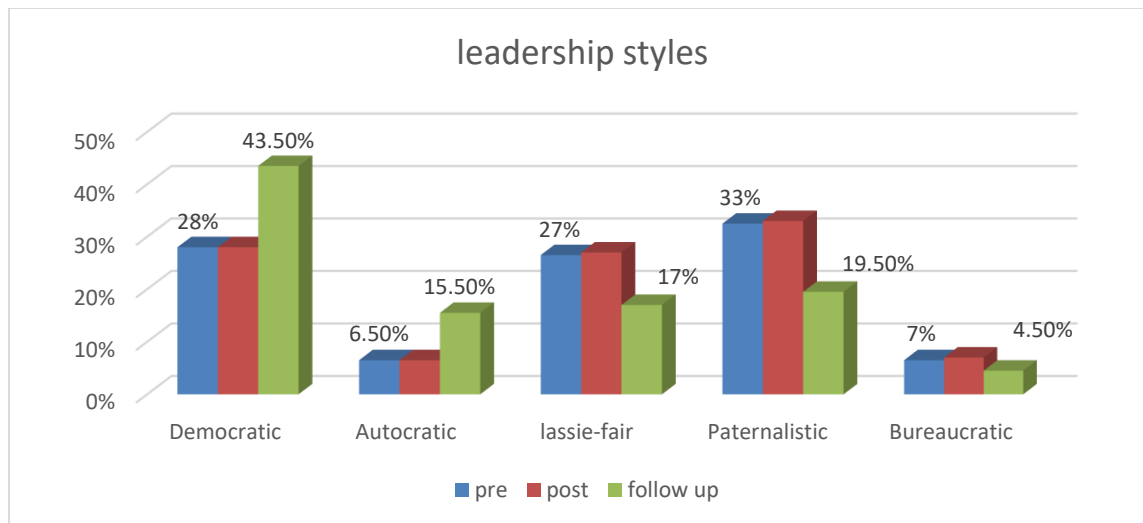
Fig. (5) Leadership styles among head Nurses throughout intervention phases (n=46)

Table (5) Total leadership skills levels of head nurses throughout intervention phases (n=46)

Phases	Skills levels						x^2 (p-value) Pre-post
	Low <60%		Moderate 60-75%		High +75%		
	No	%	No	%	No	%	
Pre-intervention	26	56.5	9	19.2	11	24.3	27.7 (<0.44)
Post intervention	5	10.8	4	8.8	37	80.4	29.12 (<0.36)
Follow up phase	11	24	2	4	32	72	24.43 (<0.42)

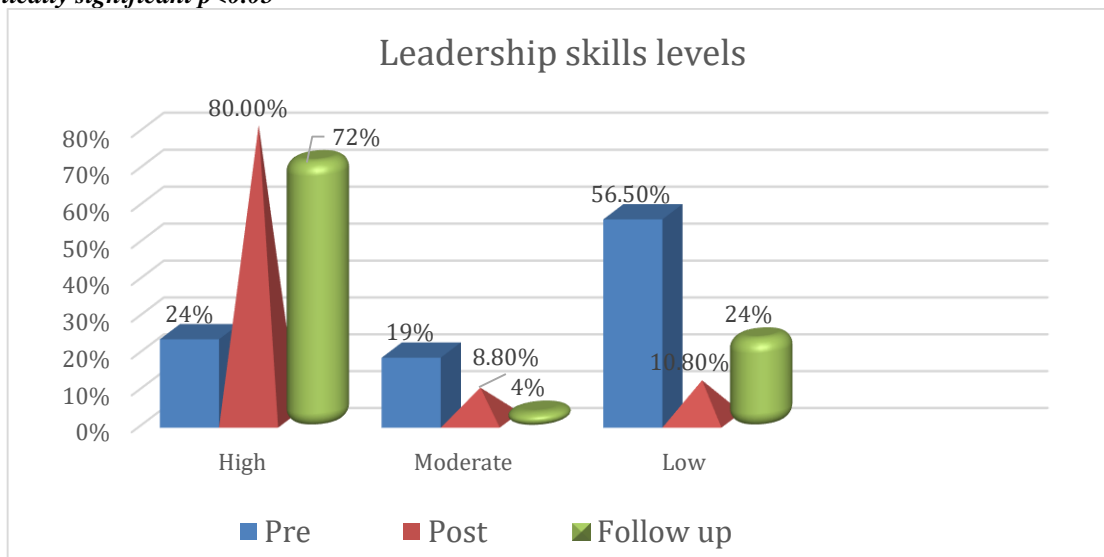*(*) statistically significant p<0.05*

Fig. (6) Leadership skills levels among head Nurses throughout intervention phases (n=46)

Table (6) Autonomous decision making among staff nurses throughout intervention phases (n=94)

| Autosomes decision making items | Phases (scores: max=4) | | | | Kruskal Wallis test | p-value |
| | Pre(n=94) | | Post(n=94) | | | |
	Mean±SD	Median	Mean±SD	Median		
Patients care decisions	1.80±0.42	2.00	1.90±0.48	2.00	22.55	0.44
Unit operation decisions	2.20±0.47	1.50	3.00±0.00	3.00	25.87	0.74
Nurse Managers' actions	2. 00±0.77	2.00	3.00±0.67	3.00	20.12	<0.001*
Total	1.82±0.38	1.82	2.84±0.27	2.88	24.67	<0.001*

(*) Highly statistically significant p<0.01

Table (7) Correlation matrix of knowledge areas scores of leadership concept

| Knowledge areas | Spearman's rank correlation coefficient | | | |
	difference	Importance	Situational Factors	Factors affecting
Difference between leadership and management				
Importance of leadership styles	.602**			
Situational Factors of effective leadership	.674**	.613**		
Factors affecting leadership styles	.660**	.629**	.610**	
Total	.610**	.665**	.701**	.666**

(**) Highly statistically significant p<0.01

Table (8) Correlation matrix of leadership styles scores

| Leadership styles | Spearman's rank correlation coefficient | | | |
	democratic	autocratic	Lassie-fair	paternalistic
Democratic style				
Autocratic style	.013			
Lassie-fair style	-.229	-.102		
Paternalistic style	-.221	-.176	-.110	
Bureaucratic style	-.320	-.165	-.110	-.266

(**) Highly statistically significant p<0.01

Table (7) Correlation matrix of head nurses' knowledge, skills and attitude regarding leadership styles scores

| Items | Spearman's rank correlation coefficient | |
	Knowledge	Skills
Knowledge		
Skills	.907**	
Attitude (leadership styles)	.431**	.451**

(**) Highly statistically significant p<0.01

Table (10) Correlation matrix of knowledge, skills, attitude scores and autonomous decision-making score

| Scores | Spearman's rank correlation coefficient | | |
	Knowledge	skills	attitude
autonomous decision-making	.007	-.173	.184**

(**) Highly statistically significant p<0.01

Discussion

Nurses place a high value on their autonomy in clinical settings. Autonomy in general and autonomous decision-making in particular influenced by managerial interventions. Nurse managers can initiate interventions at the unit level to promote nurses''' autonomy, which influence job satisfaction and retention as well as patients'' satisfaction and the quality of nursing care [14]. This study aims to assess the effect of leadership styles educational program on nurses' autonomous decision-making.

Regarding demographic characteristics of head nurses in the study sample, showed that, majority of head nurses were female, more than half of them had master degree in nursing, and three quarter of them of them attend education programs related to leadership, slightly less than three quarter of them of staff nurses were female, less than two third of them had bachelor degree in nursing, and all of them not attend education programs related to autonomous decision making.

On the same line with [15] who indicated that the respondents' mean age was 29.9 years (SD = 6.57) with 28 years being the modal age. Majority of the participants were female. this current study result disagreed with (16) diploma trained nurses may not efficiently address the health needs of a country and empirical evidence show that mortality rate of hospitalized patients reduce when majority of the nurses have advanced degrees. Additional qualification in nursing, therefore, facilitates the development of expertise, confidence, and commitment which promotes quality nursing care. Additionally, half of them were diploma holders.

Regarding knowledge of leadership concept among head nurses throughout intervention phases, illustrated that there was highly statistically significant improvement in head nurses' knowledge regarding all leadership concept items in the post intervention phase. In addition, there was highly statistically significant improvement in head nurses' knowledge regarding all leadership concepts items in the follow up phase as compared to the pre intervention phase. Due to the participant aware with the concept of leadership styles at the unit level is important due to the immense multifaceted nature of nursing services, thus, exhibiting the right leadership style is essential in avoiding errors, confusion and waste. Hence, leadership becomes an effective instrument through which nurse can establish a feeling of shared objectives and cohesion to enable effectiveness and efficiency in the unit.

This current study finding agreed with [17] who found that there was highly statistically significant improvement in head nurses' knowledge regarding leadership style also, [18] congruent with this study result found that statistically significant improvement in head nurses' knowledge regarding leadership style. This current study result disagreed with (19) who found that

low level of satisfactory knowledge related to all leadership styles.

Regarding leadership styles among head nurses throughout intervention phases, illustrated that there was highly statistically significant improvement in head nurses' regarding all leadership styles items in the post intervention phaseand at follow up. This might be due to this discourse shows that in managing the unit of nurses, autocratic leadership style may be relevant, though intimidation is not encouraged. Consequently, autocracy in nursing used sparingly as nurses are professionals who acknowledge their responsibilities and are accountable for their actions. The paradox of autocracy in the nursing profession may need further research since it recommended for new staff.

This current study finding agreed with [20] who found that there was highly statistically significant improvement in head nurses' regarding all leadership styles items in the post intervention phase. Additionally, [21] who found that statistically significant improvement in head nurses' regarding all leadership styles items in the post intervention. This current study result disagreed with [22] who found that there wasn't statistically significant improvement in head nurses' regarding all leadership styles items in the post intervention

Regarding of leadership styles among head nurses throughout intervention phases displayed, more than one third of the head nurses had paternalistic of the leadership styles at the pre-intervention phase. This increased to majority at the post-intervention phase, While, more than two fifth of the head nurses had democratic leadership style at follow up phase. This result might be due to attend the training and reading about leadership style.

This current study finding agreed with [14] & [23] who found that near to half of studied sample had paternalistic. This current study result disagreed with [20] & [18] who found that more than one quarter of participants had democratic of the leadership styles.

Regarding total leadership styles skills levels of head nurses throughout intervention phases, compared the leadership styles skills of head nurses throughout intervention phases. It shows no statistically significant differences among them throughout intervention phases. Meanwhile, the scores of leadership styles skills levels demonstrate improvement in in the post-intervention phase as compared to the pre- intervention phase. While, near to three quarters at the follow up. This might be due to the studied subject had a knowledge but resistant to change and apply the skills.

This current study finding agreed with [23] who found that no statistically significant differences among them throughout intervention phases. Also, [23] scores of leadership styles skills levels demonstrate improvement in in the post-intervention phase as compared to the pre- intervention phase.

Regarding Autonomous decision making among staff nurses throughout intervention phases,compared the autonomous decision-making among staff nurses throughout intervention phases. It shows improvement of all items of autosomes decision making throughout intervention phases. The post- phase demonstrated statistically significant improvement in nurse managers' actions and total autonomous decision making among staff nurses with medians ranging from 2.00 to 3.00. This might be due to nurses' inclination to reach autonomy in nursing has faced challenges to take independent action, a nurse must have sufficient knowledge based on research and evidence. It is clear that ongoing and systematic research in relation to the functions and activities of nursing impacts the autonomy of nurses.

This finding on the same level with [17] reported that more than half of nurses had moderate levels of autonomous decision-making. Similar findings were reported by [19] was conducted in all nursing wards of hospitals chosen using the random sampling method. However, the samples of other studies were the majority of nurses working in critical care units who had moderate levels of autonomous decision-making due to working in specialized care units

Regarding Correlation matrix of head nurses' knowledge, skills and attitude regarding leadership styles scores, shows that there was highly statistically significant strong positive correlation between head nurses scores of knowledge and skills (r=0.907). Meanwhile, moderate positive correlation was revealed between the scores of attitude of head nurses regarding leadership styles and their knowledge and skills scores. This might be due to base on the different levels of skill and knowledge of staff nurses, the manager should set up a reasonable goal, boundaries and the level of nurses_ involvement, and provide enough information and resources to support "Participative Decision Making" among staff nurses. Managers should encourage staff nurses to participate in the area in which they are interested.

Regarding Correlation matrix of knowledge, skills, attitude scores and autonomous decision-making score, shows that there was highly statistically significant weak positive correlation between attitude of head nurse regarding leadership styles and autonomous decision-making of staff nurses (r=0.184). While, there was no statistically significant correlation between their knowledge and skills scores and autonomous decision-making scores. This might be due to effective autonomous decision-making is an essential leadership attitude and style in nursing, and ability to make effective clinical decisions is the most crucial factor affecting the staff and patient outcomes. This finding implies that can effectively gather, process and prioritize critical patient information to choose the best nursing actions, implement and evaluate the outcomes. If nurses can participate in the decision process, it would enhance

their confidence, competence, improve care and increase their organizational commitment. Participating in decision-making deepens democratic values, increases team spirit, stimulates the work environment as well as improves staff satisfaction and productivity.

This finding conforms to the work of [6] which affirmed that an effective decision-making process significantly predicted nurses' commitment and leadership attitude among Saudi nurses. Also, this current study finding agreed with (21) who found that here was positive correlation between leadership attitude of studied subjects and clinical autonomous decision-making of nurses.

Conclusion

Based on the previous results of this study, it was concluded that:- there was highly statistically significant strong positive correlation between head nurses scores of knowledge and skills. Meanwhile, moderate positive correlation was revealed between the scores of attitude of head nurses regarding leadership styles and their knowledge and skills scores. Also there was highly statistically significant weak positive correlation between attitude of head nurse regarding leadership styles and autonomous decision-making of staff nurses.

Furthermore, more than one quarter of the head nurses had satisfactory knowledge of the leadership at the pre-intervention phase that improve to more than two thirds at the post-intervention phase and most of them at follow up. In addition, more than one third of the head nurses had paternalistic leadership style at the pre-intervention and post- intervention phase. While, more than two fifths of the head nurses had democratic leadership style at follow up phase. Also more than half of the head nurses had high leadership level at the pre-intervention, this improve to most of them at post intervention phase and less than three quarters of them at follow up phase.

Recommendations:

Based on the finding of the present study the following recommendations were deduced

1- Effective leadership training should be instituted for prospective nurse managers before appointments are made to management and administrative positions.

2- Nurse managers should foster nurses autonomy by enabling them to exercise clinical decision making and activity supporting nursing decisions and nursing accountability.

3- Further research is needed to examine the barriers that may hinder nurses decision autonomy.

4- Evaluate the relationship between nurses autonomy levels and patients and nurses outcomes.

5- Periordic assignments of leadership styles and autonomous decision making at the hospital to monitor changes especially with implementations of the proposed recommendations.

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