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Critical Thinking and Decision Making among Head Nurses at Mansoura University

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Abstract:

Critical thinking was essential in nursing because they are the basis for learning to prioritize and make decisions. Aim of study to examine relationship between dispositions of critical thinking and decision making among head nurse at Emergency Hospital Mansoura University and Main University hospital in all inpatient units 35 and 42 respectively. The design was comparative study the concluded there is no significant relationship between critical thinking and decision making in main university hospital and emergency hospital

Keywords: Critical Thinking, Decision making and Head nurse

1. Introduction

Nurses are exposed to ever-changing complicated conditions in health care services, they provide. To be able to cope with these conditions effectively, they should be competent decision makers. Besides, as decision making conditions get more complicated, using critical thinking is a need (Salehi et al 2006). Critical thinking is an important component of nursing education and practice (Adams et al., 1996; Paul, 1993). Every day, nurses encounter crucial situations in which they must make important decisions. Hence, they need to practice critical thinking, a higher-order thinking skill, to transcend simple problem solving and involve reasoned judgment and evaluation (Alfaro-LeFevre, 1999; Beyer, 1995; Paul, 1992).

Critical thinking ability according to Simpson and Courtney (2003) consist of two main aspects: cognitive skills such as interpretation, analysis, inference, explanation, evaluation and self-regulation as well as affective dispositions such as open-mindedness, truth seeking and self-confidence. These same authors go on to describe self-confidence as both trusting and using one's own reasoning to support decision making. It would be reasonable to assume therefore that those nurses with good critical thinking ability would be more confident in decision-making and this line of reasoning is supported by Seldomridge (1997) who states that making effective judgments requires confidence in one's ability to use cognitive skills. This paper reports the results of an investigation relationship between critical thinking and decision making in head nurses by assessing their critical thinking ability as well as their method used in decision making related to nursing activities within their scope of practice and experience.

Critical thinking is beneficial to the decision making because it provides you with all of the background information and options available before making important choices. It also allows you to take many things into consideration in relation to your decision. Critical thinking is an educated and aware way to make a choice and understand options. Critical thinking allows people to make decisions that are the best for them and the world and people around them (Ganly, 2010).

Decision making is the result of the process of critical thinking. Anyhow, the findings on the relationship between critical thinking and clinical decision making are not in accordance with each other. Some studies demonstrated an evident and significant correlation between the two subjects; while others could not define the two concepts in nurses and also, find a correlation between them. The current study was carried out to measure the critical thinking and clinical decision making ability scores in nurses of critical and general care units of some (Medical University of Isfahan (MUI) hospitals in 2004)

The literature contains many definitions for critical thinking, as well as numerous synonyms, such as critical decision making, critical analysis, critical awareness, critical reflection, and clinical reasoning (Turner, 2005). Brunt (2005) defined critical thinking as the process of purposeful thinking and reflective reasoning where practitioners examine ideas, assumptions, principles, conclusions, beliefs, and actions in the context of nursing practice. In addition, this process is associated with a spirit of inquiry, discrimination, logical reasoning, and application of standards. Employing critical thinking is the responsibility of many professionals. Every day many decisions are made, problems solved and strategies developed using critical thinking.

Both critical thinking skills (interpretation, analysis, evaluation, inference, explanation, and self-regulation) and dispositions of critical thinking (truth-seeking, open-mindedness, analyticity, systematicity, critical thinking self-confidence, inquisitiveness, and critical thinking maturity) have been described as important competencies for nurse leaders (Facione & Facione, 1996; Lemire). Nurse Managers' critical thinking skills and inclination to use those skills influence their decision-making and problem-solving abilities.

Ways in which nurse managers

engage in decision making and problem solving influence the establishment of work flow and structure for patients, are delivery on a unit (Zore et al).

According to Facione (2006), critical thinking skills include the ability to analyze, synthesize, infer, and evaluate situations. Decision-making is an essential feature of the nursing role. Bandman and Bandman (1995) describe decision making as providing a basis for intervention utilizing critical thinking as a framework in the search for alternatives through inferential (higher order) reasoning. These authors suggest that nurses utilize this framework as a foundation for decision-making as a critical reflective process that supports or refutes the status quo as opposed to problem solving techniques which pre-suppose absolute solutions. Nurses' confidence in this process however, may depend largely on the frequency of their exposure to repeated circumstances with similar patient data, reflection on their inferences about these situations and thus the development of a deeper understanding, which can contribute to confident practice. The development of these abilities varies, however, and Seldomridge (1997) notes that some students are less confident in decision-making and less willing to act whereas others overestimate their abilities and act without caution.

Girot (2000) reported that there was no relationship between the development of critical thinking and decision-making in clinical practice. Head nurses, in fact are the first line managers in providing care to the patients. Therefore, they must be able to do the proper decision-making and share their subordinates in this process for patient care (Ghalrize et al 2012). There are many benefits of critical thinking. Critical thinking will allow one to make a positive decision that will achieve the goals they desire. Critical thinking will also allow a person to reach their goals without damaging any other area of their lives or others. The main aim of developing critical thinking in nursing is to improve the independent decision making ability of nurses (Pazargadi M, et al, 2002). Health care organizations face a growing challenge from a shortage of health care workers including nurse managers. A deficit in the number of RNs needed is a disposition that encourages the use of critical thinking must be nurtured in nurse managers. Encouraging the development of critical thinking dispositions can occur in formal or informal settings (Marrison & Zori, 2009), so

The purpose of this study was to examine the relationship between dispositions of critical thinking and decision making among head nurse.

2. Aim of the Study

The study aimed to examine relationship between dispositions of critical thinking and decision making among head nurse.

3. Material and Method

The design of the study was comparative study. The study was carried out at Emergency Hospital Mansoura University and Main University hospital in all inpatient units 35 and 42 respectively. The study subjects included all head nurses in both hospital have B.S in nursing and who were responsible for units at time of data collection.

4. Two Tools of Data Collection

4.1. The First Tool

The California Critical thinking Disposition Inventory (CCTDI). It consists of two parts: the first includes personal characteristics of head nurses such as name, age, work place, educational levels, year of experience and ,,,,,,etc. the second part is The California Critical thinking Disposition Inventory (CCTDI) it was developed by Facione and Facione (2000) aim to assess disposition of critical thinking at study setting. It consists of 75 items divided into seven disposition characteristics namely: Trust seeking (12 items) open mindedness (12 items) analytical (11 items), systematically (11 items), self confidence (9 items), Inquisitiveness (10 items) and maturity (10 items). And using scoring system

4.2. The Second Tool

The Decision making Index: - Is structure questionnaire that consists of the decision making areas and activities that the nurse managers are expected to perform in the hospital. The five areas of decision making are as follows:-

Planning, organizing, assembling resources, Directing and controlling. Each area was analyzed in terms of activities and these activities were stated in behavioral terms, to determine the extent to which nurse manager able to make decisions. Questionnaire consisted of 14 behavioral statements categorized under five areas of decision making. Head nurses to carry out decision making the process measured in terms of whether carry out decision with all personnel with subordinates, with supervisor, alone or to follow the orders from administrative office (Elsayed, 1984). The tool was validated by expertise in the field.

5. Results

Personal characteristics	The studied head nurses at Mansoura University Hospitals (n=76)				X ² P
	Main University Hospital (n=42)		Emergency Hospital (n=34)		
	n	%	n	%	
•Age (years):					
24-<30	15	35.7	7	20.6	6.227
30-<40	23	54.8	21	61.8	0.101
40-<50	2	4.8	6	17.6	
≥ 50	2	4.8	0	0	
Range	25-52		24-41		
Mean±SD	31.95±6.28		33.79±4.53		
t-test	1.433				
P	0.156				
•Years of experience in nursing:					
< 5	7	16.7	2	5.9	16.178
5-<10	23	54.8	11	32.4	0.001*
10-<20	8	19.0	21	61.8	
≥ 20	4	9.5	0	0	
Range	2-22		3-19		
Mean±SD	9.04±5.19		10.53±4.30		
t-test	1.334				
P	0.186				
•Marital status:					
-Married	40	95.2	32	94.1	0.047
-Single	2	4.8	2	5.9	0.828

Table 1: Demographic data of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76).

*Significant (P<0.05)

This table shows mean age score of head nurses in emergency hospital higher than that of main university (33.79±4.53) and (31.95±6.28) respectively. Near to two thirds (61.8%) of them had experience in nursing less than twenty years in emergency hospital compared to 19% among head nurses in main university hospital with significant difference. Most of head nurses in main university hospital and in emergency hospital were married (95.2% and 94.1%) respectively.

Personal characteristics	Mean scores of critical thinking among the studied head nurses at Mansoura University Hospitals (n=76)		t-test	P
	Main University Hospital (n=42)	Emergency Hospital (n=34)		
	Mean±SD	Mean±SD		
•Age (years):				
24-<30	328.47±28.80	311.43±34.89	1.210	0.240
30-<40	338.65±32.88	304.71±35.45	3.294	0.002*
40-<50	326.50±51.62	297.67±17.53	1.334	0.230
≥ 50	322.00±32.53	-	-	-
•Years of experience in nursing:				
< 5	324.28±32.23	313.00±60.81	0.373	0.720
5-<10	334.87±32.33	310.18±21.06	2.138	0.041*
10-<20	343.00±28.69	301.28±35.88	3.002	0.006*
≥ 20	324.25±35.32	-	-	-

Table 2: Mean scores of critical thinking in relation to personal data of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

*Significant (P<0.05)

This table shows there was significant positive relationship between age group from thirty until forty years and mean scores of critical thinking among the studied head nurses, where it was significantly higher among head nurses in main university hospital compared to those in emergency hospital. Also there was significant positive relationship between head nurses' experiences from five until less than 20 years and mean scores of critical thinking, with significant higher mean scores also among head nurses in main university hospital compared to those in emergency hospital.

Personal characteristics	Mean scores of decision making among the studied head nurses at Mansoura University Hospitals (n=76)		t-test	P
	Main University Hospital (n=42)	Emergency Hospital (n=34)		
	Mean±SD	Mean±SD		
•Age (years):				
24-<30	27.80±7.59	40.43±4.68	4.028	0.001*
30-<40	30.17±10.47	44.95±8.71	5.062	0.0001*
40-<50	39.50±0.71	38.00±7.80	0.258	0.805
≥ 50	26.50±13.43	-	-	-
•Years of experience in nursing:				
< 5	24.00±5.57	41.00±4.24	3.928	0.006*
5-<10	28.87±9.48	40.60±6.33	3.565	0.001*
10-<20	34.87±6.67	43.95±9.17	2.365	0.025*
≥ 20	33.00±10.80	-	-	-

Table 3: Mean scores of decision making in relation to personal data of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)
*Significant (P<0.05)

This table shows that there was significant positive relationship between age from twenty four until forty years and mean scores of decision making. Also there was significant positive relationship between years of experience and mean scores of decision making among head nurses.

Critical thinking main components	The studied head nurses at Mansoura University Hospitals (n=76)		t-test	P
	Main University Hospital (n=42)	Emergency Hospital (n=34)		
	Range Mean±SD	Range Mean±SD		
•Trust seeking	42-64 55.43±6.29	33-61 48.79±8.25	3.978	0.0001*
•Analyticity	34-61 47.83±7.22	29-58 43.38±6.66	2.766	0.007*
•Systematicity	26-62 47.81±7.06	32-55 43.76±6.05	2.645	0.010*
•Self confidence	34-48 40.40±4.20	27-50 38.88±6.12	1.282	0.204
•Inquisitiveness	35-58 46.62±5.82	37-52 43.82±4.15	2.356	0.021*
•Open mindedness	40-69 55.40±6.61	45-61 53.26±3.92	1.665	0.100
•Maturity	19-56 40.12±8.62	20-51 32.94±8.85	3.565	0.001*
Total critical thinking scores	270-397 333.64±31.42	242-363 304.85±32.38	3.918	0.0001*

Table 4: Critical thinking mean scores of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)
*Significant (P<0.05)

This table shows that the mean scores of all critical thinking components were higher among head nurses in main university hospital than those in emergency hospital with significant differences except for self confidence and open mindedness which were not significantly higher. There was statistical significant difference between total critical thinking scores in main university more than in emergency hospital (333.64 ± 31.42) and 304.85 ± 32.38 respectively.

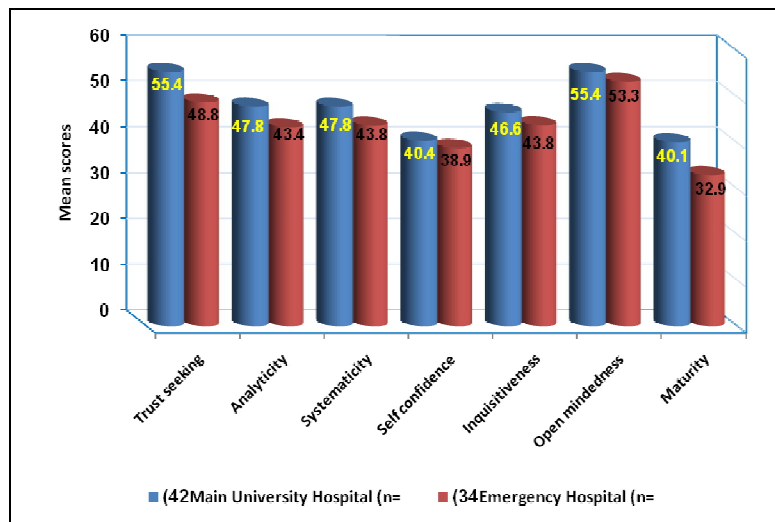


Figure 1: Mean scores critical thinking main components of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

This figure shows mean scores of different components of critical thinking in main university hospital which were higher than mean scores in emergency hospital.

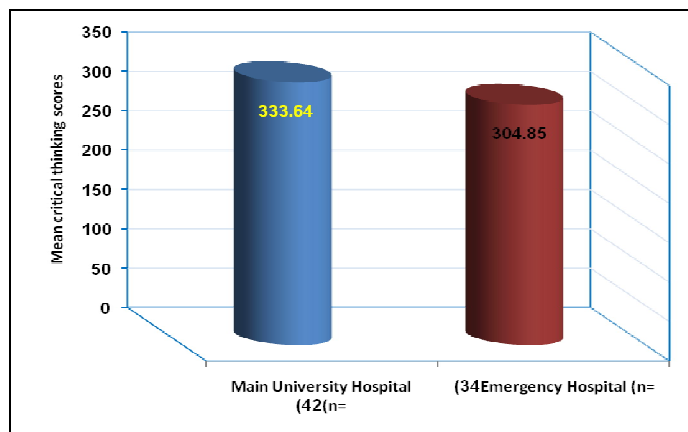


Figure 2: Mean total scores of critical thinking among the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

This figure shows total mean score of critical thinking in main university hospital which was higher than total mean score in emergency hospital.

Critical thinking main components	The studied head nurses at Mansoura University Hospitals (n=76)												χ^2 P
	Main University Hospital (n=42)						Emergency Hospital (n=34)						
	Negative		Ambivalent		Positive		Negative		Ambivalent		Positive		
	n	%	n	%	n	%	n	%	n	%	n	%	
•Trust seeking	0	0	16	38.1	26	61.9	0	0	23	67.6	11	32.4	6.568 0.010*
•Analyticity	0	0	23	54.8	19	45.2	0	0	27	79.4	7	20.6	5.073 0.024*
•Systematicity	1	2.4	23	54.8	18	42.9	0	0	27	79.4	7	20.6	5.377 0.068
•Self confidence	0	0	20	47.6	22	52.4	0	0	20	58.8	14	41.2	0.946 0.331
•Inquisitiveness	0	0	13	31.0	29	69.0	0	0	21	61.8	13	38.2	7.215* 0.007*
•Open mindedness	0	0	18	42.9	24	57.1	0	0	16	47.1	18	52.9	0.134 0.714
•Maturity	1	2.4	28	66.7	13	31.0	9	26.5	22	64.7	3	8.8	12.668 0.002*
Total critical thinking	0	0	6	14.3	36	85.7	0	0	13	38.2	21	61.8	5.748 0.017*

Table 5: Critical thinking degrees of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)
*Significant (P<0.05)

This table shows the positive degree of total critical thinking was 85.7% in main university hospital which was significantly higher than that in emergency hospital (61.8%). The highest positive components of critical thinking were inquisitiveness (69%) and trust seeking (61.9) in main university hospital. While the highest positive components of critical thinking were open mindedness (52.9%) and self confidence (41.2%) in emergency hospital.

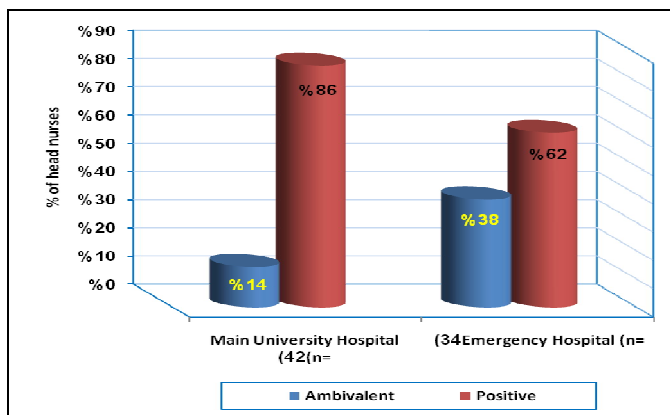


Figure 3: Total critical thinking degrees of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76).

This figure shows total positive degree of critical thinking in main university hospital higher than total positive degree of critical thinking in emergency hospital. While total ambivalent degree of critical thinking in emergency hospital more than total ambivalent degree of critical thinking in main university hospital.

Decision making activities	The studied head nurses at Mansoura University Hospitals (n=76)		t-test	P
	Main University Hospital (n=42)	Emergency Hospital (n=34)		
	Range Mean ±SD	Range Mean ±SD		
•Planning	1-5 2.00±1.32	1-5 3.35±1.18	4.649	0.0001*
•Organizing	3-11 6.19±2.36	4-14 8.65±2.85	4.112	0.0001*
•Assembling resource	8-25 14.95±5.08	14-31 20.88±4.58	5.287	0.0001*
•Directing and controlling	3-13 6.45±2.90	6-15 9.91±2.43	5.555	0.0001*
Total decision making scores	16-49 29.59±9.46	30-61 42.79±8.22	6.408	0.0001*

Table 6: Decision making mean scores of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)
*Significant (P<0.05)

This table shows that the mean scores of all decision making activities were higher among head nurses in emergency hospital than those in main university hospital with significant differences. Total mean score of decision making in emergency hospital was statistically significant higher than that in main university hospital (42.79±8.22) and 29.59±9.46) respectively.

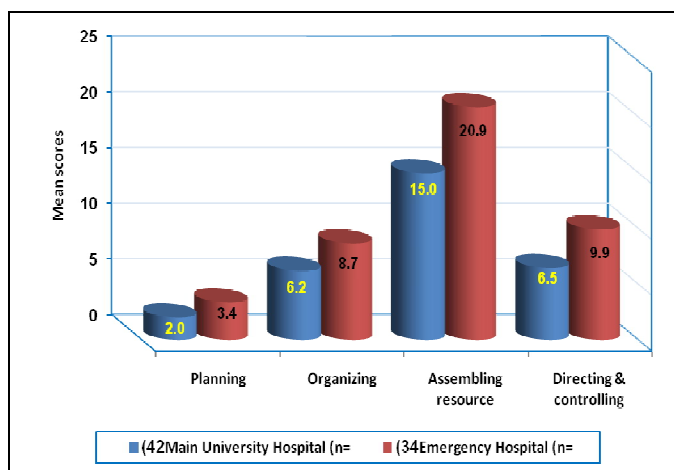


Figure 4: Decision making categories mean scores of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

This figure shows the highest mean scores of decision making activities were for assembling resource followed by directing and controlling, organizing and planning with significantly higher mean scores among head nurses in emergency hospital than that in main university hospital.

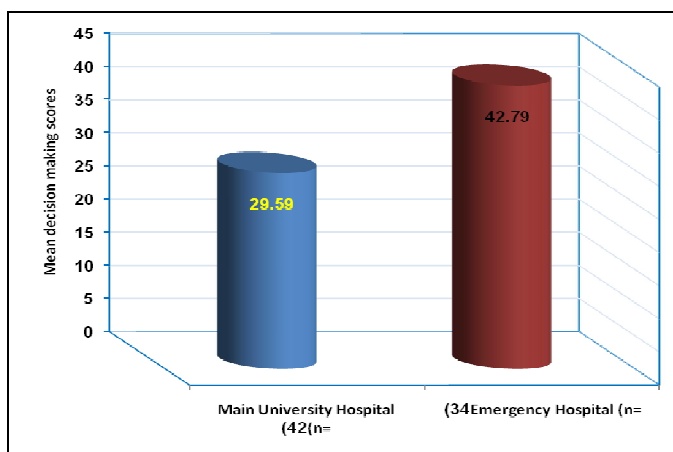


Figure 5: Total decision making mean scores of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

This figure shows total mean score of decision making in emergency hospital was significantly higher than that in main university hospital.

Decision making main items		Categories of decision making in different aspects among the studied head nurses at Mansoura University Hospitals (n=76)										χ^2 P
		Participate with others		Participate with subordinates		Participate with supervisors		Alone		Obligated		
		n	%	n	%	n	%	n	%	n	%	
•Planning	Main University Hospital	25	59.5	2	4.8	6	14.3	8	19.0	1	2.4	29.702 0.0001 *
	Emergency Hospital	2	5.9	5	14.7	14	41.2	5	14.7	8	23.5	
•Organizing	Main University Hospital	12	28.6	17	40.5	11	26.2	2	4.8	0	0	14.948 0.005*
	Emergency Hospital	1	2.9	12	35.3	11	32.4	9	26.5	1	2.9	
•Assembling resource	Main University Hospital	10	23.8	20	47.6	9	21.4	3	7.1	0	0	19.984 0.0001 *
	Emergency Hospital	0	0	8	23.5	17	50.0	9	26.5	0	0	
•Directing and controlling	Main University Hospital	11	26.2	17	40.5	8	19.0	6	14.3	0	0	19.734 0.001*
	Emergency Hospital	0	0	7	20.6	13	38.2	12	35.3	2	5.9	
Total decision making scores	Main University Hospital	11	26.2	19	45.2	9	21.4	3	7.1	0	0	22.517 0.0001 *
	Emergency Hospital	0	0	7	20.6	19	55.9	6	17.6	2	5.9	

Table 7: Categories of decision making main items among the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

*Significant (P<0.05)

According to this table there was positive significant relationship between total decision making scores and categories of decision making .Total decision making with supervisors (55.9%) in emergency higher than in main university hospital (21.4%) while total

decision making with subordinate (45.2%) higher in main university hospital than in emergency hospital (20.6%). In relation to decision making main items, Emergency hospital had significantly highly positive planning and assembling resources with supervisors (41.2% , 38.2%) respectively. Comparing with main university hospital planning with others and assembling resources with subordinate were highly positive significant (59.5%, 47.6%) respectively.

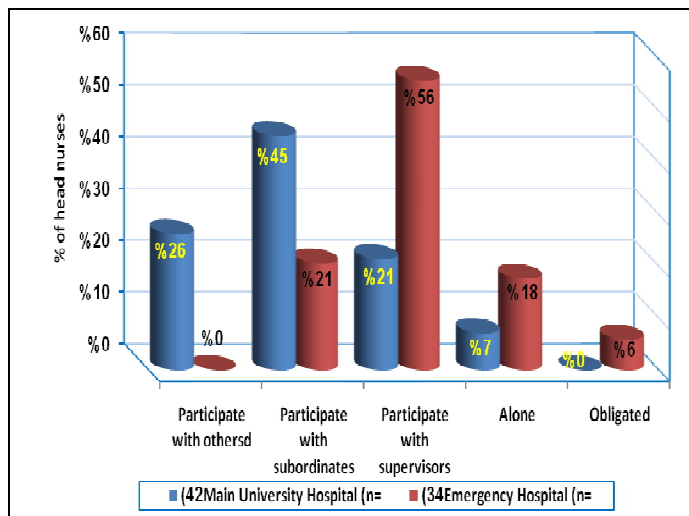


Figure 6: Categories of decision making main items among the studied head nurses at Main Mansoura University Hospital and Emergency Hospital (n=76)

This figure shows total decision making with supervisors (55.9%) in emergency higher than in main university hospital (21.4%) while Total decision making with subordinate (45.2%) higher in main university hospital than in emergency hospital (20.6%).

Categories of decision making	Critical thinking degrees of the studied head nurses at Mansoura University Hospitals (n=76)								χ^2 P
	Main University Hospital (n=42)				Emergency Hospital (n=34)				
	Ambivalent (n=6)		Positive (n=36)		Ambivalent (n=13)		Positive (n=21)		
	n	%	n	%	n	%	n	%	
Participate with others	2	33.3	9	25.0	0	0	0	0	12.165
Participate with sub-ordinates	2	33.3	17	47.2	1	7.7	6	28.6	0.007*
Participate with supervisors	1	16.7	8	22.2	7	53.8	12	57.1	
Alone	1	16.7	2	5.6	3	23.1	3	14.3	
Obligated	0	0	0	0	2	15.4	0	0	
χ^2	1.319				5.298				
P	0.725				0.151				

Table 8: Relationship between critical thinking of the studied head nurses at Main Mansoura University Hospital and Emergency Hospital and their decision making (n=76)

*Significant (P<0.05)

This table shows there was non significant relationship between categories of decision making and critical thinking degrees of the studied head nurses at the studied two hospitals.

6. Discussion

Critical thinking has long been considered an essential element in nursing practice. Nurses are expected to make quick decisions that can have major effects on their clients' outcomes. In addition, they are expected to exhibit wisdom and creativity in their decision making processes. so the aim of the study was to determine effect of critical thinking deposition on decision making. The study was conducted at main university hospital and emergency hospital for all available head nurses I inpatients units. This result shows there was significant positive relationship between age group from thirty until forty years and mean scores of critical thinking among the studied head nurses, where it was significantly higher among head nurses in main university hospital compared to those in emergency hospital. Also there was significant positive relationship between head nurses' experiences from five until less than 20

years and mean scores of critical thinking, with significant higher mean scores also among head nurses in main university hospital compared to those in emergency hospital. This result confirmed with Ghalrize ,et al 2012 , Also A statistically significant higher proportion of nurses with high critical thinking scores were found among those older than 30 years, those with university education prior to nursing education, and those working in community health care (wangensteen et al 2010) Also zori et,al 2010 said age, years of experience, and nurses clinical ladder were shown a significant relationship was found between critical thinking competence and disposition scores, with 29.3% of the variance in critical thinking competence potentially explained by total years of nurse hospital experience. Clinical ladder and age were predictive factors for critical thinking disposition. Commonality was 27.9%. (Chuang et al 2010). This study reveals that there was a significant relationship between decision making and personal characteristics such as sex, marital status and management experience of head nurses. while this result contradicted with Safadi & Ahmed ,2013 indicated that there were no relationships among age, gender, educational level, years of experience and actual decisional involvement among study sample

This result shows that the mean scores of all critical thinking components were higher among head nurses in main university hospital than those in emergency hospital with significant differences except for self confidence and open mindedness which were not significantly higher. There was statistical significant difference between total critical thinking scores in main university more than in emergency hospital (333.64 ± 31.42) and 304.85 ± 32.38 respectively. Regarding total critical thinking disposition among head nurses. The study revealed about two thirds of head nurses at main university hospital and emergency hospital were positively disposed toward critical thinking . It may due to head nurses exposed to difficult situation every day and complex problem needed to analysis and to make high quality judgment and attend to valid conclusion also head nurses needed to be open minded and fixable within alternative system and gain confidence and seeking trust from patients and nurses.

This result shows the positive degree of total critical thinking was 85.7% in main university hospital which was significantly higher than that in emergency hospital (61.8%). The highest positive components of critical thinking were inquisitiveness (69%) and trust seeking (61.9) in main university hospital. While the highest positive components of critical thinking were open mindedness (52.9%) and self confidence (41.2%) in emergency hospital. This agrees with this result nearly 80% of the respondents reported a positive disposition towards critical thinking. The highest mean score was on the Inquisitiveness subscale and the lowest on the Truth-seeking subscale (Swinnyand Besty ,2010).. Critical thinking helps the nurse to navigate the complex and stressful environment of the ICU. Critical thinking includes more than just nursing knowledge. It includes the ability to think through complex, multifaceted problems to anticipate needs, recognize potential and actual complications, and to expertly communicate with the team. A nurse who is able to think critically will give better patient care. Nurse leaders are encouraged to support the development of critical-thinking skills in less experienced staff with the goal of improving the nurse's ability to work in the ICU and improving patient outcomes

This result shows that there was significant positive relationship between age from twenty four until forty years and mean scores of decision making. Also there was significant positive relationship between years of experience and mean scores of decision making among head nurses this agree with Corcoran concluded that managerial experience correlated with effective decisions. The complex health care environment, which involves advances in health promotion and disease prevention, requires that nurses develop critical thinking skills to adapt to rapidly changing clinical situations, make competent decisions, and acquire new professional knowledge (Jacobs et al., 1997). Hence, nurses must repeatedly synthesize relevant information, examine assumptions, identify patterns, and predict outcomes to generate logical reasons and actions in clinical practice with increasing independence (Jacob et al., 1997; Scheffer and Rubinfeld, 2000; Sedlak, 1997). The CCTDI critical thinking confidence scale addresses trust in one's own reasoning. The person with strong critical thinking confidence demonstrates the ability to make sound decisions and believes that others rely on them to solve problems and decide what to do (Facione & Facione, 2007) on making about patients care is one of the important roles of nurses, and critical thinking would help the nurse to make the appropriate decision. Critical thinking would help the person to get a good perception of the subject and consequently, make proper decisions (Salehi, 2006) Also Ghalrize ,et al 2012 confirmed with this study their found there was significant relationship between decision making methods and personal characteristics such as sex, marital status and management experience of head nurses There was significant negative relationship ($r=0.225$, $P=0.02$) between the score for critical thinking and the score for confidence in decision-making. These tests were administered just prior to the new graduates commencing their clinical practice. Hoffman & Elwinl 2003 and Shin (1998) found only 4% of the variability in clinical decision-making could be accounted for by critical thinking ability and concluded that some of this variability could be attributed to respondents' IQ. Seldomridge (1997) noted that some students are less confident in decision-making and less willing to act whereas others overestimate their abilities and act without caution. Girot (2000) reported that there was no relationship between..... The setting, where process of decision making is done, is one of the important issues in quality of decision making. On different situations, nurse is acquiring experience and he/ she should consider obtained information and experiences.

The total decision making with subordinate was high in main university hospital (45.2%) where the highest proportion of the respondents (40.4%) evaluated their participation level in decision making as moderate Although Michailova believes that managers often are resistant to participating their inferior employees in the decision making process reveals that managers (head-nurses') participate in decision making to some extent (Michailova., 2002) While total decision making with supervisors was 55.9% in emergency hospital Regarding this finding, we suggest nursing managers (at any level) to increase their employees' participation level in decision making (by using feed-backs, helping the nurses to eliminate their failures, consulting them in the problem-solving process, helping them during occupational crises and providing appropriate rewards and motivations) and encourage them to participate in decision making (Nooritajer & Mahfozpour 2008) . while in emergency job-division methods to increase participation level and Managers (head-nurses') in turn may use

7. Conclusion

There is no significant relationship between critical thinking and decision making in main university hospital and emergency hospital

8. Recommendation

Doing several workshops to gain critical and decision making skills Nurse Managers who are adept at using critical thinking and have the "habits of mind" of a critical thinker are in a good position to assume a leadership role and create the changes that will achieve positive outcomes in health care organizations. Nursing leaders are challenged to create formal and informal education and mentoring programs to support the development of critical thinking and decision making for nurse managers. The role of head nurses investigated regarding to critical thinking and decision making, we suggest a similar research to be performed. Also Chief nursing officers, directors of nursing, and nurse educators responsible for initial and ongoing maturation of nurse managers are challenged to find ways to encourage the development and use of critical thinking dispositions. Informal, ongoing interactions with nurse managers and formal leadership education programs could incorporate strategies to support the development of critical thinking skills and disposition to consistently apply these skills. Honing of emotional and social intelligence skills, inquiry-based learning, appreciative inquiry, critical incident analysis, concept mapping, case studies, role-play, and dialogue are useful techniques that may improve critical thinking (Facione & Facione, 2008; Raymond & Profetto-McGrath, 2005; Toofany, 2008; Zori & Morrison, 2009).

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