

Relationship between Staff Nurses' Caring Behavior and Disposition Toward Critical Thinking

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ABSTRACT

Background: Slums **Background:** Caring behavior is critical and crucial for nursing practice and the disposition toward critical thinking is required for an effective and competent quality patient care. **Aim:** examine the relationship between staff nurse's caring behavior and disposition toward critical thinking in intensive care units. **Design:** descriptive correlational design was utilized in this study. Study was carried out in medical critical care units at new kaser El Ainy hospital. **Subjects:** Convenient sample of staff nurses (No=70) who were working in the selected critical care units was constituted the study sample. **Tools:** two tools were used for data collection: California critical thinking disposition Inventory and caring behavior inventory. **Results:** The study findings conclude that there was no correlation between total caring behavior and total critical thinking. **Recommendations:** It is recommended that nursing education should emphasize a curriculum related to caring behavior to enhance nursing student's disposition toward critical thinking. The nurse leaders should act as a role model in demonstrating caring behavior, as well as using critical thinking skills including being a problem solver and decision maker.

Key words: Nursing Knowledge ,Clinical Judgment

INTRODUCTION

The profession of nursing exists in response to society needs and holds ideals related to man's health throughout his life span. Nurses must act in a way that promote, maintain and restore health, as well as prevent illness, alleviate suffering and insure peaceful death when life can no longer be sustained .(International Council of Nurses 2009).Nursing is also concerned with the wellbeing of an individual, family or community (Aliyu et al, 2014). Nursing is a profession that calls for complex behaviors. Nurses are responsible for providing physical, psychological, mental, and spiritual care for a variety of clients(Chu Pai and Joo Eng 2013) .Because of rapidly changing

health care environment as well as the complexities of current health care systems, it is required to implement the latest technology and to provide effective low cost care . To respond to these demands, they must think critically. Critical thinking is vital to nursing competence and is a reflective and evaluative form of thinking that leads to judgment in providing patients with suitable care behaviors (Chu Pai and Joo Eng 2013).

Critical thinking is essential to provide a safe, competent and skillful nursing practice. Through this process nurses can identify alternatives from which to select solutions in client care situations. The growing complexity of health care demands the use of critical thinking for more efficient nursing care (El-Hessewi, et al 2007).It is the

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process of purposeful self-regulatory judgment that gives reasoned consideration to interpretation, analysis, inference and evaluation (Facione 2000, Vacek 2009, Hwang et al 2009, and Profetto-McGrath et al. 2009). Critical thinking process guides individuals to develop purposeful and reasoned judgments based on their beliefs (Facione 1990 and Profetto-McGrath et al. 2009). It is the basis of professional judgment and has the potential to improve the quality of clinical decisions (Diane 2005 and Gambrill 2005). Nurses in areas such as the emergency department or intensive care unit often face uncertainty and rapid changes in the clinical setting. To deal effectively with patient problems, nurses must possess a disposition for critical thinking, in addition to possess the basic and essential professional knowledge and experiences (Mantzoukas & Watkinson 2007).

Nurses as part of a multidisciplinary health care team, need critical thinking skills to effectively collaborate with others in making an effective judgments in the clinical arena. It has been suggested that nurses may need to be educated to think critically as critical thinking is not considered to be a genetic disposition. (Hwang et al 2009). Critical thinking is composed of attitudes of inquiry that involve the ability to recognize the existence of problems and the need for evidence in support of what is asserted to be true. Also it includes knowledge of valid inferences, abstractions, and generalizations in which the weight or accuracy of different kinds of evidence are logically determined, as well as skills in applying these attitudes and knowledge (Chu Pai and Joo Eng 2013).

More over critical thinking is considered a multidimensional cognitive process that includes analysis, evaluation, inference, deductive and inductive reasoning, and a judgment process related to skill and disposition. The American Philosophical Association as cited in Facione, (2000) stated that the "critical thinking process is a process

that results in interpretation analysis, judgment, and explanation of the evidential, criterion logical, or contextual considerations upon which that judgment is based. According to Facione et al. (2000) disposition is an essential prerequisite for the attitudinal basis of critical thinking when responding to different situations at professional work, role function, or national affairs.

The literature offers a variety of critical thinking dispositions, as confidence in one's reasoning ability, inquisitiveness, being open-minded to diverse views, being flexible in considering other's views, willing to revise one's opinions and being cognizant of one's own negativism. Furthermore, Nurses who have developed these dispositional characteristics are more likely to apply critical thinking in their personal and professional situations (El sayed et al 2011).

Caring behavior plays a crucial role in the disposition toward critical thinking. To be a critical thinker caring is necessary, especially when one has not had the same life experiences as another person. Caring stimulates critical thinking and is related to more comprehensive judgment. (Zimmerman and Phillips 2000). In addition Chu Pai and Joo Eng (2013) have argued that nurses who are well informed about patients elevate patients' well-being through their concern for the patient. Thus nursing knowledge is seen in caring behaviors. More over through caring behavior an individual is willing to attend to other's feeling, and thus exercise critical thinking. Redding (2001) also described that the process of critical thinking as involving caring.

Nursing as a science of caring, has a scientific and humanistic foundation. Through caring behavior, nursing can understand how health and illness are related to human behavior (Chu Pai and Joo Eng 2013). Caring is the "essence" of nursing and

leads to the identification of the following perspectives: caring as a human and moral responsibility, as an effect, an interpersonal relationship, and caring as a nursing intervention (Chu Pai and Joo Eng 2013). As previously stated caring is the base for effective nursing practice. It can enhance client's health and growth, and also stimulate coping. Also it plays an important role in enhancing the critical thinking characteristics. Aziz Fini et al (2012) reported that emotions are important in the process of thinking critically. In particular, the emotional responses of the person to the information will form the basis for how the person analyzes situations, and takes action. For critical thinking an attitude of caring is vital. Thus caring is a necessary characteristic of critical thinkers. It makes nurses willing to respond to patient's needs, to listen, and build an effective relationship. Caring can result in a complete understanding of the patient's assumptions, enabling the nurse to make sure that all ideas have been considered.

Redding (2001) reported that the process of clinical judgment, which involves critical thinking, occurs through five sub processes: problem solving, caring, unbiased inquiry, intuition, and reflection in action. Overall, in the field of nursing, caring implies attentiveness to client information, both explicit and implicit. (ChuPai and Joo Eng 2013). The constructive thinking model of Thayer-Bacon (1993) was used as the framework for understanding the relationship between caring and critical thinking disposition in this study. This model stated that, for critical thinking, caring is a necessary disposition. Thus, caring can help to ensure that ideas have been fairly considered and can contribute to a person being a good critical thinker.

Significance of study:

Nurses play an important key role in designing health care system, the health care system needs nurses who have the essential and basic qualifications to perform professionally in the work place. More over nursing is a practice based profession requires that nurses learn how to become professional. (Joonbakhsh and Pashee 2014). The ICU is place that characterized by high level of patient acuity, complex pathologies as well as multiple unknown. Those characteristics require nursing staff to display unique qualities and high level of critical thinking and caring behavior. Disposition toward critical thinking is a crucial component of professional clinical judgment. Researches reported that there is a gap in understanding the dimensions of disposition toward critical as related to certain behavior especially caring which is the core of nursing. (Chu Pail and Joo Eng 21013). So the aim of the present study is to examine the relationship between staff nurse's caring behavior and disposition toward critical thinking in intensive care units.

Aim of the study

Aim of the present study is to examine the relationship between staff nurse's caring behavior and disposition toward critical thinking in medical intensive care units.

Material and methods

Design:

Cross sectional descriptive correlational design was utilized in this study.

Research questions:

1-What are the disposition toward critical thinking and caring behavior among staff nurses?

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2- What is the relationship between caring behavior and the disposition toward critical thinking?

Study setting:

The present study was carried out in medical critical care units with a total number of 44 patient beds from total intensive care units beds 80, at new kaser El Ainy teaching hospital .The selected specialties of those units were: critical care units(12 beds), liver intensive care unit(8 beds), cardiology critical care unit(8 beds) , coronary care unit(8 beds) and neurology intensive care unit(8 beds).

Sample:

A convenient sample of staff nurses who were working in the previous selected medical critical care units was constitute the study sample. The total sample size was (70) staff nurses out of 97 staff nurses in medical critical care units.

Inclusion criteria: Staff nurses who took a daily patient assignment, provide direct patients care and who accepted to participate in the study.

Tools:

Data for the present study was collected through utilizing the following two tools:

1-California Critical Thinking Disposition Inventory. It comprises from two parts: The first part includes the demographic aspects of nurses as age, educational qualification, years of experience in nursing and marital status. The second part incorporated the California Critical Thinking Disposition Inventory (CCTDI). It was developed by Facione et al (2000) and guided by Samir (2003). It used to assess the disposition of staff nurses towards critical thinking. It consists of 75 items divided into seven dispositional characteristics, namely:

Truth seeking (12 items), Open mindedness (12 items), Analyticity (11 items), Systematicity (11items), Self confidence (9 items), Inquisitiveness (10 items) and Maturity (10 items).The items are rated on a 5-point Likert scale, extending from 1 (strongly disagree) with 5 (strongly agree).

The total scores 0-420

* <210 demonstrate a negative disposition

* 210- 280 indicates an ambivalent disposition

* > 280 is positive disposition toward critical thinking,

Total Subscales scores 0- 60:

*< 30 is weak

* 31- 39 is ambivalent

* >40 is positive.

2- Caring Behavior Inventory (CBI-24) developed by Wu et al. (2006) This tool is a revision of the 42-item Caring Behavior Inventory (CBI) developed by Wolfe and colleagues Wolf et al, (1994). It used to measure nurse caring behaviors it divided into the following four subscales of caring : assurance(8 items),knowledge & skill,(5 items)respectfulness(6 items) and connectedness(5 items). Each item ranked on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).Internal consistency was reported to be 0.9. Testing of the instrument yielded favorable test-retest reliability (r = 0.82).

Tools validity:

The two tools contents were developed and tested for its content validity through five expertise' from nursing administration department. In the light of their

recommendations the important adjustments were produced. Double translation English-Arabic-English was done to ensure validity of translation.

Pilot study:

A pilot study was carried out on a sample of 10% before starting the actual data collection to ascertain the clarity, and applicability of the study tools. It also aided with estimate the time necessary on fill in those questionnaires. In view of the outcomes of the pilot study, modifications, clarifications, omissions, and rearrangement of some questions were done.

Administrative and ethical consideration:

The aim of the study was explained to the administrative personnel. Official permissions were obtained from hospital's director and nurses' director to conduct the study at the selected units. They were consoled that the gathered data might have been continuously dealt with secrecy.

Procedure:

Once permission was granted from the nursing administrator of the selected hospital to proceed with the prepared research, the

purpose of the study was explained to staff nurses who accept to participate in the study. The respondents were assured for complete confidentiality. An explanation of each instrument was done before it handed to the studied sample on their work places .Sheets was filled out at range of 30 minutes. Data was collected during 2015. It was collected in morning and afternoon shifts.

Statistical analysis: Data entry and statistical analysis were done using Statistical Package for Social Science (SPSS), version 16.0. The following descriptive statistics were used: frequencies, arithmetic mean: as average describing the central tendency of observations. The standard deviation: as a measure for scattering for outcomes around the mean (for quantitative variables). For comparison between more than two means, the F value of analysis of variance (ANOVA) was computes. Correlation between variables was evaluated using Pearson's correlation coefficient. Significance was adopted at $p<0.05$ for interpretation of results of tests of significance. Partial correlation coefficient was used to test the relationship between caring behavior and disposition toward critical thinking.

Results

Table. 1: Frequency and Percentage Distribution of Nurses according to their Demographic Variables (N= 70)

Personal Data	Frequency (N)	%
Age (Years)		
1. 20-less than 25	21	30
2. 25-less than 30	8	11.4
3. 30-less than 35	22	31.4
4. More than 35	19	27.1
total	70	100%
Educational level		
1. Nursing diploma	46	65.7
2. Bacculerate in nursing	5	7.1
3. Others	19	27.1
total	70	100%
Experience (Year)		
1. Less than 5	12	17.1
2. 5-less than 10	21	30
3. 10 less than 15	12	17.1
4. More than 15	25	35.7
total	70	100%
Marital status :		
1-Marreied	51	72.9
2-Single	17	24.3
3-Divorced	2	2.9
total	70	100%

The above table depicts the frequency and percentage distribution of nurses according to their demographic variables. With regard to the age (31.4%) were in the age group ranged between 30 to less than 35. (65.7%) were nursing diploma . Regarding to years of experiences, the same table shows that 35.7 % had more than 15 years of experiences . Also 72.9% of study sample were married .

Tables (2) Mean Scores of Staff Nurses Regarding to Caring Behavior Subscales

(No 70)

Caring Subscales	Mean	SD	Minimum	Maximum
1-Support	37.0571	3.451	24.00	40.00
2-knowledge & skills	23.2143	2.245	15.00	25.00
3-Respect	27.9000	2.920	18.00	30.00
4-Connectedness	21.8571	2.788	15.00	25.00
Total Caring	110.0286	9.44238	72	120

Table (2) displays mean scores of staff nurses regarding caring behavior subscales ,it is clear from this table that nurses had highest mean scores in all subscales of caring behavior which is reflected in total caring behavior respectively ($X = 110.0286$ $SD = 9.4423$).

Tables (3) Mean Scores of Staff Nurses Regarding to Critical Thinking Disposition (No 70)

Critical Thinking Subscales	Mean	SD	Minimum	Maximum
1-Truth seeking	42.7714	7.72005	27.00	59.00
2-Open mindedness	43.9143	7.95593	19.00	60.00
3- Analyticity	39.9000	6.53674	29.00	50.00
4- Systematicity	38.7286	7.26700	24.00	52.00
5- Self confidence	35.0429	4.90913	20.00	45.00
6- Inquisitiveness	36.6286	5.62389	20.00	45.00
7- Maturity	33.5429	7.71162	10.00	47.00
Total Critical Thinking	270.5286	37.98845	188.00	345.00

Table (3) shows mean scores of staff nurses regarding total critical thinking. According to the scoring system of CTD, it is clear from this table that nurses had an ambivalent disposition toward critical thinking as the overall sample total mean scores were ($X = 270.5286$ $SD = 37.98845$)

- * <210 indicates a negative disposition
- * 210- 280 is ambivalent disposition
- * > 280 is positive disposition toward critical thinking.

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Table (4) Dispositional Level of Staff Nurses Regarding Critical Thinking Subscales (No 70)

Dispositional characteristics	Dispositional level						total	
	Strong* >40		Ambivalent 31-39		Weak * < 30			
	N	%	N	%	N	%		
1-Truth seeking	43	61.4%	0	32.8	4	4.28%	70	100 %
2- Open mindedness	48	68.57%	20	28.57%	2	2.85%	70	100%
3- Analyticity	34	48.57	33	47.14%	3	4.28%	70	100%
4- Systematicity	30	42.8%	36	51.42%	4	5.71%	70	100%
5- Self confidence	15	21.42%	46	65.71%	9	12.85%	70	100%
6- Inquisitiveness	29	41.42%	32	45.71%	9	12.85%	70	100%
7- Maturity	19	24.28%	30	42.85%	21	42.85%	70	100%

Table (4) shows dispositional level of staff nurses regarding critical thinking Subscales. According to the scoring system of critical thinking, it is clear that the majority of staff nurses (61.4%) were scored positively in truth seeking as well as (68.57%) in open mindedness. While 65.71% of staff nurses had an ambivalent score regarding self confidence.

* < 30 is weak

* 31- 39 is ambivalent

* >40 is positive.

Table (5) Correlation between Staff Nurses Caring Behavior and Disposition toward Critical Thinking

Critical Thinking Subscales	Total Caring Behavior	
	r	Sig
1-Truth seeking	.124	.306
2- Open mindedness	.286*	.016
3- Analyticity	.049	.689
4- Systematicity	.175	.148
5- Self confidence	.242*	.044
6- Inquisitiveness	.237*	.049
7- Maturity	.056	.643
Total Critical Thinking	.205	.089

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The above table shows correlation between staff nurses caring behavior and disposition toward critical thinking .It is clear that there was no correlation between total caring behavior and total critical thinking. While only significant correlation was found between open mindedness and total caring behavior (r=.286* ,p .016), self confidence and total caring behavior(r=.242* p, .044), as well as inquisitiveness and total caring behavior(r=.237*, p=.049)

Table (6) Partial Correlation Coefficient: CTD Subscales and Caring Behavior (No 70)

variables	CTD	Truth seeking	Open mindedness	Analyticity	Systematicity	confidence	Inquisitiveness	Overall Maturity
caring behavior	.205							
Support	.198	.151	.283	.076	.211	.124	.251*	.009
knowledge & skills	.078	.015	.103	.031	.027	.189	.182	.009
Respect	.034	.872	.131	.095	.086	.102	.029	.034
Connectedness	.349**	.241*	.397**	.145	.262**	.407**	.314**	.209

* p < 0.05; ** p < 0.01.

Table (6) represents partial correlation coefficient: CTD subscales and caring behavior. It is clear that there was no correlation between caring behavior and over all CTD (r= .205). While a positive correlation was found between connectedness and over all CTD (r= .349**) as well as with all critical thinking characteristics except maturity (r =.209). The same table also shows a positive correlation between support and inquisitiveness (r= .251*).

Table (7) Comparison between Staff Nurse's Demographic Characteristics and Caring Behavior and Critical thinking (No 70)

Demographic Data	Caring behavior		Critical thinking	
	F	P	F	P
1- Educational level	1.796	.174	1.761	.180
2- Marital status	2.319	.106	1.417	.250

When comparing between the demographic variables of staff nurses and caring behavior and critical thinking. Table (7) revealed that there was no statistical significant difference between educational level and marital status of study sample and both study variables.

Table (8) Correlation between Staff Nurse's Age, Experiences and both study variables (No 70)

Demographic Data	Caring behavior		Critical thinking	
	r	P	r	P
1- Age	.177	.143	.113	.351
2- Experience	.124	.305	.091	.454

Table (8) displays that there was no correlation between staff nurses age, and experiences and both study variables.

Discussion:

Potgieter (2012) stated that today's health care system is more complicated than

ever before. Because nursing is a challenging profession, it demands a lot of cognitive skills such as critical, creative, reflective thinking, problem solving, and decision

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making as well as skills to create caring environment for patient. The present study was conducted to examine the relationship between staff nurse's caring behavior and disposition toward critical thinking in intensive care units.

Results of the present study revealed that staff nurses had high perception of caring behaviors in all of subscales. This finding is in accordance with prior research on nurses' perceptions of caring. As **porter et al (2014)** reported that nurses had highest mean scores of caring behaviors in the majority of caring behavior subscales. On the contrary **Chu Pai and Joo Eng (2013)** found that nurses had fair level of caring behavior. More over when mean scores of caring behavior subscales were analyzed, results of the present study revealed that nurses had positive perception regarding support, knowledge and skill, respect, and positive connectedness dimensions as essential elements of caring behavior . In this respect **Youssef et al (2013)** have reported that supportive environment, human needs support and a trusting relationship based on truth were the most important of all caring behaviors .While **Joonbakhsh and Pashae (2014)** found that comforts and trusting relationships as elements of caring behavior had low priority of importance among nurses. From the researchers' point of view this result could be contributed to the nature of patients conditions in intensive care units that forced nurses to demonstrate a caring behavior in the form of providing safe and effective patient care as well as practice a holistic approach with patients considering not only physical needs of patients but also psychological as well as spiritual needs.

In this respect **Aziz Fini et al (2012)** reported that focusing on nurses' knowledge and experience with its relation to caring is essential to providing effective, safe, and high quality patient care. The nursing

practice includes basic knowledge and the ability to care and respect for others. In the same issue **Papastavrou et al (2011)** stated that nurses perceived knowledge and skills as essential elements of caring behavior. Also they added that nursing is an art and concept that reflect the holistic approach to caring in which nurses respect patient as a human being and support him through such behaviors as visiting, communicating with him as well as responding to his complaints. Additionally respect and connectedness are another important dimensions of caring behavior and are critical for effective nurses patient relationship. Research done by **Gallagher (2007) and Azizi-Fini et al (2012)** support our results that nurses had positive perception regarding respect and connectedness subscale of caring behavior that can be demonstrated through respect individuality of patient, being empathetic, giving opportunity to express feeling and satisfy patients needs.

Concerning nurses disposition toward critical thinking, results of the present study revealed that nurses had an ambivalent disposition toward total critical thinking . This finding goes with the **Samir (2003)** who reported that the majority of nursing students had an ambivalent disposition toward critical thinking. While **Chu Pai and Joo Eng (2013)** found that nurses had a weak positive disposition toward critical thinking. Contrary to our results **El sayed (2011) and Blackwell, (2010)** reported that the majority of staff nurses had positive disposition toward critical thinking .When critical thinking characteristics were analyzed, results of the present study revealed that the majority of staff nurses were scored positively in truth seeking as well as in open mindedness. This finding is in the same line with **El sayed et al (2011)** who reported that truth seeking had the highest ranking of importance among staff nurses. More over **Harrington & Terry (2009)** stated that critical thinking in nursing includes seeking truth. While this finding is contradicted to

studies done by **Blackwell (2010)** and **Chu Pai and Joo Eng (2013)** as they reported that, truth seeking subscale had the lowest ranking of critical thinking dispositions among respondents. Also, **Samir (2003)** mentioned that the mean scores of the student nurses were high in all of the dispositional characteristics except in truth seeking. In the same issue **Chu Pai and JooEng (2013)** reported that open-mindedness, analyticity and inquisitiveness have highest means of critical thinking characteristics.

The present study aimed to examine the relationship between staff nurse's caring behavior and disposition toward critical thinking in intensive care unit. Results of the present study revealed that there was no correlation between total caring behavior and total critical thinking. This result is contradicted to study done by **Chu Pai and JooEng (2013)** as they found a positive relationship between overall critical thinking dispositions and caring behaviors. Also with **Kohl (2013)** who found that individuals with higher mean scores of caring behaviors were score higher on critical thinking about nursing practice. In this respect **Chu Pai and JooEng (2013)** and **Fini et al (2012)** have argued that caring stimulates critical thinking and is related to more comprehensive judgment and they added that nurses who are full oriented about patients enhance patients' well-being through their concern for the patient. Nursing knowledge is seen in caring behaviors in which an individual is willing to attend to what another is feeling, enabling the caring individual to be a critical thinkers.

Result of the present study also revealed a significant correlation between open mindedness, self confidence as well as inquisitiveness as characteristics of critical thinking and total caring behavior. From the researcher point of view this finding indicates the staff nurses have knowledge, experience and intellectual challenge for uses of critical

thinking process that give positive nurses behaviors during caring with patient. In this respect **Chu Pai and JooEng (2013)** have argued that nurses students who are able to help patients by demonstrating knowledge, experiences ,knowing the patient and respecting his rights, tend to display self confidence, truth seeking., analyticity , inquisitiveness and systematicity .Moreover, this indicates that caring behavior inspire nurses to consider patient needs that provide foundation for critical thinking .

Another finding in our research revealed a positive correlation between connectedness and overall critical thinking dispositions as well as with all critical thinking characteristics except maturity. Results from previous studies have argued that certain prerequisites are needed to be an effective critical thinker as effective interpersonal and communication skills which includes listening and attending to patients, giving information, and support in the context of therapeutic relationship. Nurses, who are critical thinker's value a challenging intellectually situations, are self-confident in their well reasoned thoughts, and capable in coping with complex situations. A sense of connectedness with patients as well as confidence in skill performance, establish a necessary basis for judgment and critical thinking (**Muda et al 2014**).

Results of the present study revealed that there was no relationship between staff nurse's demographic data and both caring behavior and critical thinking. This result is consistent with **Youssef et al (2013)** who found no statistical significant difference between nurse's perception of caring behavior and any of their demographic characteristics as age, sex, education and experiences. From the researcher point of view nurses' years of experiences play an important role in enhancing their caring behavior as the more the experience, the more caring behavior is. With increased

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experiences nurses are able to build trusting relationship with patients, respond to their needs and respect his preferences. While **El sayed et al (2013)** reported that there were negative statistical significant relationship between staff nurses' disposition toward critical thinking and both age and years of experience. Also study done by **Chuang Feng (2010)** showed a positive correlation between nurses' age as well as clinical experience and scores of critical thinking.

Conclusion:

Findings of the present study conclude that:

Study sample had high perception of caring behaviors in all subscales as well as an ambivalent disposition toward critical thinking. No correlation was found between total caring behavior and total critical thinking.

Recommendations:

In the light of the findings, the following recommendations are suggested by researchers:

- Nursing education should emphasize a curriculum related to caring behavior to improve the disposition toward critical thinking of nursing students.

- Nursing education must develop a variety of teaching methods to develop critical thinking skills among students such as problem based learning, concept mapping and experiential learning.

-Faculty members and clinical instructors must act as a role model to facilitate learning by creating an environment that promotes holistic care, caring behavior, and critical thinking.

-The nurse leaders should provide adequate opportunities for nurses to participate in decision making and problem solving, think open mindedly, and providing them with the necessary feedback in different situations.

- The hospital administration should design seminars and workshops about critical thinking to emphasize the meaning and importance of critical thinking, as well as skills needed to be a critical thinker.

- The nurse leaders should act as a role model in demonstrating caring behavior, as well as using critical thinking skills including being a problem solver and decision maker.

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