Effect of Emotional Intelligence Educational Program on Leadership Practice of Head Nurses

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Abstract

Background: Leaders with high emotional intelligence play a key role in leadership Practice and lead to effective organizational climate. **The study aimed to** assess the effect of emotional intelligence educational program on the leadership practice of head nurses. **Research design:** A quasi-experimental pre and post-test and follow-up (after 3 months) design was utilized to conduct this study. **Setting:** Benha University Hospital in inpatient units. **Subject:** A convenience sample (57) of head nurses and a random sample (150) of staff nurses available during the time of the study. **Tools of data collection:** Three tools were used in the present study for data collection: An emotional Intelligence Knowledge questionnaire, an Emotional Intelligence questionnaire level, and a Leadership Practice Inventory. **Results:** There was a highly significant improvement in head nurses' total emotional intelligence knowledge among head nurses, head nurses' total emotional intelligence level, and total leadership practice as reported by head nurses and staff nurses throughout the program phases. Moreover, there was a high statistically significant correlation between head nurses' total emotional intelligence knowledge and levels and total leadership practice as reported by head nurses and staff nurses throughout the program phases. **Conclusion:** There was a positive effect of the emotional intelligence educational program in improving the leadership practice of head nurses as reported by head nurses and staff nurses. This finding supported the hypotheses of the study. **Recommendations:** The promotion program for head nurses has to include emotional intelligence, also this study needs to be replicated with a diverse range of samples from the health sector across private and public sectors.

Keywords: Emotional Intelligence (EI), head nurses, nursing staff, Leadership practice.

Introduction

Emotional intelligence is a social skill and an important component of communication **(Cavazotte et al, 2018)**. Identifying and promoting nurse managers' emotional intelligence is critical in order to promote the quality of health care and educational services **(Atadokht et al, 2019)**.

Effective managers deploy emotional intelligence for control and management of their own and employees' feelings and emotions in order to achieve organizational goals. Personal characteristics of managers influence management, leadership, and quality of services at any organization as well as personnel's performance **(Bikmoradi et al, 2018).**

Emotional Intelligence (EI) is the ability, skill, and awareness to recognize and understand feelings, moods, and emotions, and used them in a positive way. EI is learning how to manage feelings and emotions, and use that information to behave and act, including making decisions, solving problems, self-management, and leading others **(Moore et al., 2018).** Emotional intelligence is defined as the awareness of an individual of his emotions and

other's emotions and the ability to recognize and control them to promote emotional and intellectual growth **(Cejudo et al., 2018).**

The importance and role of emotional intelligence in the long term are good interpersonal relationships within organizations, which increase creativity, solve problems, and help to influence the overall profitability and success of an organization **(Baesu, 2018).** Effective leaders use emotions to convey messages. When leaders feel excited, enthusiastic, and active, they may be more likely to energize subordinates and convey a sense of efficacy, competence, optimism, and enjoyment. Therefore, successful leaders must be emotionally intelligent **(Bevis, 2019).**

Managers with low emotional intelligence could create only an atmosphere of fear and anxiety in the organization which leads to short-term and ephemeral productivity. Meanwhile, managers with high self-awareness and self-management could create a trustful and fair environment and almost free of conflict and damaging competition with an accurate perception of emotional control and management as well **(Bikmoradi et al, 2018).**

There are five components or dimensions of emotional intelligence at work classified as self-awareness, self-regulation (or management), and self-motivation which are described as personal competencies related to knowing and managing emotions in one 's self. The remaining two dimensions, empathy (Social awareness), and social skills (Relationship management) describe social competencies related to knowing and managing emotions in others **(Matheri et al., 2018).**

Leadership is intrinsically an emotional process, whereby leaders recognize followers' emotional states, attempt to evoke emotions in followers, and then seek to manage followers' emotional states accordingly. Leaders increase group solidarity and morale by creating shared emotional experiences. Also, the ability of leaders to influence the emotional climate can strongly influence performance **(Nedjm, 2019).**

Leadership practice is defined as a product of leader knowledge, skills, and interactions between people and their situations. These interactions of any particular action are critical in understanding leadership practice. There are five distinct practices of leadership namely, Challenging the process, inspiring a shared vision, modeling the way, enabling others to act, and encouraging the heart **(Wicker, 2020).**

Emotional intelligence facilitates the dimensions of leadership practice by impacting the elements of leadership effectiveness, developing a collective sense of goals and deciding a way to achieve them, inculcating the importance of knowledge and emphasizing the need to exhibit appropriate work-related behavior in the followers, spawning a sense of excitement, enthusiasm, confidence, and optimism in the organization, facilitating the environment for cooperation and collaboration and inspiring flexibility in the decision-making process **(Miao, 2018).**

Staff nurses believe that the leaders are unconcerned with staffing needs, do not value the advancement of workers, and do not invest enough in staff training, and overall performance will be affected poorly **(Healy 2017).** Nurse leaders with high intellectual who have more ability to make strong effects

on workers in the same organization, provide regular training and access to information needed to accomplish their tasks, increase their job satisfaction, perception of trust and respect, improve overall performance, and increase staff nurses' commitment **(Aljarameez, 2019).**

Significance of study:

Continuous globalization has created a competitive environment that demands head nurses have the responsibility to be good effective leaders through managing their emotional intelligence to perform their work accurately and on time. The importance of emotions in organizational settings is pervasive. Both employers and managers need to learn to understand their emotions and others' feelings, emotional intelligence is a predictor of success.

Head nurses with higher EI have a greater potential to be successful in leadership roles. Emotional intelligence can be developed and trained over time and its skill has an effect on head nurses' behavior which ultimately affects his/her leadership practice.

Furthermore, **Naeim, (2014)** and **Mohamed et al., (2016)** in Egypt assessed the effect of emotional intelligence on leadership and found a positive correlation between emotional intelligence and leadership. Therefore, head nurses need to understand how to manage their emotions. So, this study will be conducted to assess the effect of head nurses' emotional intelligence educational programs as reported by head nurses and staff nurses.

Aim of the Study:

This study aimed to assess the effect of an emotional intelligence educational program on head nurses' leadership practice through:

1-Assessing head nurses' knowledge regarding emotional intelligence through the educational program.
2-Assessing head nurses' emotional intelligence level as reported by head nurses and staff nurses through the educational program.
3-Assessing head nurses' leadership practice as reported by head nurses and staff nurses through the educational program.
4-Designing and implementing the educational program about emotional intelligence based on assessment.
5-Investigate the effect of the emotional intelligence educational program on head nurses' leadership practice as reported by head nurses and staff nurses.

Research Hypothesis:

1-There will be an improvement in the head nurses' emotional intelligence knowledge after the implementation of the educational program.

2-There will be an improvement in the head nurses' emotional intelligence level after the implementation of the educational program as reported by head nurses and staff nurses.

3- There will be an improvement in the head nurses' leadership practice after the implementation of the educational program as reported by head nurses and staff nurses.

4-There will be a positive effect of the emotional intelligence educational program in improving the leadership practice of head nurses as reported by head nurses and staff nurses.

Subjects and Methods

Research design:

A quasi-experimental study design with pre-test, immediate post-test, and follow-up (after 3 months) was carried out in the study.

Setting:

The study was conducted at Benha University Hospital in inpatient units.

Subjects:

The study subjects consisted of two groups namely, the head nurses' group and the staff nurses' group:

Head nurses' group: A convenience sample of 57 head nurses in the above-mentioned setting during the time of data collection.

Staff nurses' group: A random sample of 150 staff nurses. the sample size represented 10% of the total number of 1500 staff nurses in the above-mentioned setting were staff nurses during the time of data collection.

Tools of data collection:

First tool: Emotional intelligence knowledge questionnaire. It consisted of two parts: **Part 1:** personal characteristics: This part was concerned with the personal characteristics of the study subjects, (such as age, gender, educational level, years of experience, and attending training related to emotional intelligence.

Part 2: Emotional intelligence knowledge questionnaire: This tool is aimed at assessing head nurses' knowledge level regarding emotional intelligence. It was developed by the researcher through a relevant review of literature **(Alabdulbaqi et al., 2019; Mohamed et al., 2016 and Hussien, 2019).**

It comprised 33 closed-ended questions which were divided into 13 multiple choices, 10 matched, 10 were true and false. It covered the emotional intelligence concept, importance, factors, advantages, components, models, levels, skills, and positive outcomes of high and low emotional intelligence.

Scoring system: Each question was granted two points for the correct answer, and one for the wrong one. The total score for all questions was 66. Total scores were expressed as percentages. If the score was satisfactory level ≥ 60% and unsatisfactory level < 60%. **(Hussien, 2019).**

Second tool: Emotional intelligence level questionnaire: This tool was adopted **(Goleman, 1998, and modified by Hussien, 2019).** It was aimed at assessing how well head nurses typically comprehend, identify, regulate, and harness emotions in themselves and others reported by head nurses and staff nurses. The total number was 50 items. It comprised of five dimensions which were self-awareness (10 items), Self-arrangement (10 items), self-motivation (10 items), empathy (10 items), and social skills (10 items).

Scoring system: The responses were measured on a 5-point Likert scale ranging from (strongly disagree (1) to strongly agree (5)). The scores of items were summed up and the total was divided by number of the items. The calculation of the mean and standard deviation was done. These scores were converted into a percentage score. In addition, Emotional intelligence was considered unsatisfactory if the total percent score was <60% and satisfactory if the total score was ≥60% **(Mohamed et al., 2016).**

Third tool: Leadership Practice Inventory: This tool was adopted by **(Kouzes and Posner, 1988 and modified by Naiem 2014).** It was aimed at assessing head nurses' practice regarding leadership by head nurses and staff nurses. It consisted of 30 items grouped into five dimensions: challenging the process (6 items), inspiring a shared vision (6 items), enabling others to act (6 items), modeling the

way (6 items), and encouraging the heart (6 items).

Scoring system:

The responses were measured on a 5-point Likert scale: (1) "Rarely;" (2) "Once in a while;" (3) "Sometimes;" (4) "Fairly often;" and (5) = "Very frequently". The scores of items were summed up and the total was divided by number of the items. The calculation of the mean and standard deviation was done. These scores were converted into a percentage score. In addition, Leadership Practice was considered unsatisfactory if the total percent score was < 60% and satisfactory if the total score was ≥ 60% **(Naiem 2014).**

Validity:

Two types of validity tests were used for the three tools of the study face and content validity. Face validity was for determining the extent to which the tools represent all facets of the study. Content validity was conducted to determine whether the three tools covered the appropriate and necessary content.

It was done by the jury group, which consisted of five experts one professor and four assistant professors from the Faculty of Nursing, Ain Shams University: three experts in nursing administration, and two experts in Psychiatric Nursing. Based on jury recommendation corrections, additions, and or omissions of some items were made.

Reliability:

The reliability test was done to assess the internal consistency of the tools by using Cronbache's alpha coefficient. These tools proved to be highly reliable as indicated in the following.

Table (I): Internal reliability coefficients (Cronbach's Alpha coefficients) score for the study tools.

Test variables	No. of Items	Cronbach's Alpha
Emotional intelligence knowledge questionnaire	33	0.918
Emotional intelligence questionnaire level.	50	0.926
Leadership Practice inventory	30	0. 945

Pilot study:

A pilot study was performed in July 2019 on 10% of the study sample (six head nurses and fifteen staff nurses). It was aimed to examine the clarity of language, practicability, and applicability of the study tools, and to estimate the time needed to fill in the forms. There were no modifications made and they were included in the main study sample. The time consumed for fulfilling each of the study tools ranged from 10-15 minutes.

Fieldwork:

The study fieldwork started from February 2019 to July 2020. The study was conducted through the following phases:

Phase I (Preparatory): This phase period was four months from the beginning of August 2019 to the end of July 2019. In this phase, the researcher reviewed the national, international, and current related literature, concerning the topic of the study. Based on this review, preparing the study tools of data collection, the researcher translates the Emotional intelligence questionnaire, and Leadership Practice inventory into Arabic. In addition, Validity, reliability, and pilot study was conducted. As well as written approval to participate in the study was obtained.

Phase II (Assessment): This phase started from the first of August 2019 to the end of August 2019. The data was collected during the morning and night shifts in 2 days/week by self-administering the current study questionnaires before the implementation of the educational program in the presence of the researchers to assess head nurses' knowledge for head nurses. Regarding emotional intelligence and leadership practice, questionnaires were distributed to head nurses and staff. It took 30-45 minutes to fill out the questionnaires.

Phase III (program planning): This phase started from September 2019 to November 2019. The educational program related to emotional intelligence was developed based on the review of the updated national and international literature using the available resources. In addition, based on the results of the baseline assessment questionnaires.

Different instructional strategies as group discussion, brainstorming, and role play were selected to suit the participants' different needs and achieve the objectives. The educational program was revised by the same jury for content validity and the final modifications were done based on jury opinions.

Phase IV (program implementation): The program was implemented for the head nurses working in the study setting who were divided into four groups. Each group contains fourteen head nurses except only one group contains fifteen head nurses. The program was conducted in twelve sessions for each group and two hours for each session/week from 11 am to 1 pm. This phase took three months from December 2019 till February 2020.

Phase V (program evaluation):

A. Immediately post-program evaluation:

The researcher evaluated the effect of the emotional intelligence educational program on the leadership practice of head nurses by head nurses and staff nurses. The post-test was done for three tools immediately at the end of the last session of the program implementation for each group of head nurses.

The emotional intelligence questionnaire and leadership practice inventory were distributed to the staff nurses to assess head nurses' emotional intelligence level and head nurses' leadership practice immediately after the educational program implementation for head nurses which took 2 weeks from the first of March 2020 till the 15th of March 2020.

B. Follow-up program evaluation:

The same data was collected from head nurses and staff nurses. It was repeated after three months of educational program implementation. The follow-up program phase has been suspended for one month due to the COVID-19 pandemic. This phase took one month in July 2020.

Ethical consideration:

Before data collection, official approval to conduct the study was obtained from the Research Unit and the dean of the Faculty of Nursing, Benha University, and delivered to the director of Benha University Hospital to obtain the approval for conducting the study after explaining its purpose.

The written agreement for the participation of the study subjects was taken after the aims of the study had been explained, they were allowed to refuse to participate, and they were assured that the information collected would be treated confidentially and used for the research purpose only.

Statistical analysis:

Data entry was done using the SPSS V20 computer software package. Qualitative variables were compared using a chi-square test. The t-test was used for comparisons between two independent quantitative variables. Paired t-test was used to compare between two means in the same studied group pre and post, follow-up phase. Pearson correlation coefficient (r) was used for assessing the inter-relationship among quantitative variables. Multiple linear regression analysis was used. The confidence level chosen for the study was 95%. Statistical significance was considered at p-value <0.05.

Results:

Table (1): Shows that 54.4% of the head nurses working in the medical unit were between the ages of 30-45 years. Also, 47.4% of head nurses were married, 100% were female, and 47.4% held bachelor's degrees. As years of experience, 56.1% of them had worked as head nurses for 10 to 20 years, 50.9% had worked as nurses for 5 to 10 years, and 79.0% had not participated in training programs related to emotional intelligence and leadership practice.

Table (2): Demonstrates that 56.0% of staff nurses were working in the medical unit and 38.0% were aged between 26-35 years old. Moreover, the majority (87.3%) of them were female. Concerning marital status, the majority (85.4%) of the study subjects were married. Meanwhile, 46.0% of staff nurses had a diploma, and 52.0% of them had 5 - < 10 years of experience in the nursing field.

Figure (1): Illustrates that (38.3% and 39%) of head nurses and staff nurses worked in surgical departments, respectively.

Figure (2): Mentions that there was a significant improvement in head nurses' emotional intelligence knowledge post and follow-up than pre-program, where 33.3% of head nurses had total satisfactory knowledge of emotional intelligence before implementing the educational program which increased markedly in the post and follow-up program phases (84.2%, 80.7%), respectively and there was a slight decline in follow-up.

Figure (3): Shows that, the head nurses' total emotional intelligence level high significantly improved (84.2%, 80.7%), (78.9%, and 75.3%) in the post and follow-up program as reported by head nurses and staff nurses, respectively with a slight decline in follow-up.

Table (3): The result indicated a highly significant improvement in the total mean score of the head nurses' total emotional intelligence level in each dimension with a statistically significant difference between head nurses and staff nurses related to head nurses' empathy and social skills dimensions of emotional intelligence in the post-program and the follow-up program was related to the head nurses' self-motivation dimension between both groups.

Figure (4): Displays head nurses' total leadership practice was improved (87.7%, 80.0%), (82.5%, 77.3%) throughout the post and follow-up program as reported by head nurses and staff nurses, respectively.

Table (4): Portrays that, there was a significant improvement in head nurses' challenging the process, inspiring a shared vision, and enabling others to act dimensions of leadership practice in the post and follow-up program among head nurses and staff nurses but a decline in the follow-up program.

Furthermore, there was a statistically significant difference between head nurses and staff nurses related to head nurses' challenging

the process and inspiring shared vision dimensions of leadership practice in the post-program. but in the follow-up program, there was a statistically significant difference in head nurses' enabling others to act dimension between both groups ($p < 0.05$).

Table (5): Reveals a highly positive statistical significance correlation between head nurses' total emotional intelligence level and head nurses' total emotional intelligence knowledge among head nurses throughout the program ($p <0.00$).

Moreover, there was a highly positive statistical significance correlation between head nurses' total emotional intelligence level and head nurses' total leadership practice as reported by head nurses and staff nurses throughout the program ($p <0.00$).

Meanwhile, there was a positive statistical significance correlation between head nurses' total emotional intelligence level and head nurses' total leadership practice as reported by staff nurses throughout the program ($p<0.05$).

Table (1): Personal characteristics of the head nurses (n=57)

Items	Head Nurses (n=57)	
	No	Percent
Age (in Years)		
< 30	21	36.8
30-45	31	54.4
<45	5	8.8
Mean ± SD	**35.65± 6.78**	
Sex		
Male	0	00.0
Female	57	100.0
Marital status		
single	5	8.8
Married	45	78.9
Widow	3	5.3
Divorced	4	7.0
Nursing qualification		
Diploma	14	24.6
Technical	11	19.3
Bachelor	27	47.4
Master	5	8.8
Years of experience in nursing		
< 5	5	8.8
5- < 10	15	26.3
10- < 20	32	56.1
> 20	5	8.8
Mean ± SD	**12.64± 5.15**	
Years of experience as head nurse		
< 5	14	24.6
5- 10	29	50.9
> 10	14	24.6
Mean ± SD	**8.68± 3.84**	
Training programs related emotional intelligence and leadership.		
No	55	79.0
Yes	12	21.0

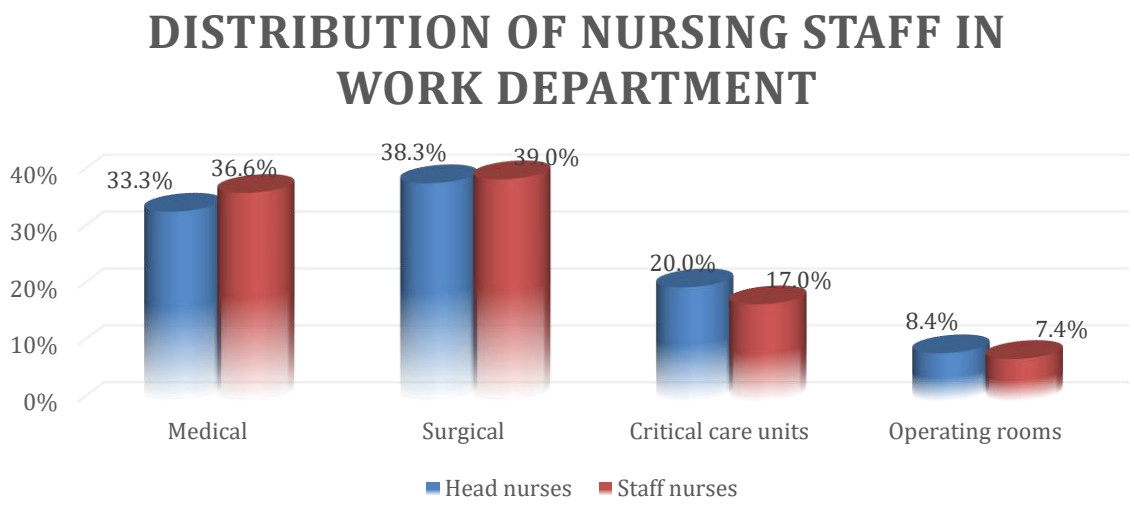

Figure (1): Distribution of head nurses and staff nurses in the work department (n=57 and n=150).

Table (2): Personal characteristics of the staff nurses (n=150)

Items	staff nurses (n=150)	
	Frequency	**Percent**
Age (in Years)		
< 26	41	27.3
26-35	57	38.0
<35	52	34.7
Mean ± SD	**30.55±4.89**	
Gendr		
Male	19	12.7
female	131	87.3
Marital status		
single	14	9.3
Married	128	85.4
Widow	5	3.3
Divorced	3	2.0
Nursing qualification		
Diploma	69	46.0
Technical	37	24.7
Bachelor	44	29.3
Master	0	0.0
Years of experience		
< 5	24	16.0
5- < 10	78	52.0
10- < 20	30	20.0
> 20	18	12.0
Mean ± SD	**9.51± ±3.15**	

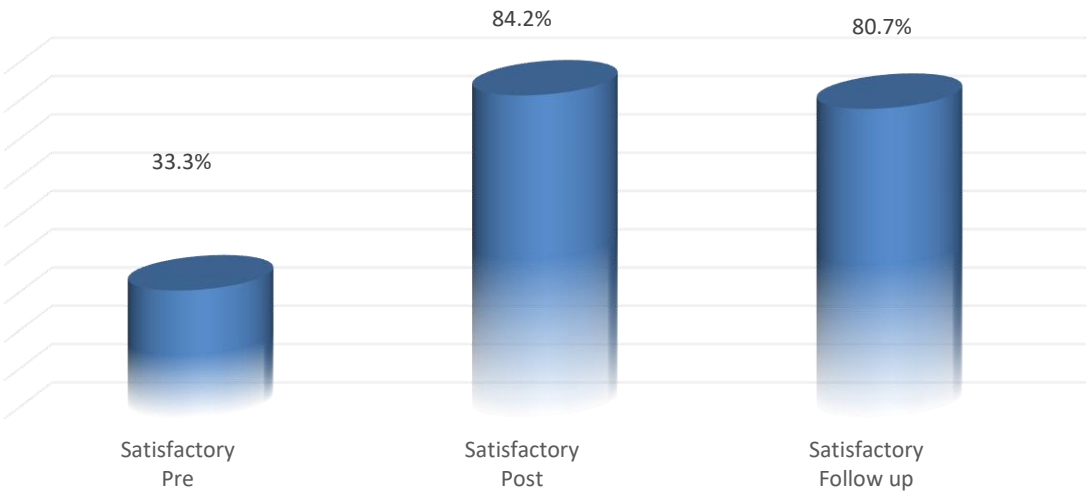

Figure (2): Distribution of head nurses' total emotional intelligence knowledge throughout the educational program (n= 57).

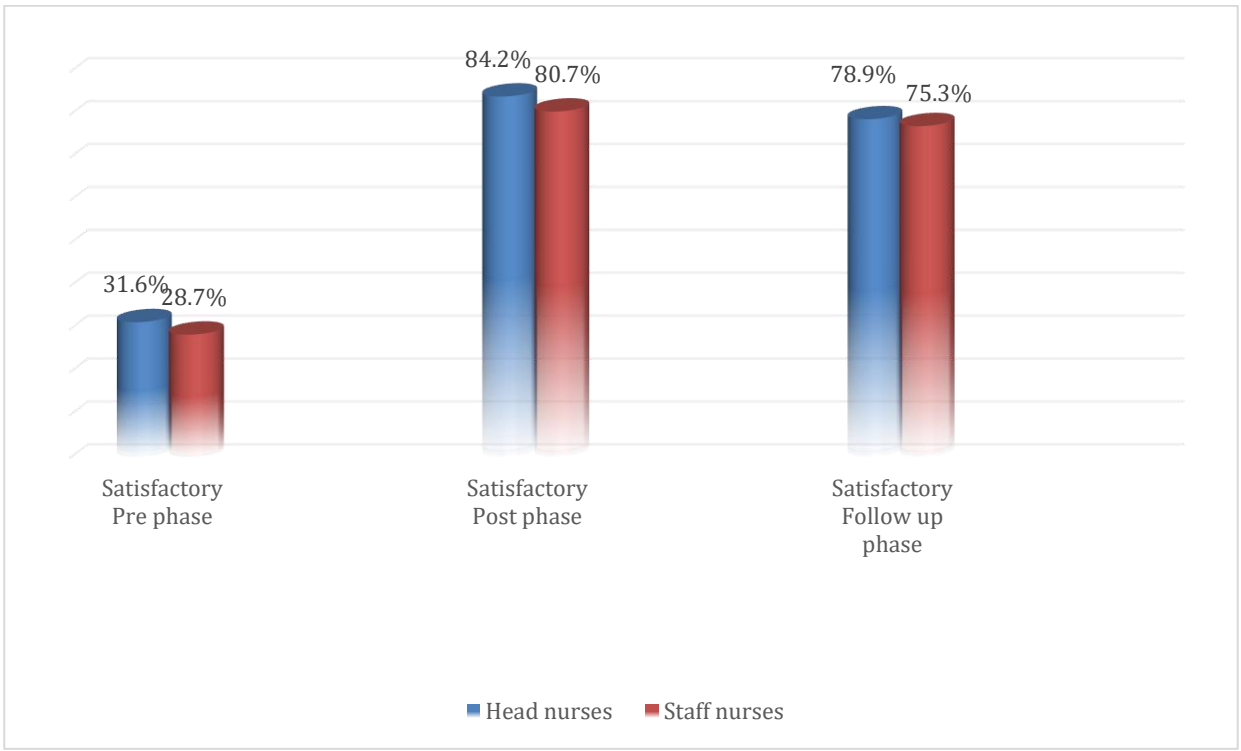

Figure (3): Distribution of head nurses' total emotional intelligence level as reported by head nurses and staff nurses through the educational program (n=57 and n=150).

Table (3): Mean score of head nurses' emotional intelligence level dimensions as reported by head nurses and staff nurses throughout the program (n=57 and n=150).

Emotional intelligence dimensions	Head nurses. (n=57)			Staff nurses (n=150)			T (1)	T (2)	T (3)
	Pre1	Post	Follow up	Pre	Post	Follow up			
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean± SD	Mean ± SD			
Self-awareness	30.28 ±7.99	38.11 ±6.19	35.86 ±6.45	28.36 ±5.71	36.39 ±6.57	34.60 ±6.69	2.10 < 0.05*	1.30 >0.05	1.22 >0.05
Self-regulation	29.87 ±6.41	37.65 ±5.86	35.29 ±7.09	28.30 ±5.70	35.98 ±6.25	34.74 ±7.28	1.65 >0.05	1.75 >0.05	0.496 >0.05
Self-Motivation	32.02 ±6.35	39.47 ±6.35	36.61 ±6.28	30.29 ±6.24	37.78 ±7.16	34.67 ±5.61	1.74 >0.05	1.57 >0.05	2.15 < 0.05*
Empathy	31.95 ±5.48	40.56 ±6.37	36.21 ±5.81	30.31 ±4.57	38.57 ±6.63	36.00 ±5.79	2.01 < 0.05*	2.01 < 0.05*	0.226 >0.05
Social skills	32.40 ±6.55	41.50 ±5.44	38.49 ±8.19	30.72 ±7.15	39.56 ±6.26	37.75 ±7.59	1.72 >0.05	2.07 < 0.05*	0.617 >0.05

(*) Statistically significant at p<0.05 (**) High Significant at P < 0.01

T1: Difference between head nurses & staff nurses' pre-educational program

T2: Difference between head nurses & staff nurses' post-educational program.

T3: Difference between head nurses & staff nurses follow-up educational program.

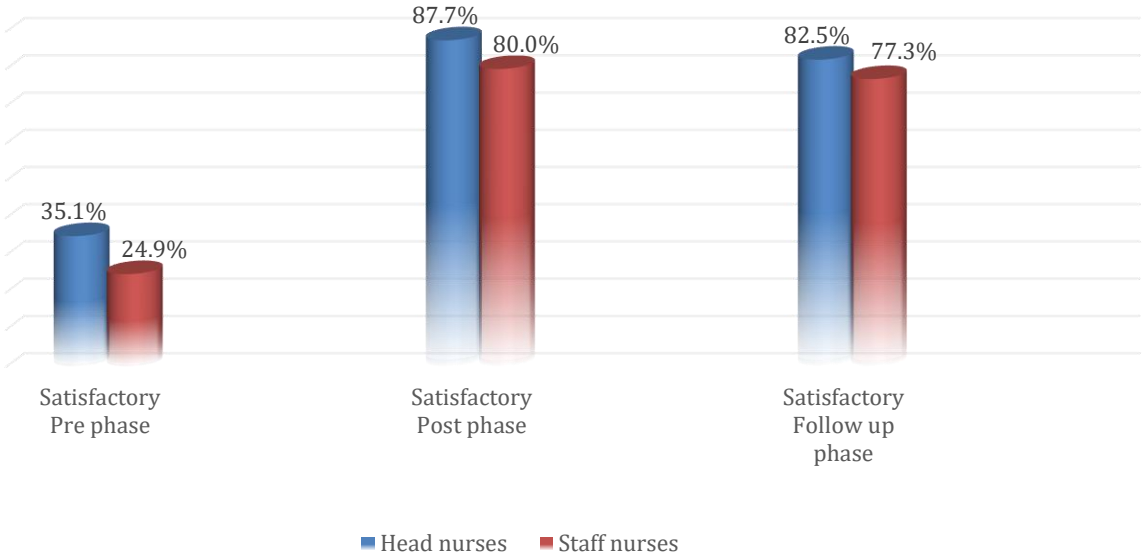

Figure (4): Distribution of head nurses' total leadership practice as reported by head nurses and staff nurses through the program (n=57 and n=150).

Table (4): Mean score of head nurses' total leadership practice dimensions by head nurses and staff nurses throughout the program (n=57 and n=150).

Leadership practice dimensions	Nursing staff						T (1)	T (2)	T (3)
	Head nurses (n=57)			Staff nurses (n=150)					
	Pre	Post	Follow up	Pre	Post	Follow up			
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD			
Challenging the process	16.37 ± 3.67	25.91 ±5.02	23.68 ±4.91	15.16 ±3.18	24.25 ±5.55	23.33 ±5.46	2.37 < 0.01**	2.05 < 0.05*	0.432 >0.05
Inspiring a shared vision	15.51 ± 3.23	25.40 ±4.99	22.93 ±4.82	14.90 ±2.79	23.70 ±5.53	22.33 ±5.17	1.33 >0.05	2.07 < 0.05*	0.764 >0.05
Enabling others to act	16.29 ± 3.66	25.56 ±4.05	23.78 ±4.74	14.93 ±2.66	24.56 ±5.19	22.41 ±4.67	2.88 < 0.00**	1.30 >0.05	1.98 < 0.05*
Modeling the way	16.26 ± 3.66	23.11 ±4.98	21.88 ±4.48	15.15 ±2.83	22.55 ±5.18	21.68 ±4.81	2.27 < 0.01**	0.692 >0.05	0.269 >0.05
Encourages the Heart	16.16 ± 3.65	24.16 ±4.01	22.37 ±3.48	14.97 ±2.69	24.10 ±5.02	21.85 ±4.17	2.55 < 0.00**	0.078 >0.05	0.829 >0.05

(*) Statistically significant at p<0.05 (**) High Significant at P < 0.01

T1: Difference between head nurses and staff nurses pre-program

T2: Difference between head nurses and staff nurses post-program.

T3: Difference between head nurses and staff nurses follow-up program.

Table (5): Correlations between total score of head nurses' emotional intelligence knowledge, leadership practice, and emotional intelligence by head nurses and staff nurses.

Items	Head nurses' total emotional intelligence level by head nurse						Head nurses' total emotional intelligence level by staff nurses					
	Pre		Post		Follow up		Pre		Post		Follow up	
	r	P–value	r	P–value	r	P–value	r	P–value	r	P–value	r	P–value
Emotional intelligence knowledge	0.323	<0.00 **	0.419	<0.00 **	0.392	<0.00 **	-	-	-	-	-	-
Leadership practice by head nurses	0.332	<0.00 **	0.536	<0.00 **	0.518	<0.00 **	0.415	<0.00 **	0.612	<0.00 **	0.598	<0.00 **
Leadership practice by staff nurses	0.221	<0.05 *	0.287	<0.05 *	0.234	<0.05 *	0.265	<0.05 *	0.247	<0.05 *	0.269	<0.05 *

(*) Statistically significant at p<0.05 (**) High Significant at P < 0.01

Discussion

The practice of nursing not only contains knowledge, cognition, skill, and emotional activity. Emotional intelligence in the setting of nursing is becoming an essential factor in assisting efficient leadership and becomes one of the essential leaders' competencies **(Lin et al., 2016).**

The finding of this study revealed that the head nurses' total emotional intelligence knowledge increased markedly throughout the post and follow-up program phases.

The reasons may be that the head nurses were interested in the research topic and had the talent to acquire new information easily and the program that was offered was successful.

In agreement with the study findings **Mohamed et al., (2016);** and **Zaki et al., (2018)** reported that less than one-fifth of nursing leaders had satisfactory total emotional intelligence knowledge before implementing the training program. This finding goes in the same line with **Gabra; et al (2019) and Hussien, (2019)** who reported that most of the study sample acquired knowledge related to emotional intelligence knowledge immediately and the follow-up program implementation.

Moreover, this current study found that the head nurses' total emotional intelligence level increased markedly in the post and follow-up program as reported by head nurses and staff nurses with a slight decline in follow-up.

This finding emphasized that emotional intelligence level can be developed and trained over time, and skills acquired allow head nurses to improve effective relationships, furthermore, the program helped head nurses to be aware of self-emotions. Also, this might be due to the head nurses' years of experience in nursing work.

This finding agreed with **Hussien, (2019) and ZakI et al., (2018)** mentioned that there was an improvement in head nurses' emotional intelligence among the experimental group during the post and follow-up training program.

The result indicated a significant improvement in each dimension of head nurses' emotional intelligence level with a statistically significant difference between head nurses and staff nurses related to empathy and social skills dimensions in post-program. Still, in the follow-up program, a statistically significant difference was related to the head nurses' self-motivation dimension between both groups.

A significant improvement in each dimension of head nurses' emotional intelligence level. This may be due to the impact of the educational program and the teaching methods used in the program such as role-playing, exercises, and group discussions promote head nurses to develop empathy and social skills and practice and regulate their emotional responses.

The difference between head nurses and staff nurses is related to head nurses' empathy social skills and self-motivation dimensions because head nurses see themselves as more improvement than staff nurses immediately post-program, which may be due to the recent effect of the program which was done for the head nurse and fresh knowledge Also, may be related to head nurses' management role, educational level, age, experiences, and employee support were variables that increased the emotional intelligence level.

In addition, this might be due to nurses as the subordinate had high expectations for head nurses to recognize nurses' emotions, take responsibility for personal performance, be aware of nurses' strengths and weaknesses, and be mindful of the needs and feelings of others to be effective managers.

Along the same line, **Gharaee (2019)** mentioned that the emotional intelligence levels of the nurse executives varied according to variables such as age, gender, educational background, marital status, experience, management position, and participation in courses and seminars.

Prufeta (2017) determined a positive relationship between the ages of healthcare administrators and their emotional intelligence in the empathy and awareness categories. It is expected that as interpersonal and work-related experiences of individuals increase with age, their job adjustment will increase parallel, and their skills of understanding and managing the emotions of individuals will be improved.

The finding of the present study clarified that head nurses' total leadership practice score was one before implementing the program as reported by head nurses and by their staff nurses. In addition, there was a highly statistically significant difference between them at this phase. This may be due to head nurses who hold bachelor's in nursing were in a higher level of self-leadership, this might be because the bachelor curriculum emphasizes leadership education and practice. In agreement, **Alabdulbaqi et al., (2019); Mostafa, (2019); Wheeler and Beaman, (2018)** concluded that head nurses who hold

bachelor's in nursing were at higher levels of self-leadership practice.

Furthermore, the head nurses' total leadership practice score increased markedly as reported by the head nurse and by staff nurses immediately after implementing the program and at the follow-up phase., with no statistically significant differences between them at these phases. This finding may be due to the educational program's positive impact on head nurses' leadership practice and performance. In the same line with the study findings, **Rehman et al., (2015); Aitken, (2015)** concluded that training programs have a positive impact on leaders. Contrary to the study findings **Rose (2016)** mentioned the lack of self-reported ratings among charge nurses after program attendance.

The present study showed a slight decline in head nurses' total emotional intelligence level, knowledge, and leadership practice as reported by head nurses and staff nurses in the follow-up program, due to follow-up program evaluation conducted during the time COVID-19 pandemic after the World Health Organization (WHO) deemed COVID-19 to be a pandemic on March 11, 2020.

The present study showed that there was a highly positive statistical significance correlation between head nurses' emotional intelligence level e score and head nurses' emotional intelligence knowledge score among head nurses throughout the program phases. This finding may be due to the proper emotional intelligence training could improve emotional intelligence knowledge and increase the personal and social competencies knowledge that produced the highest correlation.

Consistent with the study findings **Hussien, (2019); Mohamed et al., (2016)** stated that there was a statistically significant correlation between emotional intelligence knowledge score and emotional intelligence score among first-line nurse managers in the intervention group throughout the training strategy phases.

Moreover, there was a highly positive statistical significance correlation between head nurses' emotional intelligence score and head nurses' leadership practice score among head nurses throughout educational program phases. This finding may be due to people with high emotional intelligence who can work effectively in teams, manage stress, and lead others effectively. In agreement **Nabih et al., (2016); Zak et al., (2018)** found that emotional intelligence has a strong positive and significant relationship with leadership effectiveness.

Also, there was a positive statistical significance correlation between head nurses' emotional intelligence level score and head nurses' leadership practice score as reported by staff nurses throughout educational program phases. This finding may be due to the implementation of the emotional intelligence training program for leaders in healthcare organizations plays a vital role in supporting their leaders to be effective leaders. In the same line with the study findings **Bano, (2013)** reported that the implementation of an emotional intelligence program in any organization helps their leader to be effective and efficient.

The results of the present study revealed that there was a positive effect of the implementation of an emotional intelligence educational program for head nurses in

improving their emotional intelligence level and leadership practice. This finding supported the hypotheses of the study, which was head nurses' emotional intelligence level will be improved after the implementation of head nurses' emotional intelligence educational program, also their leadership practice level will be improved after the implementation of head nurses' emotional intelligence educational program.

Similarly, a study conducted in Pakistan by **Saddiqui et al., (2018)** revealed similar results, which clarified that emotional intelligence independently and collectively had an impact on managerial and leadership effectiveness.

The present study findings showed that head nurses' total emotional intelligence score was a positive dependent predictor for the score of total leadership practice immediately post-training program. As indicated by the value of R; they explain 46% of the variation of leadership practice score. This may be because EI skills can be learned and can be seen as an ability-based skill that allows the training in specific competencies which leads to learning emotional intelligence skills and improving total leadership practice. In this respect, **Nabih et al., (2016)** found that emotional intelligence is an indicator of leadership effectiveness.

Conclusion

There was an improvement in the head nurses' emotional intelligence level and knowledge and leadership practice after the implementation of the educational program as reported by head nurses and staff nurses.

There was a positive effect of the emotional intelligence educational program in improving the leadership practice of head nurses as reported by head nurses and staff nurses. These confirm the research hypothesis.

Recommendations

Training of nursing staff about emotional intelligence and social competencies especially the empathy dimension through continuous training programs. Promotion programs for head nurses and staff nurses have to include emotional intelligence level measures. Hospitals provide continuous training programs for nursing staff to enhance emotional intelligence skills. The training department and the human resource department at Banha University Hospital think about the different training methods to enhance emotional intelligence levels whereby they can improve leadership qualities using the educational program contents of this study. Further studies are suggested with a bigger sample of senior and supervisory levels, to investigate the question of whether emotional intelligence could be linked to leadership practice in a broader range at different leadership levels. Conducting a comprehensive study comparing staff nurses and head nurses' emotional intelligence levels.

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تأثير برنامج تعليمى عن الذكاء الوجداني على الممارسات القيادية لرئيسات التمريض لدى الممرضين

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فى السنوات الأخيرة ، اكتسب بناء الذكاء العاطفي والقيادة الكثير من الاهتمام باعتباره السمة الكامنة للقيادة الفعالة. تعرف القيادة انها فن توجيه وتحفيز وإلهام مجموعة أو منظمة نحو تحقيق الأهداف المشتركة. وتعرف بأنها المعالجة والتأثير وتحقيق الأهداف، ومن ثم، فإن القيادة هى كيفية تأثير الفرد في مجموعة من الآخرين من أجل تحقيق شيء مفيد لهم. وفي السياق المؤسسي، فإن القيادة هي ما يقوم به القائد في تطويع سلوك الموظفين لتحقيق أهداف المؤسسة. أجريت هذة الدراسة في مستشفى جامعة بنها. جميع رؤساء التمريض التى يعملن فى كل الوحدات الداخلية لمستشفى جامعة بنها وعددهم (٥٧) رئيسة تمريض. جميع الممرضين الذين يعملون تحت رأستهم فى هذه الوحدات أثناء وقت الدراسة والموافقين على المشاركة وعددهم (١٥٠) ممرض. ، كان هناك تأثير إيجابي للذكاء الوجدانى في تحسين الممارسات القيادية لرؤساء التمريض، وهذا يؤكد فرضية البحث. كما اوصت الدراسه تدريب لرؤساء التمريض على الذكاء الوجدانى والمهارات الاجتماعية وخاصة بعد التعاطف من خلال برنامج التدريب المستمر، و يجب على الإدارة وصناع القرار تطوير برامج لتعزيز الذكاء الوجدانى بين طاقم التمريض.