

## Effect of Self-management Education Program for First Line Nurse Managers on Their Critical Thinking Dispositions

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### Abstract

**Background:** Developing self-management skills was one of the best management practices and activities for first-line nurse managers who decided to become more productive and using critical thinking process to find effective solutions. **The study aimed** to assess the effect of self-management educational program for first line nurse managers on their critical thinking dispositions. **Design:** A quasi-experimental design was utilized. **Setting:** The study was conducted in all inpatient units of the medical and surgical buildings at Benha University Hospital. **Subjects:** Consisted of all available (77) first line nurse managers and their assistants during data collection. **Tools:** Three tools were used for data collection; (1) Self- management knowledge questionnaire, (2) Self report regarding self- management skills and The California critical thinking dispositions inventory questionnaire. **Results:** More than three-quarters (76.6 %) of first line nurse managers had poor knowledge level related to self-management dimensions at pre-program phase, which it improved to be the majority (85.7%) of them had good knowledge level at post program phase with slightly decrease to be 81.8% at follow up phase. The majority (89.6% & 85.5%) of first line nurse managers had high self-management skills at immediate post program and follow up phases respectively compared to none of them at pre-program phase. The most (85.2% and 83.1%) of them had high critical thinking dispositions level at immediate post program and follow up phases respectively compared to pre-program phase (10.5%). **The study concluded** that there was appositve highly statistically significant correlation among first-line nurse managers knowledge, skills regarding self-management and their critical thinking dispositions at immediate post and follow up program phases **The study recommended** initiating in-service education and training programs in all departments for refreshing and improving first line nurse managers' knowledge, and skills especially about self-management and critical thinking.

**Keywords:** Critical thinking, Educational program, First line nurse managers, Self-management.

### Introduction

Self-management provides a unique viewpoint for understanding staff behavior. It attempts to explain behavior in a broader, dynamic context by including all behavioral options (i.e., Responses and lack of response), not just individual performance. Self-management also considers the traditionally ignored concept of `internalized standards of

behavior. In general, the study of self-management provides a complete understanding of different staff behaviors, levels of activation, and response (**Baker & De-Vries, 2021**).

Self-management is defined as how employees manage their behavior, evaluate their performance, and discipline themselves when employees do not reach necessary

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personal standards. Self-management provides employees with strategies that may improve their performance without intervention from their managers. Such strategies allow employees to structure their work, remain motivated, and facilitate their behavior, resulting in the achievement of goals. Employees may enhance their work engagement through self-management strategies whereby they monitor and manage their behavior without any external control (Bakker, 2017).

First-line nurse managers (FLNMs) are professional nurses who have a multifaceted role in translating strategic organizational missions, values, and objectives into action at the unit level. They provide administrative and clinical leadership and are responsible for planning and managing resources, organizing nursing care, supporting teamwork, evaluating the services provided, and achieving optimal results for the organization and the patients. In this respect, FLNMs requires learning the content of nursing, the ideas, concepts, and theories of nursing, and developing their intellectual capacities and skills to become disciplined, self-managing, and critical thinkers (Paarima & Barnes, 2020).

Critical thinking is the most advanced form of thinking because it means objective, equitable and in-depth thinking. Critical thinking lets us distinguish the qualified from the unqualified and right from the wrong. Critical thinking is a way of thinking that reaches the core of the problem, examines them from different angles, and, if necessary, opposes them. A sense of freedom and the thrill of discovering something makes critical

thinking pleasant (Woods, Napiersky & Rivkin, 2022).

Critical thinking is identifying problems, assessing resources, and generating possible solutions and skills, including the ability to analyze, synthesize, infer, and evaluate situations. In addition, critical thinking is a disciplined, self-directed cognitive process leading to high-quality decisions and judgments through the analysis, assessment, and reformulation of thinking (Byrd & Asunda, 2020).

First-line nurse managers have expressed a desire to actively participate in developing their self-management, which is inevitable; this makes it crucial for healthcare settings to support FLNM development and enable successful change. Developing FLNMs' self-management can benefit from the change efforts by simply respecting their role, knowledge, and involvement in the entire process of attitudes, behaviors, and feelings toward developing their critical thinking based on the role one plays from training to implementation (Gou & Niyomsilp, 2020).

### **Significance of the study**

First-line nurse managers in the clinical practice area receive very little or no supervision and have no sense of self-management. Although the ability to apply self-management effectively is very important for first-line nurse managers to complete tasks independently and take an active role in monitoring and reinforcing their behavior, it also fosters their self-reliance, self-punishment, and self-observation. Thus, self-management can be used to improve performance, productivity, and time on task.

### **Aim of the study**

The current study aimed to assess the effectiveness of educational program about self-management on critical thinking dispositions for first line nurse managers at Benha University Hospital.

### **Research Hypotheses**

This study hypothesized that there will be an improvement in the first line nurse managers' knowledge and skills regarding self-management after implementing the program and there will be a positive effect on their critical thinking dispositions.

### **Subjects and Methods**

#### **Research design:**

A quasi-experimental research design with pretest, posttest, and follow up assessments was used to carry out this study.

#### **Study setting:**

The study was conducted in all medical and surgical departments at Benha University Hospital.

#### **Subjects of the study:**

All available (77) first line nurse managers and their assistants (55 FLNMs and 22 their assistant) who were working on the previously mentioned setting during the time of data collection.

**Sampling technique:** Convenient sample

#### **Tools of data collection:**

To achieve the aim of the study the following three tools were used.

#### **Tool 1: First line nurse managers' self-management knowledge questionnaire:**

A structured questionnaire was developed by the researchers after reviewing related literature (Luthans and Davis, 2010; Prussia, Anderson and Manz, 2011; Roberts and Foti, 2017). To first line nurse

managers' knowledge related to self-management. It consisted of two parts.

**The first part:** Personal characteristics of head nurses: I included (department, age, gender, educational qualification, years of experience, marital status, attending training courses about self-management).

**The second part:** It consisted of 40 questions in forms of Multiple Choice (15), True or False (15), and Matching (10) Questions about Self-management.

**These questions were classified into 7 dimensions as the following:**

1. Self-management (9 questions)
2. Time-management (5 questions)
3. Communication (6 questions)
4. Emotional Stability (5 questions)
5. Coping strategies (5 questions)
6. Motivation for achievement (4 questions)
7. Critical thinking (6 questions)

**Scoring system:** The first line nurse managers' answers were compared with a model key answer and scored as one for correct and zero for incorrect. So, the total scores are 40 and cut off point done at 60% that equal 24 degree. In this respect the level of first line nurse managers' knowledge was categorized as the following: Good knowledge' level  $\geq 75\%$  that equals  $\geq 30$  points, average level from 60% to less than 75% that equals 24- $<30$  points and poor knowledge level  $<60\%$  that equals  $< 24$ .

#### **Tool 2. Self-Management Skills Questionnaire:**

It was developed by the researchers after reviewing the related literature (Bandura and Cervone, 2013; Manz and Sims, 2013; Cohen and Ledford, 2017) to assess first line nurse manager' self-management skills.

**It was consisted of 42 items divided into 6 dimensions as:**

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1. Ability to achieve goals (8 items)
2. Ability to plan and manage time (7 items)
3. Challenge and perseverance in the face of difficult situations (7 items)
4. flexibility (8 items)
5. Taking responsibility (6 items)
6. Motivation for Achievement (6 items).

### **Scoring system:**

The first line nurse managers' responses were evaluated by using a three-point Likert Scale as follows; (3) always, (2) sometimes, (1) never. Range of scores is from 42-126. Cut off point was done at 60% equals 76 points. Accordingly, first line nurse management' self-management skill level was categorized as the following: High self-managed level  $\geq 75\%$  equal  $\geq 95$  degrees, moderate, self-managed level from 60% to less than 75% that equal 76- < 95 degree and low self-managed level <60% that equal < 76 points.

### **Tool 3: The California critical thinking dispositions inventory questionnaire:**

It was adopted from (**facione, 2010**) to assess the disposition of study first line nurse managers towards critical thinking.

### **It was consisted of 74 items divided into 7 dimensions as:**

1. Truth seeks (12 items)
2. Open mindedness (12 items)
3. Analyticity (10 items)
4. Systematic (10 items)
5. Self-confidence (9 items)
6. Inquisitiveness (10 items)
7. Cognitive maturity (10 items).

### **Reliability of tools**

It was examined by using the Chronbach's Alpha Coefficient test to measure the internal consistency for all tools; self-management knowledge was 0.92, self-report regarding self-management skills was 0.76 and critical thinking dispositions inventory questionnaire was 0.75 that reflect accepted internal consistency of the tools.

### **Operational design:**

The study passed over the following phases: Preparatory phase, pilot study and field work.

### **A- Preparatory phase**

Reviewing the national and international related literature using journals, periodicals, textbooks, internet and theoretical knowledge of various aspects concerning the topic of the study to develop the tools for data collection. This phase took about two months, extended from the beginning of April 2021 to the end of May 2021.

### **Validity of the tools:**

The study tools were revised and ascertained by five Experts from different nursing Faculties in the field of Nursing Administration: (one Professor and one Assistant Professor at Ain Shams University, one professor at Minia University one Assistant Professor at Tanta University, and one Assistant Professor at Mansoura University

### **Pilot Study**

A pilot study was carried out on (8) first line nurse managers who represent about 10% of the study subjects at the previously mentioned setting to test the applicability and the clarity of the constructed tools; it also served for estimating the time needed to fill data collection tools and to identify obstacles and problems that may be encountered during data collection. No modifications were done and first line nurse managers involved in the pilot study were included in the main study subjects. It was done in August, 2021.

### **Field Work**

The following phases were adopted to achieve the aim of the current study; assessment, planning, implementation, and evaluation

phases. These phases took eight months; started from September, 2021 to the end of April, 2022.

**Phase I (Assessment):**

This phase involved met with the first line nurse managers and their assistants; the researchers went to the previously mentioned settings three days weekly (Saturday, Monday and Wednesday) in the morning and afternoon from 10 am to 3 pm by rotation in each study setting.

**Phase II (Program planning)**

Detected needs were translated to development in-service education program. An in-service education program was developed based on determining needs and relevant review of literature during October, 2021.

**Phases III (Program implementation)**

Conduction the self-management program from the beginning of November, 2021 to end of December, 2021.

Program targets were all first line nurse managers working at Benha University Hospital. It was aiming to prepare and develop an educational program of the self-management.

Different instructional strategies, method of teaching, media and method of evaluation were selected to suit the learner's needs and achieve the objectives and contents of the program. The teaching sessions were 11-14 hours distributed at the following: (7) sessions, (1.30 to 2.00) hours in session, achieved by using available resources, relevant contents, and instructional strategies for each session. Different methods of teaching were used such as lecture, group discussion, and brainstorming.

**Phase IV (Post program evaluation):**

During January 2022 the impact of the education program was evaluated (immediately post program phases), using the

same tools which were used before the program.

**Phase V (Follow up):**

During April (2022) sufficient questionnaires for the number of first line nurse managers within each department were distributed (follow up phase) to assess head nurses' knowledge and skills 3 months follow up program.

**Ethical considerations:**

Prior the study conduction, ethical approval was obtained from the scientific research committee at Faculty of Nursing Benha University. The study was conducted with careful attention to ethical standards of research and rights of the participants.

**Statistical analysis:**

Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 25.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied quantitative data (e.g., mean, standard deviation, frequency and a percentage, ( $\chi^2$ ) test was utilized to compare percentage between studied variables. The standard deviation: As a measure of dispersion of results around the mean (for quantitative variable). Pearson correlation (r) test was used for association between total scores. Non – significant level value was considered when  $p > 0.05$ . A significant level value was considered when  $p < 0.05$ . And a highly significant level value was considered when  $p < 0.001$ .

**Results:**

**Table (1):** Illustrates that, more than half (51.9%) of first line nurse managers were aged from 35 to less than 45 years old with mean score  $35.81 \pm 0.67$ , the majority (89.6%) of them were female, and about two-thirds 64.9% of them were married. As far as,

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educational qualification nearly half (49.4%) of first-line nurse manager had Bachelor of Nursing Science, their experience ranged from 5 to less than 10 years with main score  $9.70 \pm 0.70$ , and nearly three-quarters (72.7%) of them hadn't attended previous courses in self-management.

**Figure (1):** Shows that knowledge level among first line nurse managers about self-management thorough the program phases. Which Clarifies that, more than three-quarters (76.6 %) of first line nurse managers had poor knowledge related to self- management dimensions of pre-program phase, which it improved to be majority (85.7%) of them had good knowledge at immediate post program phase with slightly decrease to be 81.8% of them at follow up phase

**Figure (2):** Shows total skills levels of the studied first line nurse managers about self-management skills, thorough the program phases. Which indicated that less than half of first line nurse manager (45.5%) had self-management skills at pre-program, which it improved to be the majority (89.6%) of them had high self-management skills at immediate post program with slightly decreased to be 85.5% of them had high self-management skills at follow up phase of the program up three months program that still more than preprogram phases.

**Figure (3):** Shows total critical thinking dispositions levels of the studied first line nurse managers thorough the program phases. Which indicated that the most of first line nurse managers (20.8%, 63.6 %) had low and moderate critical thinking dispositions at pre-program which it improved to be the majority (85.2%) of them had high critical thinking dispositions at immediate post program with slightly decreased to be (83.10%) of them had

high critical thinking dispositions at follow up phase of program.

**Table (2):** There was highly statistically significant improvement of first line nurse manager' knowledge scores regarding self-management at immediate post and follow up program phases; the highest total mean score of first line nurse manager' knowledge at immediate post was  $4.67 \pm 0.49$  with mean percent, 93.4% and at follow up phase  $4.19 \pm 0.70$  with mean percent, 83.8% was related to emotional stability by example compared to pre-program phase was  $2.48 \pm 0.62$  with mean percent, 49.6%. While, the lowest total mean score of first-line nurse manager' knowledge of immediate post was  $7.72 \pm 0.88$  with mean percent, 85.7% and at follow up phase  $7.63 \pm 0.82$  with mean percent, 84.7% was related to basics of self-management with pre-program phase was  $4.55 \pm 0.73$  with mean percent 50.5%.

**Table (3):** Shows that, there was highly statistically significant improvement of first line nurse managers scores regarding self-management skills at immediate post and follow up program phases; the highest total mean score of first line nurse managers' self-management skill domains at immediate post was  $19.37 \pm 1.24$  with mean percent 92.2% and at follow up phase was  $17.77 \pm 1.09$  with mean percent 84.2% related Challenge and perseverance in the face of difficult situations with pre-program phase  $15.75 \pm 1.44$  with mean percent 75.0%. While, the lowest mean scores of first line nurse manager' skill domains at immediate post and follow up was  $20.64 \pm 1.13$  with mean percent 86.0% related to Flexibility by example compared with pre-program phase  $18.22 \pm 1.75$  with mean percent 75.9%.

**Table (4):** There was highly statistically significant improvement of first line nurse

manager scores regarding critical thinking dispositions at immediate post and follow up program phases; the highest total mean score of first line nurse manager' critical thinking dispositions domains at immediate post was  $33.14 \pm 1.64$  with mean percent 92.0% and at follow up phase was  $26.58 \pm 1.22$  with mean percent 73.8% related to Truth seeking compared with pre-program phase  $27.27 \pm 2.00$  with mean percent 75.7%. While, the lowest mean scores of first line nurse manager' critical thinking domains at immediate post was  $30.22 \pm 1.65$  with mean percent 91.5% and  $27.94 \pm 1.23$  with mean percent 83.7% related to Analyticity

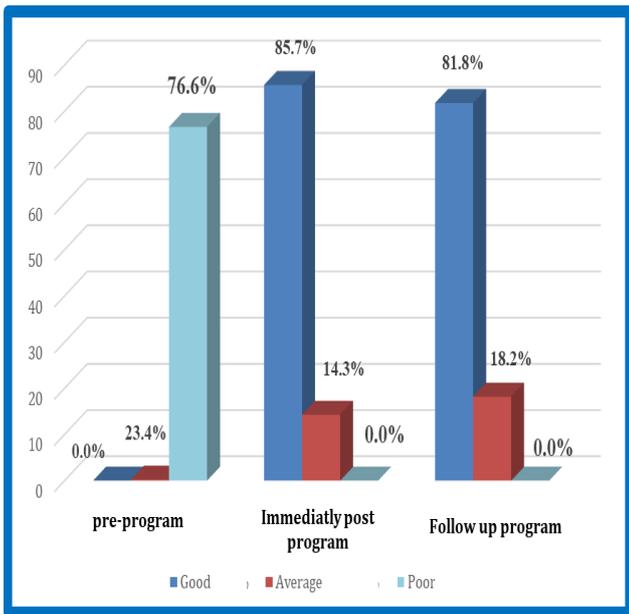
compared with pre-program phase  $24.85 \pm 1.80$  with mean percent 75.3%.

**Table (5):** There was a positive highly statistically significant correlation between total knowledge and skills regarding self-management and critical thinking dispositions among first line nurse managers at immediate post and follow up program phases. While there was no statistically significant correlation at pre-program phase.

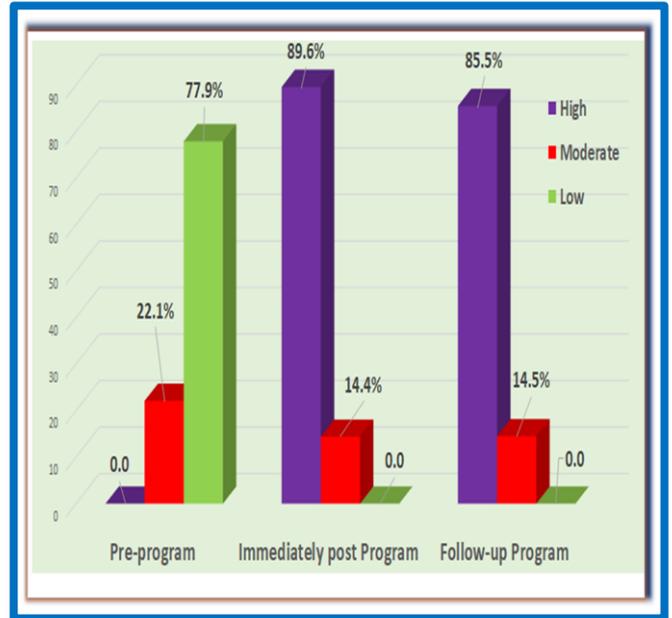
**Table (1): Distribution of the studied first line nurse managers and their assistants regarding their personal characteristics (n=77)**

Personal characteristics items	No.	%
<b>Age (years)</b>		
25 - < 35	26	33.8
35-< 45	40	<b>51.9</b>
≥ 45	11	14.3
<b>Mean ± SD</b>	<b>35.81 ± 0.67</b>	
<b>Range</b>	<b>(25 - 49)</b>	
<b>Gender</b>		
Male	8	10.4
Female	69	<b>89.6</b>
<b>Marital status</b>		
Married	50	<b>64.9</b>
unmarried	27	35.1
<b>Educational qualification</b>		
Nursing Diploma	10	13.0
Associated Degree of Nursing	26	33.8
Bachelor of Nursing Science	38	<b>49.4</b>
Others	3	3.8
<b>Years of nursing experience</b>		
5- < 10	34	<b>44.2</b>
10- < 15	32	41.6
≥ 15	11	14.2
<b>Mean ± SD</b>	<b>9.70 ± 0.70</b>	
<b>Range</b>	<b>(5-19 )</b>	
<b>Attended previous courses in self –management</b>		
Yes	21	27.3
No	56	<b>72.7</b>

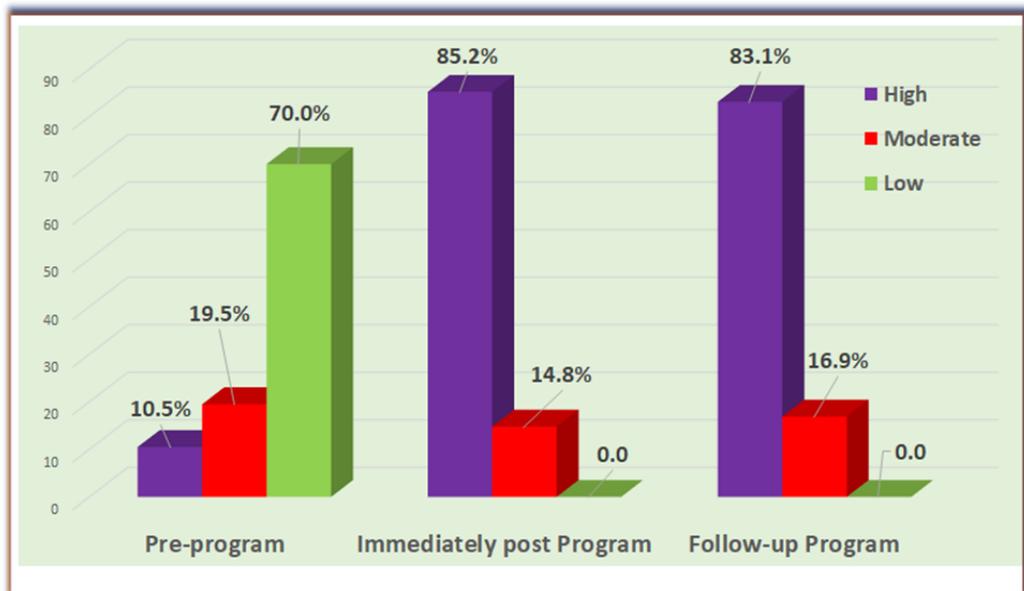
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**Figure (1) First line nurse managers' knowledge levels regarding self-management through the program phases**



**Figure (2): First line nurse managers' self-management skills levels through the program phases**



**Figure (3) : First line nurse managers' critical thinking dispositions levels through the program phases**

**Table (2): Mean scores of first line nurse managers regarding self-management knowledge dimensions thorough the program phases (n=77)**

Total knowledge dimensions	Maximum Score	Pre- Program phase		Immediately Post-Program phase		Follow- up Program		Paired t1	P-value	Paired t2	P -value
		X±SD	Mean%	X±SD	Mean%	X±SD	Mean%				
Basics of self-management	9	4.55 ± 0.73	50.5 %	7.72 ± 0.88	85.7 %	7.63 ± 0.82	84.7 %	19.888	0.001*	21.906	0.001**
Time management	5	2.40 ± 5.44	48.0 %	4.64 ± 0.53	92.8 %	4.10 ± 0.78	82.0 %	31.218	0.001*	22.277	0.001**
Communication	6	3.28 ± 0.55	54.6 %	5.54 ± 0.65	92.3 %	4.76± 0.70	79.3 %	27.750	0.001*	21.708	0.001**
Emotional Stability	5	2.48 ± 0.62	49.6 %	4.67 ± 0.49	93.4 %	4.19± 0.70	83.8 %	31.686	0.001*	24.058	0.001**
Coping strategies	5	2.40 ± 0.54	48.0 %	4.58 ± 0.57	91.6 %	4.10± 0.78	82.0 %	29.760	0.001*	22.277	0.001**
Motivation for achievement	4	1.92 ± 0.48	48.0 %	3.61 ± 0.56	90.2 %	3.36± 0.62	84.0 %	23.378	0.001*	23.001	0.001**
Critical thinking	6	3.28 ± 0.55	54.6 %	5.33 ± 0.80	88.8 %	5.11± 0.68	85.1 %	28.126	0.001*	24.884	0.001**

(\*\* A highly statistically significant difference  $P \leq 0.001$ )      t1 between pre and post program      t2 between pre and follow up program  
X = Mean      SD= standard deviation

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**Table (3): Mean scores of first line nurse managers regarding self-management skills domains through the program phases (n=77)**

Self-management skill domains	Maximum Score	Pre- Program phase		Immediately Post-Program Phase		Follow- up Program		Paired t1	P-value	paired t2	P -value
		X±SD	Mean %	X±SD	Mean %	X±SD	Mean %				
Ability to achieve goals	15	6.33±1.05	42.4	12.85±1.34	85.7	12.25±1.62	81.7	33.304	0.000**	26.285	0.000**
Ability to plan and manage time	12	3.93±0.89	43.7	7.74±1.02	86.0	7.32±1.18	81.3	23.729	0.000**	22.979	0.000**
Challenge and perseverance in the face of difficult situations	22	9.72±2.17	46.3	18.96±1.69	90.3	17.78±1.86	84.7	25.570	0.000**	23.631	0.000**
Flexibility	10	3.57±0.70	39.7	7.14±1.33	79.3	5.90±1.27	65.5	21.290	0.000**	14.656	0.000**
Taking responsibility	16	6.37±1.52	42.5	12.09±1.46	80.6	11.72±1.61	78.1	23.209	0.000**	19.891	0.000**
Motivation for Achievement	25	9.84±2.28	41.0	20.44±2.00	85.2	19.26±2.12	82.4	27.815	0.000**	25.818	0.000**

(\*\* A highly statistically significant difference  $P \leq 0.001$ )  
 t1 between pre and post program  
 t2 between pre and follow up program  
 X = Mean      SD= standard deviation

Table (4): Mean scores of first line nurse managers regarding critical thinking dispositions domains thorough the program phases (n=77)

Critical thinking dispositions domains	Maximum Score	Pre- Program phase		Immediately Post-Program Phase		Follow- up Program		Paired t1	P- value	paired t2	P - value
		X±SD	Mean %	X±SD	Mean %	X±SD	Mean %				
Truth seeking	36	27.27 ± 2.00	75.7 %	33.14 ± 1.64	92.0 %	26.58±1.22	73.8%	27.815	0.000**	25.818	0.000**
Open - mindedness	36	27.33 ± 1.89	75.9 %	33.00± 1.76	91.6 %	30.64 ± 1.39	85.1%	23.729	0.000**	22.979	0.000**
Analyticity	33	24.85 ± 1.80	75.3 %	30.22 ± 1.65	91.5 %	27.94± 1.23	83.7%	23.209	0.000**	19.891	0.000**
Systematically	30	22.61 ± 1.73	75.3 %	27.48 ± 1.57	91.6 %	25.41± 1.11	84.7%	29.087	0.000**	22.922	0.000**
Self confidence	27	20.22 ± 1.58	74.8 %	24.77 ± 1.53	91.7 %	22.85± 0.98	84.6%	21.290	0.000**	14.656	0.000**
Inquisitiveness	30	22.61 ± 1.73	75.3 %	27.49 ± 1.80	91.6 %	25.40± 1.11	84.6%	25.570	0.000**	23.631	0.000**
Cognitive maturity	30	22.61 ± 1.73	75.3 %	27.48 ± 1.57	91.6 %	25.42 ± 1.10	84.7%	33.304	0.000**	26.285	0.000**

(\*\* A highly statistically significant difference  $P \leq 0.001$ )

t1 between pre and post program

t2 between pre and follow up program

X = Mean SD= standard deviation

Table (5): Correlation among first line managers' total knowledge and skills regarding self-management and critical thinking dispositions thorough the program phases (n=77)

The program phases	Variables	Self-management knowledge		Self-management skills		Critical thinking dispositions	
		r	P value	r	P value	r	P value
Pre program phase	Self-management knowledge	-	-	0.090	0.438	0.083	0.473
	Self-management skills	0.090	0.438	-	-	0.131	0.257
	Critical thinking dispositions	0.083	0.473	0.131	0.257	-	-
Immediately past program phase	Self-management knowledge	-	-	0.476	0.001**	0.553	0.001**
	Self-management skills	0.476	0.001**	-	-	0.904	0.001**
	critical thinking dispositions	0.553	0.001**	0.904	0.001**	-	-
Follow up program phase	Self-management knowledge	-	-	0.362	0.001**	0.377	0.001**
	Self-management skills	0.362	0.001**	-	-	0.762	0.001**
	Critical thinking dispositions	0.377	0.001**	0.762	0.001**	-	-

\*Significant at  $p \leq 0.05$

\*\* Highly Significant at  $p \leq 0.001$

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### Discussion

From an organization's point of view, using traditional measures of managerial control may not be effective in managing such self-directed workforces. First line nurse managers themselves might be highly motivated to inculcate those qualities in their followers. Demonstrating the benefits of self-management qualities to others as a role model might involve creating, nurturing relationships, like a mentoring relationship. Thus, it would be very interesting to analyze if self-managers committed themselves to the idea of creating leaders out of followers by mentoring others in the organization (De Jong et al., 2019).

The relationship between self-management qualities and willingness to mentor can be explained by the improved sense of security and control among self-managers. Especially, self-leadership as a self-regulatory mechanism can improve an individual's perception of self-control and self-confidence, and this can translate into higher levels of self-efficacy. In this sense, self-efficacy is one's judgment of "how well one can execute courses of action required to deal with prospective situations" and it is also a strong determinant of a person's behavior, thought patterns, and emotional response in reaction to challenging situations (Cabrera, 2018).

This study was aimed at assessing the effectiveness of educational programs about self-management for first line nurse managers at Benha University Hospital.

The Discussion of the current study findings covered six main areas: **The first part** concerns with elaborates first line nurse manager' knowledge regarding self-management thorough the program phases **the**

**second part**; focuses on first line nurse managers' self-management skills thorough the program phases. **The third part** focuses on first line nurse manager critical thinking dispositions thorough the program phases; **The fourth part** relation between self-management skills and critical thinking dispositions with the personal characteristics of first line managers throughout educational program phases, and **the fifth part** correlation between self-management skills and critical thinking dispositions throughout educational program phases.

### **I: First line managers' knowledge regarding self-management:**

The finding of the current study revealed that more than three-quarters of first line nurse managers had poor knowledge related to self-management dimensions of pre-program phase, which it improved to be majority of them had good knowledge of immediate post program phase with slightly decrease at follow up phase but still more than preprogram.

From the researchers' point of view, this result might be due to the poor of first line nurse manager' knowledge about self-management as the majority of them hadn't attended previous training courses about self-management. So increasing knowledge acquired by first line nurse manager could explain that learning was not a passive experience, and the program created an interactive environment.

The study finding congruent with **Zeigler-Hill et al., (2019)**, who carried out their study about "Relationship between head nurses communication practices and self-management " and illustrated that less than

one third of head nurses hadn't good perception level regarding self-management knowledge. Also **De Jong et al., (2019)**, who founded at their study about "Personality Traits and self-management: Career Role Preferences as a Mediator" that the intervention program has a greater effect on improving head nurses' knowledge regarding self-management after implementing the program.

The study finding disagreed with **Kim, W. & Lee, y. (2018)**. who carried out their study about "Holland's self-management type congruence among Korean nursing supervisor" and showed that more than half of head nurses had satisfactory level regarding self-management knowledge.

## **II: First line nurse managers' self-management skills**

The finding of the current study revealed that, that there was a highly statistically significant improvement of first line nurse manager regarding self-management skills at immediate post and follow up program phases; the majority of first line nurse managers of them had high self-management skills at immediate post program phases with slightly decreased to be at follow up program phases. From researcher opinion these may due to the researcher use suitable education methods that help in improve the first line nurse manager 'self-management skills.

The study finding supported by **Wilmot & Ones., (2021)**, who indicated in their study "Self-management education program for head nurses at general hospital" that two fifths of first-line nurse manager were had good perception level regarding self-management skills in preprogram and increased to three quarter of them became good in the immediately post program. was improvement

in head nurse professional competencies in post program phase than preprogram.

Also, **Ordoni et al., (2021)**, who reported at their study about "Investigating the self-management and Self-Concept in nurses' management" that most of head nurses had low level regarding self-management skills. On the other hand **De Jong et al., (2019)** who indicated that about two thirds of first line manager had an acceptable level of self-management.

The finding of the current incongruent with **Ardalan et al., (2021)**, who carried out their study about "barriers of self-management from the nurses' point of view in educational hospitals affiliated to Kurdistan University of Medical Sciences "and showed that two thirds of studied sample had high perception level related to challenge and perseverance in the face of difficult situations.

## **III: First line managers' critical thinking dispositions**

The finding of the current study revealed that, that there were highly statistically significant improvements in first-line nurse manager ' regarding critical thinking dispositions after implementation of the program. the most of them had low and moderate critical thinking dispositions at pre-program, which it improved to be the majority of them had high critical thinking dispositions at immediate post program with slightly decreased at follow up phase of program.

From the researchers' point of view, first line nurse managers in their shifts at hospitals act effectively without using critical thinking as many decisions are mainly based on habit and have a minimum reflection. Thus, higher critical thinking skills are put into operation,

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when some new ideas or needs are displayed to take a decision beyond routine.

The study finding similar with **Mahmoud and Mohamed (2017)**, who studied critical thinking disposition among nurses working in public hospitals in Port-Said Governorate revealed that most of staff nurses were ambivalent regarding the total critical thinking dispositions. Meanwhile, the minority of them was positively disposed toward critical thinking.

The result is in accordance with **Abou., (2017)**, who carried out their study about “relationship between critical thinking utilization and leadership effectiveness of first-line nurse managers” and demonstrated that there were highly statistically significant improvements in first-line nurse manager ' perception regarding total critical thinking after implementation of the program.

These in contrary with, **Elsayed, et al.,(2019)** study conducted to examine the relationship between the disposition of staff nurses toward critical thinking and quality of their performance at Mansoura University Hospital, showed that the majority of staff nurses at Mansoura University Hospital were positively disposed toward critical thinking.

#### **IV: Relation between study variables with personal characteristics of first line managers throughout educational program phases.**

The present study finding reveals that, there were highly statistically significant relationship between self-management knowledge and all personal characteristics except gender and Marital status in all program phases, age in an immediately post program, and working department in an

immediately post and follow up phases. while there was a statistically significant relationship between self-management knowledge and their age and Educational qualification in follow up phase.

The study finding accordance with **Wilmot & Ones., (2021)**, who conducted their study about “Self-management education program for head nurses at general hospital” and founded that that there were no statistically significant difference between self-management knowledge and gender and marital status. In addition, the study findings congruent with **Ardalan et al., (2021)**, who carried out study about” “Barriers of self-management from the nurses' point of view in educational hospitals affiliated to Kurdistan University of Medical Sciences “ and noted that there was a statistical significant difference between head nurses self-management knowledge and their age and academic qualifications.

The present findings supported by with **Abou., (2017)**, who carried out their study about “Relationship between critical thinking utilization and leadership effectiveness of first-line nurse managers” and noted that were statistically significant relationship between critical thinking and their age and educational level.

The present findings incongruent with **Adiguzel ., (2019)**, who carried out their study about “Relationship among leader critical thinking, learning orientation, lean strategies utilization, team ability, and repair innovation within the service sector” .and noted that there were statistically significant difference between critical thinking and gender and marital status.

### **V: Correlation between study variables throughout educational program phases**

The result of the present study illustrated that, there was a positive highly statistically significant correlation between first line nurse managers 'self- management knowledge' and their self-management skills and critical thinking dispositions at immediate post and follow up program phases. While there was no statistically significant correlation at pre-program phase. From researchers' point of view, this result may be due to the knowledge and skills are basic for practice as improvement in self-management may be due to their information and skills that had been improved through the program.

The study finding accordance with **Cabrera, A. (2018)**, who carried out their study about "Self-management skills and perception in head nurses for Organizational Development" and indicated that there was statistically significant positive correlation between first-line nurse managers' self-management knowledge and practices.

Furthermore the current finding consistent with **De Jong et al.,(2019)**, who carried out their study on "Personality Traits and self-management: Career Role Preferences as a Mediator" and illustrated that there was statistically significant positive correlation between head nurses knowledge self-management knowledge and critical thinking.

On the other hand, with **Fabbro et al., (2020)**, who carried out their study about "Effects of self-management training on head nurses' self-reported personality traits as well as stress and burnout levels, Perceptual and motor skills" and indicated that there was no correlation between self-management knowledge and critical thinking.

### **Conclusion**

Based on the findings of the current study, it can be concluded that there was a highly statistically significant improvement of first line nurse managers ' knowledge, and skills, regarding self-management between pre and immediate post program phases and between pre-program and follow up phases. Also, there was a highly statistically significant improvement of first line nurse manager regarding critical thinking dispositions between pre and immediate post program phases and between pre-program and follow up phases.

There was a positive highly statistically significant correlation between first line nurse managers' knowledge' and their self-management skills and critical thinking dispositions at immediate post and follow up program phases. The findings of this study supported its research hypothesis.

### **Recommendations**

1. Initiating in-service education and training programs in all departments for refreshing and increasing head nurses' knowledge, and skills especially about self-management.
2. Nursing administrators allow first line nurse managers for periodical self-evaluation in different situations to identify strengths and weakness points to improve their performance and self-awareness.
3. Introduce self-management concept into the educational curriculum for nursing students and focus on its importance in different aspects of the nursing management.

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## تأثير برنامج تعليمي للإدارة الذاتية لمديري المستوى الأول على استعدادهم للتفكير الناقد

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مهارات الإدارة الذاتية من أفضل الممارسات والأنشطة الإدارية لمديري المستوى الأول من هيئة التمريض الذين قرروا أن يصبحوا أكثر إنتاجية ليس فقط في الوظيفة ولكن في الحياة واستخدام عملية التفكير الناقد لإيجاد حلول فعالة. لذا هدفت الدراسة إلى تقييم تأثير البرنامج التعليمي للإدارة الذاتية لمديري المستوى الأول من هيئة التمريض على سلوكيات التفكير الناقد لديهم. تم استخدام تصميم شبه تجريبي في هذه الدراسة. وقد أجريت هذه الدراسة في جميع الوحدات الداخلية باقسام الباطنة والجراحة بمستشفى بنها الجامعي. تكونت عينة الدراسة من 77 مدير المستوى الأول لهيئة التمريض ومعاونيهم. حيث كشفت النتائج بأن هناك ارتباط ايجابي ذات دلالة إحصائية عالية بين اجمالى المعلومات والمهارات لمديري المستوى الأول فيما يتعلق بالإدارة الذاتية والاستعداد للتفكير الناقد في مرحلة مابعد تنفيذ البرنامج والمتابعة. بينما لم يكن هناك ارتباط ذو دلالة إحصائية في مرحلة ما قبل البرنامج مما يدعم فرضيات الدراسة. كما أوصت الدراسة بالشروع في برامج التعليم والتدريب لتحديث وزيادة معلومات ومهارات مديري المستوى الأول للتمريض فيما يتعلق بالإدارة الذاتية.