

## Effect of Critical Thinking Educational Program on Nurses Working in Psychiatric and Mental Health Hospital

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### Abstract

**Background** Critical thinking is the art of thinking it refers to thinking clearer, precise, accurate, relevant, consistent, and faire. It is the art of constructive criticism; the art of identifying and removing bias, prejudice, and one sidedness of thought; the art of self –directed, in depth, rational learning, and thinking. **Aim of study:** Was to evaluate the effect of critical thinking educational program on nurses working in psychiatric and mental health hospitals. **Design:** A quasi-experimental design on group pre\post-test. **Setting:** This study was conducted at Psychiatric and Mental Health Hospital in Benha City, Qalubia Governorate. **Subjects:** A purposive sample of 50 nurses would be obtained from nurses working in psychiatric and mental health hospitals at Benha city. **Tools of data collection:** The data was collected using the following tool. A structured interview questionnaire and consist of two parts. **Part 1:** Socio-demographic data. **Part II:** California Critical Thinking Disposition Inventory questionnaire (CCTDI). **Results:** There were highly statistically significant differences found between the studied nurses' total critical thinking and their socio-demographic characteristics between pre and post program implementation. Also there were highly statistically significant positive correlations found between all the critical thinking subscales pre and post program implementation **Conclusion:** Most of psychiatric mental health nurses have positive disposition toward critical thinking post program implementation **Recommendations:** The program developed in this study could be utilized by nursing educators in psychiatric hospitals as a framework in planning function and in evaluating the clinical performance of psychiatric nurses.

**Keywords:** Critical thinking, Educational program, Psychiatric nurses

### Introduction

Critical thinking is the art of thinking it refers to thinking clearer, precise, accurate, relevant, consistent, and faire. It is the art of constructive criticism; the art of identifying and removing bias, prejudice, and one sidedness of thought; the art of self –directed, in depth, rational learning, and thinking (Harrison, 2020)

Critical thinking is a composition of attitudes, knowledge, and skills that include “defining a problem, choosing information for the solution, recognizing stated and unstated assumptions, formulating and selecting relevant and promising hypotheses, drawing conclusions, and judging the validity of the inferences” (Tajvidi et al., 2019)

Critical thinking is a cognitive activity, associated with using the mind. Learning to think in critically analytical and evaluative ways means using mental processes such as attention, categorization, selection and judgment. However, many people who have the potential to develop more effective critical thinking can be prevented from doing so for a variety of reasons apart from a lack of ability (Cottrell, 2017).

Mental health nursing is one of the most interesting and challenging areas of nursing practice. The challenges of mental health nursing include working with people at the extremes of human experience where they can be vulnerable to doubting themselves, the environment and the people around them. Skillful mental Health nursing requires a sound knowledge of human physiology, health and disease, and bio psychological understanding of mental illness and their treatment, including pharmacology. Nurses working in mental health need to be opening minded and reflective and to have developed an understanding of esoteric concepts such as spiritually and hope (O'Brien et al.,2020).

Critical thinking dispositions are the affective components of critical thinking. These affective dispositions are coupled with cognitive skills as essential components of ideal critical thinker. Critical thinking disposition is consistent willingness, motivation, inclination and force to be engaged in critical thinking while reflecting on significant issues as making decisions, and solving problems. Critical thinking dispositions involves the seven dispositions (Analyticity, Open minded, Truth seeking, Systematicity, Self-confidence, Inquisitiveness and Maturity) that provide the students with the needed skills, primarily basic logic, the abilities or proficiencies to be critical thinkers (Ghadi et al., 2019)

Critical thinker is critically listening to others, giving feedback, accepting shortcomings and is able to postpone decision making to the end of the process to get the developmental result. It is obvious, that a critical thinker needs knowledge and awareness of those activities. However, learners need instruction. In other words, critical thinking ability can be enhanced in classes with lecturers' guidance (Ghadi et al., 2019).

Skilled critically thinking nurses respond quickly to changes in patients' conditions, changing priorities of care based on the urgency of the situation. They accurately interpret data, such as subtle changes in vital signs or laboratory values. They are not just looking at the numbers but also assessing the accuracy and relevancy of the findings. Critical thinking helps the nurse to recognize events as part of the bigger picture and center in the problem (Benner et al., 2018).

Finally, critical thinking is applied by psychiatric nurse's decision-making process with creativity to enhance the effect of these processes. It is an essential process for a safe, efficient and skillful nursing intervention. Critical thinking is the mental active process and subtle perception, analysis, synthesis and evaluation of information collected or derived from observation, experience, reflection, reasoning or the communication leading to conviction for action (Scriven & Paul, 2017)

#### **Significance of the study:**

Critical thinking is important in the academic and practice fields because it enables one to analyze, evaluate, explain, and restructure their thinking, thereby decreasing the risk of adopting, acting on, or thinking with, a false belief. However, even with knowledge of the methods of logical inquiry and reasoning, mistakes can happen due to a thinker's inability to apply the methods or

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because of character traits such as egocentrism. Critical thinking includes identification of prejudice, bias, propaganda, self-deception, distortion, misinformation (Lyunch&Waite, 2018). Psychiatric mental health nurse's integrates critical thinking skills for clinical decision making throughout the interpersonal relationship to address patient needs and delivery of nursing care. There for, the focus of this study is to evaluate the effect of critical thinking educational program on nurses working in psychiatric mental health hospital.

### **Aim of Study**

This study aimed to evaluate the effect of critical thinking educational program on nurses working in psychiatric mental health hospital.

### **Research Hypothesis:**

Educational program would enhance critical thinking for nurses working in psychiatric and mental health hospital.

### **Subjects and Methods:**

#### **Research design:**

A quasi-experimental design (pre and post test) would be used to achieve the aim of the study.

#### **Research Setting:**

This study was conducted at Psychiatric and Mental Health Hospital in Benha City, Qalubia Governorate, which is affiliated to General Secretariat.

#### **Sample:**

A purposive sample of 50 nurses was obtained from nurses working in psychiatric and mental health hospitals at Benha city. Data would be collected over a period of 5 month in 2021.

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

**The data was collected using the following tool.**

A structured interview questionnaire which developed by researcher and consist of two parts

**Part 1: Socio-demographic data:** To elicit data about characteristic of nurses such as age, sex, marital status, level of education, years of experience and training courses about critical thinking.

**Part II: California Critical Thinking Disposition Inventory questionnaire (CCTDI)** Developed by (Facione and Facione, 2006). This tool is an international standardized tool, The CCTDI measures the "willing" dimension in the expression "willing and able" to think critically. It consists of 75 items grouped into seven dispositional characteristics [Truth seeking (12 items), analyticity (11 items), systematicity (11 items), self-confidence (9 items), inquisitiveness (10 items), open-mindedness (12items) and cognitive maturity (10 items)]

#### **Scoring system:**

The instrument uses a 3-point likert scale ranging from "agree" to "disagree". These are scored respectively from 1 to 3 so that a agree indicate to (1), uncertain indicate to (2), disagree indicate to (3). The score of the each subscale items were summed-up and the total of each subscale divided by the number of the total items, giving a mean score for each subscale. These scores were converted into a percent score. The skills was considered negative if score was less than 50% and positive if score more than 50% based on cut of point.

Items	Scoring system	
	Negative	Positive
Truth seeking	1-27	28-36
Analyticity	1-24	25-33
Systematicity	1-24	25-33
Self-confidence	1-20	21-27
Inquisitiveness	1-22	23-30
Open-mindedness	1-27	28-36
Cognitive maturity	1-22	23-30
Total critical thinking	1-168	169-225

**Ethical consideration:**

Before conducting the study the participants were assured about confidentiality and anonymity of their obtained information throughout the study. They were informed about their right to refuse to participate in the study and the right to withdraw from the study at any time. Acceptance of participants who agreed to participate in the study was taken from the participants through a written consent filled by psychiatric nurses.

**Pilot Study:**

Before starting collecting data, a pilot study was conducted to assess the clarity and applicability of the study tools, and identifies the time needed to fill in the questions. It was carried out on 10% of the subjects, 5 nurses who were included in the main study sample.

**Field work:**

Data collection of this study was carried out at psychiatric and mental health hospital al Benha City, Qaluobia Governorate. The data collection was done on study group (pretest) in first session (acquaintance session) after identify the purpose of the program, describe schedule of the program (number of sessions, time and duration of each session) and outlines the content and steps of the program. The study was conducted over a period of 5 months which started from May 2021 to the end of September 2021; the Researcher worked with 5 subgroup of nurses' 3days/week, each subgroup composed of 10 nurses.

**Designing phase:-**

This phase aimed at designing for the critical thinking educational program through setting educational objectives, preparing the educational program and designing the methodology and media.

**Development of critical thinking educational program included four phases:  
Phase 1: preparation the critical thinking educational program:**

Based on the results was obtained from the interviewing questionnaire, literatures review and after making of the pilot study, the critical thinking educational program developed by the researcher.

**Phase II: designing for the critical thinking educational program intervention:**

The critical thinking educational program intervention was designed to achieve the objective of the study.

**The general objective of the critical thinking educational program:**

At the end of the critical thinking educational program application the nurses will be able to implementation appropriately critical thinking approach during their work in psychiatric field.

**Specific Objectives of critical thinking educational program:-**

- 1- Identify the concept of thinking and critical word and critical thinking and recognize the importance & steps of critical thinking.
- 2- Know component and Explain the standards of critical thinking
- 3- Privilege the critical thinking characteristics and Explanation of Obstacles of And how to deal with it
- 4- Explain the traits of critical thinker And Identify the strategies of critical thinking.
- 5- Apply the methods for enhancement of critical thinking for psychiatric nursing
- 6- Implement steps to increase self-efficiency for enhance level of critical thinking among psychiatric nurses.
- 7- Recognize methods and techniques of relieving and managing psychological stress to enhance critical thinking as (Relaxation techniques – time management)

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- Summarizing for all sessions, Evaluate the program through post test and nurses suggests about the program.

### **The teaching and training methods:**

All nurses received the same educational program content using teaching methods which include the following:

- Lecture/group discussion
- Demonstration/ re-demonstration
- Practical training

### **The teaching aids (The Media used):**

Suitable teaching aids were specially prepared for the educational program as follows:

- Booklet
- Posters
- Real situations
- Brain storming

### **Methods of evaluation:**

- Feedback through:
- Oral questions
- Re-demonstration
- Positive participation
- Direct observation
- Post test

### **Phase III: Implementation the critical thinking educational program:**

This step focused on the implementation of critical thinking educational Program for the study group (50 nurses). This group was divided into 5 subgroups; each subgroup composed of 10 nurses, the program consisted of 12 sessions 30- 45minute for sessions theoretical and 45-60 hours sessions practical. Each subgroup received 12 sessions of critical thinking educational program, Sessions was implemented 3 day per week and usually at Sunday, Tuesday and Thursday every week.

To ensure that nurses understand the program contents, each session was started with a summary about what was given through the previous session, and the

objectives of the new session were mentioned taking into consideration using simple language to suit all nurses.

During the session, the researcher used demonstration and modeling by the researcher and one nurse to practice critical thinking skills in -educational nursing program. After that, the researcher used re-demonstration of the skill by each nurse to master the skill. After finishing, the researcher thanked the nurses for participation and encouraged the nurses for asking about any unclear points.

### **Phase IV: Evaluation Phase**

This phase aimed to estimate the effect of critical thinking educational program on nurses working with psychiatric patients through improvement critical thinking and self-efficiency among nurses.

After the conduction of the critical thinking educational program sessions for the study group a post-test was done for study group using the same pre test tool format, was applied by the researcher.

### **Statistical analysis:**

The collected data was organized, computerized, tabulated and analyzed by using the Statistical Package for Social Science (SPSS) version 20.

Data analysis was accomplished by the use of number, percentage distribution, mean, and standard deviation. Paired t-test was used to compare means within group, and t-test was used to compare two independent means. A significant level value was considered when  $p\text{-value} \leq 0.05$ , highly statistical significant  $p\text{-value} \leq 0.01$ .

### **Results:**

**Table (1):** Shows that (34.0%) of the studied nurses aged between 30 to less than 40 years old with mean and standard deviation of  $33.24 \pm 9.46$ , (70.0%) of them were males, and (58.0%) were married. As regards their Level

of education, (32.0%) of them had nursing diploma, (64.0%) had more than 10 years of experience with mean and standard deviation of  $12.00 \pm 5.67$ , and (90.0%) of them had no previous training courses about critical thinking.

**Table (2):** Clarifies that, there was marked highly statistically significant difference in the mean score of all items of critical thinking, as well as the total mean score of critical thinking disposition between pre and post program implementation at ( $P < 0.001$ ).

**Table (3):** Illustrates that there are highly statistically significant differences found between the studied nurses' total critical thinking and their socio-demographic characteristics between pre and post program implementation at ( $P < 0.001$ ).

**Figure (1):** Shows that, more than one third (34.0%) of the psychiatric and mental health nurses had positive total critical thinking skills preprogram implementation which increased to more than three quarters (88.0%) post program implementation.

**Table (1): Number and percentage distribution of the psychiatric and mental health nurses according to their socio-demographic characteristics, (N = 50).**

Items	N	%
<b>✚ Age</b>		
>20	6	12.0
21-< 24	12	24.0
30 -> 40	17	<b>34.0</b>
≤ 40	15	30.0
$\bar{X} \pm SD$ 33.24±9.46		
<b>✚ Sex</b>		
Male	35	<b>70.0</b>
Female	15	30.0
<b>✚ Marital status</b>		
Single	6	12.0
Married	29	<b>58.0</b>
Divorced	5	10
Widowed	10	20.0
<b>✚ Level of education:</b>		
Nursing diploma	16	<b>32.0</b>
Nursing technical institute	10	20.0
Health technical institute	11	22.0
Bachelor of nursing	13	26.0
<b>✚ Years of experience:</b>		
> 5	6	12.0
> 10	12	24.0
≤ 10	32	<b>64.0</b>
$\bar{X} \pm SD$ 12.00±5.67		
<b>✚ Previous attending training courses about critical thinking:</b>		
Yes	5	10.0
No	45	<b>90.0</b>

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**Table (2): Total mean score of critical thinking disposition subscale among the nurses working in the psychiatric and mental health nurses pre and post program implementation, (N = 50).**

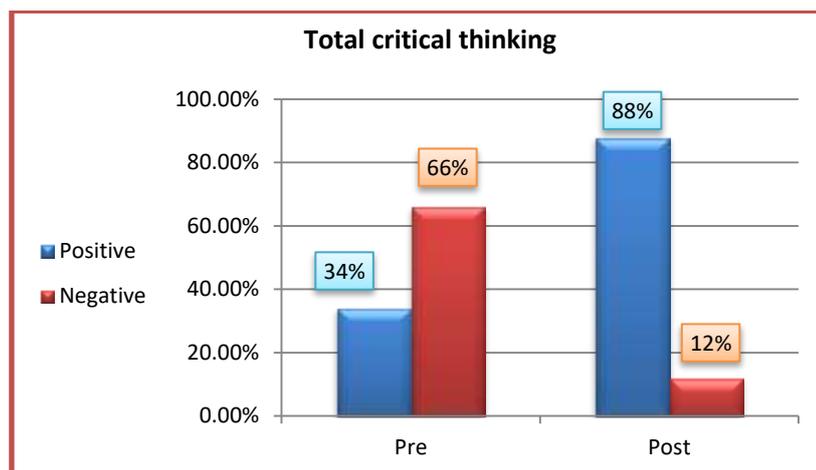
Dispositional characteristics	Pre program Implementation	Post program Implementation	T. test	p-value
1- Truth seeking.	20.60±7.63	26.10±9.16	21.99	<0.001**
2- Analyticity.	21.48±7.70	22.78±7.23	42.93	<0.001**
3- Systematicity.	23.92±6.87	24.14±8.15	27.01	<0.001**
4- Self-confidence.	18.36±7.06	20.26±5.85	55.81	<0.001**
5- Inquisitiveness.	20.74±7.87	23.14±5.10	33.76	<0.001**
6- Open-mindedness.	25.10±8.47	26.14±6.39	33.43	<0.001**
7- Maturity.	10.08±7.61	15.80±4.56	17.78	<0.001**
<b>Total critical thinking</b>	<b>152.64±42.42</b>	<b>155.00±55.73</b>	<b>71.05</b>	<b>&lt;0.001**</b>

**Table (3): The relation between psychiatric and mental health nurses' total critical thinking and their socio-demographic characteristics pre and post program implementation, (N=50).**

	Preprogram implementation				Post program implementation				X <sup>2</sup>	P-value
	Positive (n=22)		Negative (n=28)		Positive (n=36)		Negative (n=14)			
	No.	%	No.	%	No.	%	No.	%		
<b>Age (Years):</b>										
> 20	3	13.6	3	10.7	5	13.8	1	7.1	25.16	<0.001**
20 - > 30	5	22.7	7	25.0	9	25.0	3	21.4		
30 -> 40	8	36.3	9	32.1	13	36.1	4	28.5		
40+	6	27.2	9	32.1	10	27.7	5	35.7		
<b>Sex:</b>										
Male	15	<b>68.1</b>	20	71.4	26	<b>72.2</b>	9	64.2	18.96	<0.001**
Female	7	31.8	8	28.5	10	27.7	5	35.7		
<b>Marital status:</b>										
Single	2	9.0	4	14.2	4	8.0	2	14.2	29.45	<0.001**
Married	13	59.0	16	57.1	20	40.0	9	64.2		
Divorced	3	13.6	2	7.1	4	8.0	1	7.1		
Widowed	4	18.1	6	21.4	8	16.0	2	14.2		
<b>Qualification:</b>										
Nursing diploma	7	<b>31.8</b>	9	32.01	13	<b>36.1</b>	3	21.4	34.65	<0.001**
Nursing technical institute	5	22.7	5	17.8	6	16.6	4	28.5		
Health technical institute	4	18.1	7	25.0	8	22.2	3	21.4		
Bachelor of nursing	6	27.2	7	25.0	9	25.0	4	28.5		
<b>Years of experience:</b>										
> 5	2	9.0	4	14.2	5	13.8	1	7.1	15.66	<0.001**
> 10	4	18.1	8	28.5	10	27.7	2	14.2		
10 +	16	<b>72.7</b>	16	57.1	21	<b>58.3</b>	11	78.5		

\*Significant at p < 0.05.

\*\*Highly significant at p < 0.001



**Figure (1): Total critical thinking skills among nurses working in the psychiatric and mental health hospitals pre and post program implementation, (N= 50).**

### **Discussion:**

Critical thinking is generally denoted as a meaningful, self regulatory assessment, which comes out with analysis, evaluation, interpretation, and inference so as to reach a judgment based on concepts, evidence, criteria, methodologies, and contextual considerations. Critical thinking is an intellectual process that incorporates discerning examination of data to encourage clinical thinking, judgment and basic leadership. It is generally acknowledged that critical thinking is a complicated process whose segments incorporate intellectual abilities and attitudinal dispositions, **Rear (2019)**

Nurses must think critically to provide effective care while coping with the expansion in role associated with the complexities of current health care systems. Nurses use critical thinking skills every day to assess, plan for and provide quality of patient care. Critical thinking is a featured procedure of nurses' work as the evolving role of the professional nurse from the traditional function of being task oriented - such as reporting and recording - to the function oriented one e a nurse who solves problems, makes decisions, acts as educator and change

agent - requires nurses to be critical thinkers. **Hundial (2020).**

Therefore the present study aimed to the effect of critical thinking educational program on nurses working in psychiatric and mental health hospitals.

The present study sample included 50 nurses who accepted to participate in the program; they were worked at different psychiatric departments at Benha Mental Health Hospital. Majority of them were at age group of 30- 40 years old and More than two thirds of them were males. Also, in relation to sex the majority of nurses were worked at male psychiatric departments. And the majority of the current study samples were married.

This result disagreement with **Mahmoud& Mohamed, (2017)** who found that, more than one quarter of nurses were in age group 26-< 31 years old with mean standard (29.6%) in relation to sex, the majority of them were females, and also they stated that more than three quarters of nurses were single and also **Ludin (2018)** who found that proportion of female was more than three quarter. In relation to marital status more than half were unmarried .

As regards to their level of education, slightly less than one third of them had

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nursing diploma, slightly more than two thirds had more than 10 years of experience and the majority of them had no previous training courses about critical thinking. This result similar to the study performed by **Seman&Yeap, (2021)** they reported that this study involves the majority of expert nurses had more 10 years of experience and most of them had no previous training courses about critical thinking, and they also reported that Nurses with diploma qualification as the highest group of nurses.

Regarding to truth seeking, Concerning truth seeking which is the nurses desire to seek the best knowledge in a given context and the courage to ask questions, in the current study the mean scores of truth seeking were the highest among nurses and had positive critical thinking after program implementation. This is may be due to the nurses have the interest and the motive to know more updating information based on the nature of their study. Moreover, the nurses in this program may be more accepting of other view and interaction between each others to be open new information. In contrast, deficits in this disposition leads person to incline toward biased thinking and may be seen in person who is dishonest in the use of data.

This result is consistent with study finding **Zhang et al., (2017)** who reported that the highest score achieved by nurses was on the subscale of truth seeking post program implementation. In addition, the results agree with **Lee et al. (2017)** in their study who stated that the mean score of truth seeking were high among nurses and had had positive critical thinking after program implementation. While This result not agree with **Lee & Oh (2020)** they reported that nurses had lowest mean score in truth seeking and had negative critical thinking subscale post program implementation.

As regard analyticity is a core disposition for the inquiring mind, it means being able to foresee potential problems and to make use of objective evidence in the face of complicated problems. In the current study the mean score of analyticity are highly among psychiatric nursing and had positive critical thinking subscale post program implementation. This may be due to the psychiatric nursing get used to break down information into its parts to discover their nature, function and the relationships among these parts. To develop that the nursing require synthesizing and analyzing material are better suited to develop analyticity. Also may due to use of different learning strategies during program implementation such as questioning, role playing, and problem solving, all these allow nurses to critically analyze, explain, and evaluate.

These findings were similar to results reported by **Raymond et al., (2017)**, who stated that, the participants mean score was highly statistical significant in analyticity as well as, **Polat (2019)**,studied “The Relationship Between Critical Thinking Dispositions and Preferred Educational Strategies Among Nurses” and stated that the nurses were fortunately disposed toward analyticity. Also this finding inconsistent with **Beşer & Kissal (2019)**, studied Critical Thinking Dispositions and Problem Solving Skills among nursing state that the nurses received moderate scores of analyticity after receiving educational program of critical thinking.

Concerning Systematicity is a tendency to conduct organized, planned and careful investigations; Systematicity plays an important role in professional decision making. In the present study the psychiatric nursing had highly mean score and highly statistical significant toward systematicity

disposition. This finding may be due to the nursing at this stage had the ability to perform organized well planned and careful investigations.

This finding agree with **Mashail (2016)** state that most nurses had highly mean score and positive disposition towards systematicity, while this study disagree with This result **Tiwari et al. (2018)**, studied “Critical thinking disposition of Hong Kong Chinese and Australian Nurses”, and stated that Chinese and Australian nurses failed to show a positive disposition towards systematicity by showing low mean scores . Concerning self-confidence, this refers as the degree of trust that individuals have in their ability to reason. Results of the current study revealed that the mean scores of this dispositional characteristic were low among psychiatric and mental health nursing. This is may be due to nurses feel that they aren't value members in their community due to the negative thoughts attached to the nursing profession (nursing stigma) which depreciates their roles and functions, as well as, ineffective communication with peers, teachers and hospital staff in which they not supporting nurses when committing errors with patient also nurses feel that they aren't value members of the profession .

While less than three quarters of the psychiatric and mental health nurses had positive critical thinking skills related to self-confidence subscale preprogram implementation which increased to more than three quarter post program implementation this return to increase confidence of nurses in themselves after program implementation, due to their participation in many activities and many tasks during educational critical thinking program, and also trying to provide nurses with all points in all topics .

This finding was similar with **Ragab (2016)** state that the mean scores of this dispositional characteristic were low among

nurses. While this result is Different findings were denoted by **Mohamed & Mohammed (2016)** these studied Relationship between critical thinking disposition of nursing and their performance for patients on hemo-dialysis. These state that reported that self-confidence was achieved by nurses with lowest score. And more than half of students were positive disposition toward self-confidence critical thinking subscale.

Concerning inquisitiveness, this reflects curiosity and eagerness to obtain knowledge even when it may not have immediate use and learn new things without self-interest. The result of the current study denoted that psychiatric and mental nursing had a positive inclination towards the inquisitiveness post program implementation. Also, they had high mean score toward this disposition This finding is encouraging and desirable, as in a practice discipline, such as nursing; it is important that nurses maintain a curious nature and continue the pursuit of knowledge base. This could be due to that all nurses apply nursing process for provision of care in the clinical setting and nursing process always let the nurses to be curious, interested in finding out new solutions, and pay attention to the others' opinions .

Moreover, the nurses curiosity to broaden their knowledge base become a must when evidence based practice based on standards is applied. Another reason that motivates the nursing to look for knowledge and to strengthen their scientific base is their intense need to improve their image in the health care field as the knowledge base provides the nursing with sense of empowerment.

These results are consistent with **Wangensteen et al. (2018)** studied Critical thinking dispositions among newly graduated nurses who found that the majority of the nurses were positively disposed on the Inquisitiveness subscale. As well as

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**Beşer&Kissal (2019)** these stated that the nurses had high mean score toward inquisitiveness. This finding contradicted with Mohamed & Mohammed (2016) these state that the nurses were negative disposition toward inquisitiveness

Concerning open-mindedness is a predictor of individuals' tolerance to different approaches and individuals' ability to recognize their own mistakes. The results of the current study showed that the mean scores of this dispositional characteristic were the highest among psychiatric and mental health nursing, and marked highly statistically significant. This result may be contributed to that the nurses mean scores of truth seeking, systematicity and open-mindedness were high among psychiatric and mental health nursing of the current study, which courage the nurses to express their opinions freely and reflect on their own views that indicate that nurses became more tolerant of different points of view and receptive to the recognition of their own mistakes.

These results are agree with **Abdel-Rihem (2016)** stated in his study about "The effect of nursing internship training program on the critical thinking dispositions of nurse interns" that stated open-mindedness mean scores were the highest among nurses and who reported that the nursing show a positive disposition toward open-mindedness.

In relation to cognitive maturity which targets how person is disposed to make thoughtful judgments. The results of the current study revealed that the nurses got the least mean score towards the cognitive maturity, but had positive inclination towards cognitive maturity post program implementation. This may be due to lack of training programs that provide nurses with information and teaching methods that not allowed discussion and feedback and also

may be due to unable to decide any decision in any moment due to staff nurses faced with constantly changing situation and unpredictable patient condition changes needed the immediate application of knowledge requires critical decisions where mistakes can be life threaten.

This study is agreement with **Yildirim et al. (2018)** stated that in the study about "Investigated critical thinking disposition among nurses working in public hospitals in turkey" found that cognitive maturity subscale the nurses were determined least level mean score. While this finding contrary with **Eser et al. (2017)** who stated that in the study about "Examination of trends and factors critical thinking in intensive care nurse" these found that high mean score for cognitive maturity subscale among nurses.

Results of the current study revealed that, more than one third of the psychiatric and mental health nurses had positive total critical thinking disposition preprogram implementation which increased to more than three quarters post program implementation, this due to the nurses was interested and willingness to acquire new knowledge, the educational program of critical thinking help them to be critically thinker by engaged in activities such as analysis, inference, evaluation, explanation, and self correction to particular problems learning situation, decision and judgment.

The results of the current study contrary to the result of the study performed by **Wangensteen et al. (2018)** studied Critical thinking dispositions among newly graduated nurses who reported a positive disposition toward critical thinking and development of critical thinking dispositions is a prerequisite to enable recently graduated nurses to work as professional nurses and an ideal critical thinker. Also **Smith& Neighbors (2020)**

these found higher score on the total Critical thinking dispositions among US nurses. On the other hand the findings of the current study didn't similar to the study performed by **Mohamed & Mohammed (2016)** who studied critical thinking disposition among nurses working in public hospitals at port-said governorate these stated that more than three quarters of nurses had negative disposition toward critical thinking .

With regard to the relation between nurses' total critical Thinking disposition and their demographic characteristics, highly statistically significant difference relations were found between nurses 'critical thinking disposition and their demographic characteristics especially for nurses had more than 10 years of experience and nurses with Nursing diploma between pre and post program implementation. This may be due to older and high experienced nurses had ability to solving problems and know information and knowledge that needed to solution in department, males staff nurses are more concentrated in considering alternatives and opinions, dealing with problem in organized, orderly way than females and nurses with Nursing diploma had high experienced for solving problem and had open –mindedness to pay attention to the others' opinions.

This study is agreement with **Elzakazeky, (2017)**, stated that there was statistically significant association between marital status of nurses and their critical thinking dispositions. Also **Abdelhamid, (2017)**, found that critical thinking disposition have highly statistical association with nurses work experience and educational level. On the other hand the finding is contradiction with **El-Sisy (2016)** reported in the study about "Relationship between staff nurses burnout and patient level of satisfaction" stated that there were no statistical significant association between gender, marital status and education

of staff nurses and their critical thinking dispositions. Also **Niranjana and Hebsiba, (2020)**, reported in the study about "Critical thinking skills among nurses of a selected hospital a cross-sectional survey" stated that no statistical association with critical thinking dispositions and their demographic characteristics.

#### **Conclusion:**

The most of psychiatric mental health nurses have positive disposition toward critical thinking post program implementation

#### **Recommendations:**

- Organization should Provide adequate places for training and conferences for staff nurses and equipped with modern technology to encourage nurses to attendance and training.
- Organization should provide all facilities for development of similar programs in other management components to improve critical thinking skills for nurses.
- Staff nurses with experienced nurses together do activities like role play model that use open-ended, short answer and essay question such methods and techniques has been effective in promoting critical thinking skills and to become independent critical thinker.
- Provide training, courses and educational opportunity for staff nurses for training to critical thinking dispositions
- Short courses workshops are recommended to deliver sequentially in short spaced schedules for nurses about critical thinking while solving problems and take decisions.
- It is advisable that the program developed in this study could be utilized by nursing educators in psychiatric hospitals as a framework in planning function and in evaluating the clinical performance of psychiatric nurses

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## تأثير البرنامج التعليمي عن التفكير الناقد للممرضين الذين يعملون في مستشفى الصحة النفسية والعقلية

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التفكير الناقد هو قدره علي تقدير الحقيقه ومن ثم الوصول إلي القرارات في ظل تقييم المعلومات وفحص الآراء المتاحة وعدم تجاهل وجهات النظر المختلفه، ويتضمن التفكير الناقد مجموعه من مهارات التفكير الهامه التي يمكن تعلمها وإجادتها. لذا تهدف الدراسه إلى تقييم تأثير برنامج التفكير النقدي التعليمي على الممرضين الذين يعملون في مستشفى الأمراض النفسية والعقلية. تم استخدام تصميم شبه تجريبي لإجراء هذه الدراسة باستخدام نهج الإختبار القبلي والبعدي لتحقيق هدف الدراسة. أجريت هذه الدراسه بمستشفى الطب النفسي والصحة النفسية بمدينة بنها بمحافظة القليوبية ، مصر. تم تطبيق هذه الدراسة علي (٥٠) ممرضه. حيث كشفت النتائج أن تنفيذ البرنامج التعليمي أثبت فعاليته بشكل كبير في تحسين مستوي التفكير الناقد بين الممرضين الذين يعملون في مستشفى الصحه النفسيه والعقلية المقام عليها الدراسه، مما يدعم فرضيات الدراسة. كما أوصت الدراسة توفير التدريب والدورات والفرص التعليمية للموظفين والممرضات لتدريبهم على التصرفات من خلال التفكير الناقد.