

Leadership Styles and Clinical Decision Making Autonomy among Critical Care Nurses: A Comparative Study

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Abstract: Nurses require greater autonomy and participation in decision making, nurse participation in decision making in an organization varies depending on many factors, including the influence of nurse manager leadership and collaboration with physicians. **Aim.** The aim of the current study was to assess dominant leadership styles, level of decision making autonomy among critical care nurses and relationship between leadership style and decision making autonomy. **Design.** A descriptive cross-sectional correlation research design was utilized in this research. **Setting.** The current study was carried out at two hospitals' namely; King Fahd Hospital of the University (KFHU) in Saudi Arabia and at Tanta Main University Hospital in Egypt in Intensive Care Units (ICUs). **Subjects.** The study subjects encompassed all full time nursing staff convenient sample in previous settings (n = 27) Head nurses 16 from Egypt, 11 from KSA, and Critical Care nurses (n= 74) divided as the following; 35 from Egypt and 39 from KSA. **Tools.** Two tools were used in this study. Tool I. It was structured questionnaire, assessed decision making autonomy. It included two parts; part one was demographic data (7 items), part two was autonomy issue (18 items). The autonomy domain comprised 18 items (knowledge 6, action 6, value 6). Tool II Assessed leadership styles, it included two parts; part one was demographic data (6 items); age, sex, experience (general and specific in the unit), last education, type of hospital, type of unit, part two: Leadership styles Questionnaire this questionnaire was designed to measure three common styles of leadership: authoritarian, democratic, and laissez-fair. It composed of 18 statements. The respondents were presented with a five point likert scale, the number indicates the degree to which the respondents agree or disagree [5-1]. **Results.** In KSA studied nurses had the highest mean score. for total autonomy scale. As well as, there are statistical significant difference for two bases of autonomy knowledge, and action bases also total autonomy. **Conclusion.** Overall, results of the present study revealed head nurses applied situational leadership theory in both countries. As well as, in KSA nurses had higher decision making autonomy than nurses in Egypt. **Recommendation.** ICU nurse managers should foster nurses' autonomy by enabling them to exercise clinical decision-making, and Actively supporting nursing decisions and nursing accountability.

Key words: Autonomy, autonomy decision making, critical care nurse, leadership styles

I. Introduction

Clinical decision making is an essential component of professional nursing care, nurses' ability to make effective clinical decisions is the most important factor affecting the quality of care^(1,2). Nurses make two types of decisions related to practice: patient care decision that affect direct patient care, and condition-of work decisions that affect the work environment or groups of patients⁽³⁾. The dynamic and uncertain nature of health care environment requires nurses to be competent decision makers in order to respond to clients' needs. Moreover, changes in patient needs, medical technology, and financial resources create uncertainty in health care organizations' and require redesign of its structure and its process of care. Redesign changes have increased nurses' responsibilities in caring for patients. As a result, nurses require greater autonomy and participation in decision making. Greater participation in decision making by nurses results in better outcomes. However, nurse participation in decision making in an organization varies depending on many factors, including the influence of nurse manager leadership and collaboration with physicians⁽⁴⁾.

The role and influence of first line nurse managers are becoming increasingly important in today's complex and continually changing health care organizations. Thus, the function and scope of their practice also have evolved, increasing their accountability, authority, and responsibility for unit management, patient care, and staff development. For instance, in many cases, first line nurse managers' scope of responsibility has changed from managing one nursing unit in a centralized structure to managing more than one unit in a decentralized structure. In light of these changing roles, nurse managers need to continue to provide leadership to their staff to achieve patient, nurse, and unit goals. Involving staff in decision that directly or indirectly affect patient care is one leadership strategy used by nurse managers to achieve goals⁽⁴⁾.

An organizational component that also may affect staff nurses' participation in decision making is collaboration between nurses and physicians. In collaborative practice, nurses and physicians share responsibilities for patient care and respect each other's ability. Nurses share their knowledge, thoughts, and abilities with physicians to provide effective patient care planning and implementation. In this respect, collaboration serves as the underlying framework for providing greater opportunities for nurses to participate in patient care decisions^(3,4).

Leadership occurs at all levels within an organization. It is the process of supporting others to improve client care and services by promoting professional practice. Effective leadership is demonstrated by staff participation in decision making, the philosophy of the organization and the style of individual leaders within the organization⁽⁵⁾. Leadership competencies of influencing staff and stimulating growth and development of staff are believed to be more important to increase staff participation in decision making. Influencing staff by developing a trust relationship between nurse managers and their staff encourages staff to talk about their ideas and concerns^(4,6).

One important aspect of the professional role of nurses is the belief in autonomous nursing practice that can be expressed as greater participation in clinical decision making. University educated nurses also appear to be socialized to value autonomy and in turn, expect a high level of involvement in clinical decision-making. As a result, nurses are being educated at the tertiary level to use skills such as problem solving, critical thinking and reflection to develop good clinical decision-making abilities. However, despite nurses being equipped with the necessary skills to make decisions regarding patient care, they still feel their participation in clinical decision making is being constrained⁽⁷⁾. Many research studies have focused on nurses' clinical functioning, most of these studies have linked the problem to the nurses' knowledge and skills^(8,9). Hence, the health care professional who provides direct care has to possess the autonomy and decision-making skills needed to provide quality, cost effective care⁽¹⁰⁾.

Autonomy is commonly associated with the nurse's ability to make decisions and to his/ her professional knowledge base, an autonomous nurse is one who practices within a self-regulating professional environment; makes decisions based on professional judgment, and is able to act on these decisions within his/ her own sphere of practice^(11,12). The concept of autonomy is understood very broadly in the nursing literature, and there is no consensus on a global definition^(11,13,14). Autonomy can be examined from different perspectives and there are certain preconditions for its maintenance⁽¹⁵⁾.

Nursing accountability for critically ill patients' outcomes increases, along with complexity of critical care. Given the rising severity of critically ill individual nurses need to respond to increasingly complex and acute patient problems. Therefore, practice and clinical decision-making autonomy are global preconditions for supporting critical care nurses in fulfilling their caring responsibilities at an evidence-based, quality and patient-centered manner^(16,17). Faster decision making by using several different styles of leadership. The style of leadership used depends on the situation, leaders who achieved the best results used a variety of styles, which they adopted to the situation^(18,19). A good leader will move easily between the styles depending on context. Accordingly, organizations and managers are increasingly aware that they face a future of rapid and complex change. This wave of future oriented uncertainty, coupled with individual demands for increased participation at all levels of the organization, has dramatically changed perceptions of leadership, specifically with regard to the respective roles played by the leader and the follower⁽²⁰⁾. Managers with leadership styles that seek and value contributions from staff, promote a climate in which information is shared effectively, promote decision making at the staff nurse level, exert position power and influence coordination of work, provide a milieu that maintains a stable cadre of nurses⁽⁵⁾.

Studies have suggested that creating a climate that is supportive of nursing practice will augment the level of autonomous practice. For example, nurses working in Magnet hospitals perceived that managers were more supportive of their independent clinical decision making than did nurses working in non-Magnet hospitals. Because of perceptions of support, nurses in Magnet hospitals may be more willing to assume the risk for making autonomous patient care decisions. Building trust in the clinical setting by supporting nursing actions that may be risky, yet are safe, encourages innovative practice and enhances autonomy. Historically the concepts of empowerment and participatory management have been laden with a paternalistic tone of people in positions of authority allowing staff to provide input and participate in some operations⁽¹⁰⁾.

In addition to the critical role of the nurse manager, executive leadership is critical to creating an environment that is supportive of autonomy and CONP. Organizationally, a visionary nurse executive who trusts and values nursing staff is essential for creating the context for high levels of autonomy and CONP. Thus, the role of formal nurse leaders is powerful in establishing the context for autonomy and CONP. In contrast to the traditional command-and-control management style that results in stabilization of practices, enhancing autonomy and CONP involves leadership that encourages and fosters new ideas and innovation.⁽²¹⁾ These situations require nurse managers and nurse leaders who value and support their colleagues' input and decision making⁽¹⁰⁾. However, relations between nurse manager leadership competencies in clinical and administrative

issues and staff nurses' participation in decision making have not been clarified. Thus, an important area for research is to assess nurses' participation in decision-making and which leadership style enhanced their participations. This is particularly essential for administrators and educators to note when designing strategies to improve the work environment and educational practices. The purpose of this study is to explore; the styles of leadership, the degree of practice clinical decision-making autonomy, and relationship between leadership styles and degree of clinical decision-making autonomy.

II. Material & Methods

Aim of study

This study aimed to assess ;

- Dominant leadership styles among head nurses
- Level of decision making autonomy among critical care nurses
- Relationship between leadership style and decision making autonomy.

1. Material

Design: A descriptive cross- sectional research design was utilized in this study.

Research Questions:

The current study had three main questions:

1. What is the dominant leadership style among head nurses in the study Intensive Care Units?
2. What is the degree of decision making autonomy among critical care nurses?
3. Is there a relationship between leadership styles and degree of clinical decision-making autonomy.

Setting

The current study was conducted at two hospitals' namely; King Fahd Hospital of the University (KFHU) in Saudi Arabia and at Tanta Main University Hospital in Egypt in Intensive Care Units (ICUs) as; Medical Intensive Care Unit (MICU), Critical Care Unit (CCU) involved the following units; {burn, delivery room, and emergency}, and Neonatal Intensive Care Unit (NICU).

Subjects

The study subjects encompassed all full time nursing staff convenient sample in previous settings (n = 27) Head nurses 16 from Egypt, 11 from KSA, and (n= 74) Critical Care nurses divided as the following; 35 from Egypt; 11 (MICU), 14 (CCU), 10 (NICU) and 39 from KSA ; 8 (MICU), 23 (CCU), 8 (NICU).

Tools : Two tools were used in this study. Tool I. It was structured questionnaire, assessed decision making autonomy , developed by (Varjus...et al.2003) ⁽²²⁾. It included two parts ; part one : demographic data (7 items), part two: autonomy issue (18 items). There were 17 demographic factors: age, sex, experience (general and specific in the unit), last education, type of hospital, type of unit, method of assignment (functional, case, team , primary...etc.). The autonomy domain comprised 18 items (knowledge 6, action 6, value 6). The knowledge base autonomy included decision-making as a cognitive process. The items measured the nurses' view independence in decision making, their right to participate in decision concerning patient care and operation of the unit and their responsibility for the decision they took in nursing care and for developing their knowledge base. The action base of autonomy measured the nurses' s opinions of their independence in their nursing action and in the actions to organize the unit operations. Items were also included that measured the right to choose one's own approach to patient care, the right to participate in discussions concerning work arrangements, and responsibility for the progress of patient care developing nursing skills. The value base of autonomy was designed to measure whether the nurses were able to follow their own values in nursing care and in the unit, the right to participate in discussions concerning patients and the unit's value base, and the responsibility of nurses to adhere to their own values and to develop the value base of their work.

Tool II Assessed leadership styles , it included two parts ; part one :demographic data (6 items) ; age, sex, experience (general and specific in the unit), last education, type of hospital, type of unit , part two: Leadership styles Questionnaire (www.uk.sagepub.com/northhouseintro2e) ⁽²³⁾ this questionnaire is designed to measure three common styles of leadership: authoritarian, democratic, and laissez –fair. It composed of 18 statements. The respondents were presented with a five point likert scale, the number indicates the degree to which the respondents agree or disagree [5-1], the sum of the responses on items 1,4,7,10,13, and 16 will indicate authoritarian leadership style. Sum of the responses on item 2,5,8,11,14,and 17 will indicate democratic leadership style, while sum of responses on item 3,6,9,12,15,and 18 will indicate laissez-faire leadership style. If the score is 26-30, it will be in the very high range. If the score is 21-25, it will in the high range . If the score is 16-20, it will be in the moderate range. If the score is 11-15, it will be in the low range. If the score is 6-10, it will be in the very low range.

2. Method

Both tools submitted to sex experts in the different fields of nursing for testing the content and face validity.

The researchers used Test Retest reliability of ordinal data of Likert scale , Kendall's tau and Spearman's rho were used, most of the values are greater than 0.8 indicating high reliability. Cronbach's coefficient alpha was used to measure internal consistency reliability of tools which greater than 0.7 are satisfactory.

A pilot study was carried out on 10 head nurses and 10 critical care nurses (excluded from the main study's sample) from the previously mentioned setting to assess and ensure the applicability and suitability of the statements and time required to complete the survey therefore, the rewording or rephrasing of statements was done.

Ethical considerations

The research was approved by an ethical committee of the university. The data was collected after obtaining the approval from the hospital responsible authorities. Prior to the data collection, informed consents of all nurses were obtained. The nurses were informed about the purpose of the research study.

Method of Data Collection: After the official permission obtained from the hospital responsible authorities. After obtaining the subjects' consents , the researchers assessed the degree of nurses decision making autonomy by using tool I and nurse managers leadership styles by using tool II, they filled the questionnaire while were working in their work settings . Distribution of questionnaire was conducted by researchers. Filling the questionnaire consumed about 10 – 15 minutes and data collection were completed during the period of three month (Nov. 2012-Jan. 2013).

Statistical Analysis: All Data was collected, tabulated and subjected to statistical analysis. Statistical analysis is performed by SPSS in general (version 17), also Microsoft office Excel is used for data handling and graphical presentation.

A. Descriptive statistics:

- **Quantitative variables** are described by the Mean, Standard Deviation (SD) , the Range (Maximum – minimum)

- **Qualitative categorical variables** are described by proportions and Percentages.

B. Inferential statistics:

1. Chi-square test is used for the analysis of categorical qualitative variables.
2. Student t test: is used for comparing the means of two groups
3. ANOVA F-test: is used for comparing the means of more than two groups of quantitative variables. Significance level is considered at $P < 0.05$.

III. Results

Table (1): Distribution of Dominant Leadership styles among Head Nurses

Styles	Range Scale	Egypt		KSA	
		Freq.	%	Freq.	%
Authoritarian	Very High	0	0.0	0	0.0
	High	11	68.8	6	54.5
	Moderate	4	25.0	5	45.5
	Low	1	6.3	0	0.0
	Very Low	0	0.0	0	0.0
Democratic	Very High	0	0	4	36.4
	High	13	81.3	6	54.5
	Moderate	3	18.8	1	9.1
	Low	0	0.0	0	0.0
	Very Low	0	0.0	0	0.0
Laissez-Fair	Very High	0	0.0	0	0.0
	High	0	0.0	0	0.0
	Moderate	14	87.5	7	63.6
	Low	2	12.5	4	36.4
	Very Low	0	0.0	0	0.0

Table 1 shows distribution of dominant leadership styles among head nurses. In Egypt, it illustrates that high percent (81.3%, 68.8%) of head nurses were high authoritarian and democratic leadership styles respectively. In addition, the majority 87.5% of them were moderate laissez- fair . While, in KSA an equal value 54.5% were high authoritarian and democratic leadership styles. Similar to Egypt, more than two thirds of head nurses were moderate laissez- fair .

Table (2) : Distribution of Head Nurses' Leadership Style According to Un

Leadership Styles	Egypt						KSA						
	Scale	MICU (5)		CCU (5)		NICU (6)		MICU (2)		CCU (7)		NICU (2)	
		No	%	No	%	No.	%	No	%	No	%	No	%
Authorization	Low	1	20	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Moderate	1	20	1	20	2	33	1	50	4	57	0	0.0
	High	3	60	4	80	4	67	1	50	3	43	2	100
	Very High	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Democratic	Low	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Moderate	2	40	1	20	0	0.0	0	0.0	1	14	0	0.0
	High	3	60	4	80	6	100	2	100	4	57	0	0.0
	Very High	0	0.0	0	0.0	0	0.0	0	0.0	2	29	2	100
laissez-faire	Low	1	20	0	0.0	1	17	0	0.0	3	43	1	50
	Moderate	4	80	5	100	5	83	2	100	4	57%	1	50%
	High	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Very High	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table 2 shows distribution of Head Nurses' Leadership Style according to Unit. In Egypt, it can be noticed that all of studied head nurses in NICU were high for democratic leadership style, while moderate laissez faire leadership style among head nurses in CCU. Moreover, an equal percent 80% of them were high democratic in CCU, and high authoritarian in CCU, but, moderate laissez faire in MICU. High percent 83% of them were moderate laissez faire in NICU, followed by 67% high democratic in NICU, and an equal percent 60% was high authoritarian in MICU, and high democratic in MICU.

On the other hand , in KSA all of head nurses were high authoritarian in NICU , high and very high democratic in MICU and NICU respectively. However all of them were moderate laissez faire leadership style in MICU. More than fifty percent 57% were moderate authoritarian and laissez faire leadership styles among head nurses in CCU. While, an equal percent 50% were moderate authoritarian in MICU, and laissez faire in NICU, as well as, high authoritarian in MICU, low laissez faire in NICU.

Table : (3) Distribution of Nurses' Perceptions Regarding Decision Making Autonomy.

	Sub-Scale		Completely Disagree	Disagree	Agree	Completely Agree	Total	Pearson Chi-Square	P-value
Knowledge Base of Autonomy	Independ.	Egypt	3 8.6%	19 54.3%	13 37.1%	0 0.0%	35 100%	11.44	0.0096**
		KSA	1 2.6%	11 28.2%	20 51.3	7 17.9%	39 100%		
	Right	Egypt	6 17.1%	13 37.1%	16 45.7%	0 0.0%	35 100%	34.3	0.0000***
		KSA	0 0.0%	0 0.0%	26 66.7%	13 33.3%	39 100%		
	Responsibility	Egypt	4 11.4%	4 11.4%	26 74.3%	1 2.9%	35 100%	18.12	0.0000***
		KSA	0 0.0%	0 0.0%	26 66.7%	13 33.3%	39 100%		
Action Base of Autonomy	Independ.	Egypt	5 14.3%	20 57.1%	10 28.6%	0 0.0%	35 100%	23.4	0.0000***
		KSA	0 0.0%	7 17.9%	29 74.4%	3 7.7%	39 100%		
	Right	Egypt	2 5.7%	8 22.9%	24 68.6%	1 2.9%	35 100%	11.33	0.01005*

Value Base of Autonomy	Responsibility	KSA	0 0.0%	2 5.1%	29 74.4%	8 20.5%	39 100%	3.69	0.158
		Egypt	0 0.0%	3 8.6%	14 40.0%	18 51.4%	35 100%		
		KSA	0 0.0%	0 0.0%	15 38.5%	24 61.5%	39 100%		
	Independ.	Egypt	0 0.0%	3 8.6%	17 48.6%	15 42.9%	35 100%	8.46	0.015*
		KSA	0 0.0%	14 35.9%	16 41.0%	9 23.1%	39 100%		
	Right	Egypt	4 11.4%	15 42.9%	14 40.0%	2 5.7%	35 100%	30.5	0.0000***
KSA		0 0.0%	0 0.0%	26 66.7%	13 33.3%	39 100%			
Responsibility	Egypt	0 0.0%	3 8.6%	14 40.0%	18 51.4%	35 100%	6.41	0.041*	
	KSA	0 0.0%	0 0.0%	25 64.1%	14 35.9%	39 100%			

Table 3 shows distribution of nurses' perceptions regarding decision making autonomy. It demonstrates that in Egypt, more than fifty percent (57.1, 54.3) of the nurses were disagree for independent in action base, and in knowledge base of autonomy, which can be attributed to their limited authority and physicians' dominance in decision making process, followed by 42.9% for right in value base of autonomy, while 68.6% were agree for right in action base of autonomy . An equal value 51.4% were completely agree for responsibility in both action and value bases of autonomy, then 42.9% were completely agree for independent in value base. On the other hand, in KSA the majority (74.4, 74.4, 74.3, 66.7, 66.7, 64.1) of nurses were agree for both independent and right in action base , right, and responsibility in knowledge base , also responsibility in value base of autonomy respectively. Followed by 42.9% were agree for right in value base, and 41.0 for independent in value base of autonomy. As well as more than two thirds 61.5% of them were completely agree for responsibility in action base, and an equal value 33.3% were completely agree for the following ; right and responsibility in knowledge base, and right in value base. In addition, there are statistical significant differences for all subscales except responsibility in action base (P=<0.05, 0.001). These statistical significant differences due to that in Egypt, responses of the nurses tend to side of disagreement and strongly dis-agreement, while in KSA, responses of the nurses tend to the opposite side; agreement and strongly agreement.

Autonomy Scale	Country	NO.	Mean ±SD	t	P- value
Knowledge Base of Autonomy	Egypt	35	43.4 ±18.21	- 7.20	0.000***
	KSA	39	69.5 ±12.74		
Action Base of Autonomy	Egypt	35	51.4 ± 13.09	- 6.17	0.000***
	KSA	39	68.7 ± 10.93		
Value Base of Autonomy	Egypt	35	65.4 ± 18.13	- 1.35	0.180
	KSA	39	70.4 ± 13.33		
Total Autonomy	Egypt	35	53.4 ± 14.03	- 5.67	0.000***
	KSA	39	69.5 ± 10.27		

Table (4) : Comparison of the Mean Scores of Nurses' Decision Making Autonomy subscales

Table 4 shows comparison of the mean scores of nurses' decision making autonomy subscales. It can be seen that the highest mean score 70.4 ± 13.33 was for value base in KSA, followed by 69.5 ±12.74 for knowledge autonomy base, and 68.7 ± 10.93 for action base of autonomy. As well as, studied nurses in KSA had the highest mean score 69.5 ± 10.27 for total autonomy scale. Table also , illustrates that there are statistical significant difference for two bases of autonomy knowledge, and action bases (P= 0.000) for each, also total

autonomy (P= 0.000). While no statistical significant difference between nurses agreement in Egypt and KSA for value base, because their mean scores are closed to each other (65.4, 70.4).

Table (5) a.: Relationship between Nurses' Demographic Characteristics (Unit) and Decision Making Autonomy

Table 5.a. illustrates relationship between nurses' demographic characteristics (Unit) and autonomy decision making. It

Autonomy Scale	In Egypt					In KSA			
	Units	No.	Mean ± SD	F	p-value	No.	Mean ± SD	F	p-value
Knowledge base	MICU	11	43.94±13.02	0.60	0.554	8	67.36±11.28	0.15	0.861
	CCU	14	46.67±16.18			23	70.29±14.08		
	NICU	10	38.33±25.32			8	69.44±11.11		
Action base	MICU	11	53.54±9.71	1.17	0.324	8	70.83±11.40	0.21	0.808
	CCU	14	53.57±12.25			23	68.36±12.36		
	NICU	10	46.11±16.78			8	67.36±5.51		
Value base	MICU	11	68.18±14.51	0.51	0.608	8	75.69±15.41	1.65	0.206
	CCU	14	66.67±21.01			23	70.77±13.63		
	NICU	10	60.56±18.23			8	63.89±7.86		
Total Autonomy	MICU	11	55.22±10.00	0.92	0.410	8	17.30±9.95	0.38	0.689
	CCU	14	55.63±15.47			23	69.81±11.46		
	NICU	10	48.33±15.70			8	66.90±7.03		

demonstrates that no statistical significant relationships are existed between working units and their autonomy in both countries Egypt and KSA , because their mean score are closed to each other. The highest mean scores (68.18 ±14.51, 75.69±15.41) are for value base among nurses in Medical Intensive Care Unit(MICU) in Egypt and KSA respectively, followed by (66.67±21.01, 70.77±13.63) for nurses in Surgical Intensive Care Unit (SICU), then Neonatal Intensive Care Unit(NICU)(60.56±18.23, 63.89±7.86) in Egypt and KSA respectively.

Regarding action base of autonomy, in Egypt , high mean scores(53.57±12.25, 53.54±9.71) are among nurses in Surgical Intensive Care Unit (SICU), and Medical Intensive Care Unit(MICU) . In KSA high mean scores (70.38±11.40, 68.36±12.36) are among nurses in Medical Intensive Care Unit(MICU) and Surgical Intensive Care Unit (SICU). On the other hand, knowledge base of autonomy has the lowest mean scores are in both countries as the following; 46.67±16.18 in Surgical Intensive Care Unit (SICU), (43.94±13.02) in Medical Intensive Care Unit(MICU), then (38.33±25.32) in Neonatal Intensive Care Unit(NICU). While in KSA high mean score (70.29±14.08) in Surgical Intensive Care Unit (SICU),(69.44±11.11) in Neonatal Intensive Care Unit(NICU), then Medical Intensive Care Unit(MICU)(67.36±11.28). In addition, total decision making autonomy mean score (66.90±7.03) among studied nurses in KSA is higher than total decision making autonomy mean score (48.33±15.70) among studied nurses in Egypt.

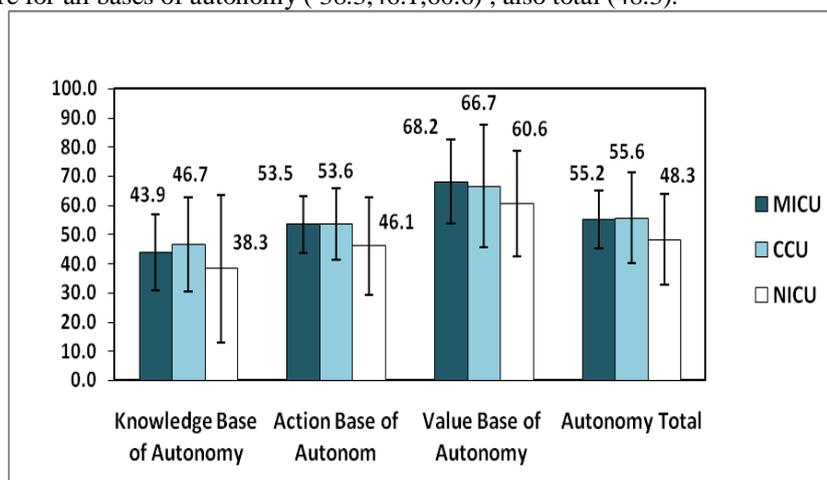
Table 5 . b. shows relationship between nurses' demographic characteristics (age, nationality, methods of assignment, and experience) and decision making autonomy in KSA. It demonstrates no statistical significant relationships are existed between nurses demographic characteristics and autonomy. High mean score (70.83±14.98) of nurses aged 30-40 have decision making autonomy , followed by those aged >40 years old, then aged <30 years old (69.44±12.04, 68.30±11.24). In relation to nationality, high mean scores (70.88±7.32) of nurses are Saudi who have autonomy decision making followed by Filipino and Indian who have the an equal mean score (68.98±13.14, 68.98±8.83)respectively. High mean scores (70.74±12.24,70.54±8.38) of studied nurses have autonomy used team methods , and primary method respectively, followed by functional method (69.69±11.70), then case method (64.35±6.30). Regarding experience, studied nurses who have experience between 10-20 years have high mean score (75.00±13.56) of autonomy, followed by <10 years experience (67.78±8.95), and (66.67±3.02) for >20 years experience.

Table (5.b.) : Relationship between Nurses' Demographic Characteristics In KSA

Total Autonomy	Category	No.	Mean± SD	F	p-value
Age	<30	17	68.30±11.24	0.16	0.856
	30-40	16	70.83±14.98		

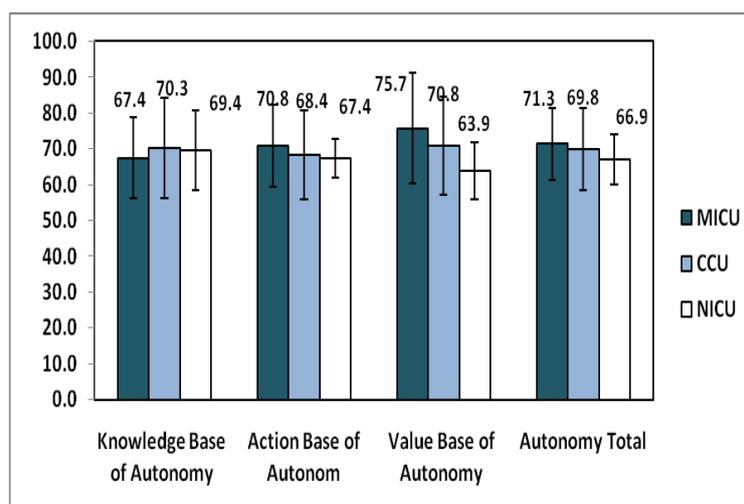
	>40	6	69.44±12.04		
Nationality	Saudi	11	70.88±7.32	0.13	0.880
	Filipino	16	68.98±13.14		
	Indian	12	68.98±8.83		
Methods of Assignment	Functional	19	69.69±11.70	0.38	0.768
	Case	4	64.35±6.30		
	Team	5	70.74±12.24		
	Primary	11	70.54±8.38		
Experience	< 10	25	67.78±8.95	2.04	0.144
	10 - 20	10	75.00±13.56		
	> 20	4	66.67±3.02		

Graph 1 shows nurses autonomy levels / units in Egypt. It demonstrates that Critical care Unit and Medical Intensive care Unit had the high mean scores regarding all bases of autonomy as the following ; knowledge base (46.7,43.9), action base (53.6,53.5), value base in Medical Intensive care Unit was (68.2), Critical care Unit (66.7). As well as, total autonomy (55.6, 55.2). While, Neonatal Intensive Care Unit had the lowest mean score for all bases of autonomy (38.3,46.1,60.6) , also total (48.3).



Graph : 1 Nurses Autonomy levels/ Units in Egypt

Graph : 2 shows nurses autonomy levels/ units in KSA. It illustrates that Critical Care Unit and neonatal Intensive Care Units had high mean scores (70.3,69.4) for knowledge base. While Medical Intensive Care Unit had high mean score (70.8) for action base and 75.7 for value base, as well as total autonomy (71.3). Similarly in Egypt, neonatal Intensive Care Unit had the lowest mean score (66.9) for total autonomy.



Graph : 2 Nurses' Decision Making Autonomy levels/ Units in KSA

IV. Discussion

Nurses place a high value on their autonomy in clinical settings. Autonomy in general and autonomous decision making in particular can be influenced by managerial interventions. Nurse managers can initiate

interventions at the unit level to promote nurses' autonomy, which will influence job satisfaction and retention as well as patients' satisfaction and the quality of nursing care

Findings of the current study revealed that most of the head nurses were high democratic and authoritarian leadership styles in both countries Egypt and Kingdom of Saudi Arabia. This means that they follow situational leadership theory which propose that leaders choose the best course of action based on situational variables. Different styles of leadership may be more appropriate for certain types of decision – making.

These findings are in accordance with "Davidson et al. 2003"⁽²⁴⁾ who claimed that the ways that leaders function vary and can be located along a continuum from authoritative to participatory in leadership styles. Moreover, literature mentioned that nurse managers had many leadership styles, but normally they had one that they used more than the others. In addition, the nurse managers should consider their leadership style from the point of view of employees, situation factors, and goals of the organization "Vesterinen S 2012"⁽²⁵⁾.

Results also showed that all of studied head nurses in NICU were high for democratic leadership style, while moderate laissez faire leadership style among head nurses in CCU. Moreover, most of them were high democratic and authoritarian in CCU, as well as, high authoritarian and democratic in MICU.

These results proved the findings of "Webhe G et al. 2005"⁽²⁶⁾ which reported that Situational leadership is centered on the premise that there is no such thing as a single appropriate leadership style for each and every situation. In this approach, the leader's behavior in relation to subordinates in a specific task is emphasized i.e. it is founded on the interrelation between the leader's task behavior, his/her relationship behavior, and the subordinates' maturity⁽²⁷⁾

In addition, studies^(26,28,29,30) that used this same theoretical framework found similar results in several hospital units. In the emergency room, it was observed that sharing ("shares ideas and the decision-making process";) was the most common style among nurses, as well as in the operating room. Styles sharing and delegate "passes on the responsibility for the decisions and the implementation". were the most frequently used in the surgery hospitalization unit.

Concerning, autonomy, results of the present study illustrated that studied ICU nurses had autonomy decision making in the area of value base in Egypt and Kingdom of Saudi Arabia. Although units and nursing staff had different values. Moreover, health care organizations are often inclined to stress the importance of efficiency and productivity, whereas staff tend to put more weight in patient- oriented care and the humanity of care⁽¹⁵⁾. These results can be explained by several studies^(15,22,31,32) which asserted that ICU nurses value their autonomy and want to provide the best possible care for their patients. As well as, nurses regarded autonomy in their own work as extremely important and almost all nurses said they felt responsible for their own work and actions.

These result are contradictory with "Leino-Kilpi et al. 2002"⁽¹⁵⁾ who found that ICU nurses in Finland didn't always perceive that the ethical environment supports their values, or that the organizational is ethical. Finding of the current study revealed in Egypt, ICU nurses had more autonomy in action base than in knowledge base. This finding is consistent with a recent study in Finland "Varjus et al. 2003"⁽²²⁾ the majority of nurses reported more autonomy in relations to actions and decision making concerning patient care than regarding issue related to unit operations

While results showed in Kingdom of Saudi Arabia, nurses reported high autonomy in knowledge base than action base. They agreed to have independency, right and responsibility for their own knowledge. This finding is supported by study of "Bucknall 2000"⁽³³⁾ in Australia which proved that lack of time as well as inadequate knowledge base and personnel conflicts were the more frequent barriers to decision making among critical care nurses.

In addition, results of the present study revealed that in KSA nurses had higher decision making autonomy than nurses in Egypt. These results may be attributed to that in Egypt nurses were overwhelmed with heavy workload due to large number of patients in relation to nurses number as a result they didn't have enough time to participate in decision making. This result is in line with "Iliopoulou K K.& While A E 2000"⁽³⁴⁾. who found that The CCNs often encounter difficulties associated with clinical decision-making. Their autonomy as decision-makers has been reported to be affected by their perceived lack of knowledge, by medical control on a regular basis and by the mis-match between their high level of training in critical care and the low level of responsibility afforded to them. However, as reported by "Bucknall 2000"⁽³³⁾ In critical care, nurses must exercise high levels of responsibility and discretionary decision-making due to the urgency in treating life-threatening illnesses. Thus, it might be anticipated that critical care nurses (CCNs) would possess high levels of decision making autonomy to experience job fulfillment." Cronqvist et al. 2006"⁽³⁵⁾ and "Scholes 2006"⁽³⁶⁾ stated that although CCNs are required continually to develop new skills and expand their role, their autonomy appears to be restricted by medical dominance, their perceived lack of knowledge and the limited responsibility afforded to them" Manias & Street 2001"⁽³⁷⁾, "Cornock 2002"⁽³⁸⁾.

Regarding demographic characteristics and three bases of autonomy decision making, findings of the current study showed that there was no statistical significant relationship between working unit and decision making autonomy in both countries. However, nurses in CCU reported higher decision making autonomy than others (MICU and NICU). In contrast the association between type of critical care setting and autonomy may reflect individual unit procedure and management structures. Furthermore, "Papathanasoglou et al. 2005"⁽³⁹⁾ survey showed differences between those who worked in coronary and cardiothoracic care units and those working in general and pediatric units. Moreover, they study claimed that types of ICU, education, background, and years of ICU experience, but not gender were significant predictors of decisional autonomy.

In relation to age and nationality among nurses in KSA, no statistical significant relationships were existed with decision making autonomy. Nurses who aged 30-40 years old or ≥ 40 years old had higher autonomy. Within management literature, the degree of worker participation in decision making has been found to relate positively to satisfaction with work "[Black & Gregersen 1997](#)"⁽⁴⁰⁾. In turn, "Shah et al. 2004"⁽⁴¹⁾ asserted that professionals mature age-wise and gather more experience, they tend to make a better adjustment to the work environment when compared with younger peers

Furthermore, it is obvious from the current study that Saudi nurses had higher decision making autonomy than Filipinos and Indian. These results can be due to different culture, and because the official language in Saudi Arabia is Arabic and the majority of supervisors are Saudis, therefore the Arab employees tend to enjoy a better rapport and working relationship with Arabic-speaking supervisors "Al-Enezi et al. 2009"⁽⁴²⁾ and "Shah et al. 2001"⁽⁴³⁾.

Results of the present study showed that nurses who had experience between 10-20 years had higher autonomy than others. This association between experience and autonomy may be explained in terms of increased knowledge and skills that experienced nurses usually possess. "Benner 2001"⁽⁴⁴⁾ study of decision-making by CCNs identified that knowledge and experience were important to clinical decision-making.

These results confirmed the results of "Papathanasoglou et al. 2005"⁽³⁹⁾ who reported the positive association between the length of ICU experience and decision making autonomy may be understandable on the basis of both increased knowledge and psychomotor skills, and the ability to handle more efficiently the hierarchical relationships of the unit.

These results are in consistent with several other studies of autonomy of nurses working in different clinical settings and countries, including Australia (Bucknall⁽³³⁾ 2000), Finland (Varjus et al. 2003)⁽²²⁾, the USA, Canada and the UK (Mrayyan⁽⁴⁵⁾ 2004), the USA (Mrayyan 2005)⁽⁴⁶⁾, and the UK and Greece (Bakalis et al.⁽⁴⁷⁾ 2003, Papathanasoglou et al. 2005)⁽³⁹⁾ which concluded that nurses with more than 12 years' experience reported higher levels of autonomy. In addition, these results supported by "Hooi et al. 2000"⁽⁴⁸⁾ study which stated that experienced staff nurses had more authority and autonomy in their work. Professional autonomy in nursing has been found to increase with increases in grade of post and years of experience.

Concerning methods of assignment, results revealed that decision making autonomy was high among studied nurses who utilized team and primary methods. Although, there are no significant differences between different methods of assignments and decision making autonomy. These results are contradict with "Webb et al. (1996)⁽⁴⁹⁾ in "Mrayyan" (2006)⁽⁵⁰⁾ who mentioned that autonomy is influenced by the type of nursing care delivery system; nurses and nurse managers on primary nursing units valued accountability, authority and autonomy more than nurses and nurse managers on total patient care units. In this respect, "Baker" (2001)⁽⁵¹⁾ reported that lack of time and heavy workload negatively affected decision-making, because nurses cannot comprehend patients' requirements

In relation to relationship between head nurses' leadership styles and critical care nurses' decision making autonomy, descriptively, as mentioned before results revealed that in both countries, most of head nurses conducted situational leadership theory, where democratic and authoritarian leadership styles were the dominants, while moderate laissez-faire as the results, high autonomy was reported among studied critical care nurses in Kingdom of Saudi Arabia more than those in Egypt.

These results indicated that Nurse managers play important roles in promoting autonomous decision making of their nurses. "Baker et al. (2000)⁽⁵¹⁾, "Curtin" (2000)⁽⁵²⁾ stated that nurse managers devoting part of their decision making processes to nurses; decentralized decision making and empowerment would influence nurses' autonomy.

These results in accordance with "Varjus et al." (2003)⁽²²⁾ who describe the autonomy of Finnish intensive care unit nurses as being a part of empowerment. The majority of nurses reported that they had more autonomy in decision-making about patient care than about unit operations. As well as the autonomy of nurses is linked to their managers' leadership style; leaders are recognized. According to "Yiliu 2008"⁽⁵³⁾ based on the different levels of skill and knowledge of staff nurses, the manager should set up a reasonable goal, boundaries and the level of nurses' involvement, and provide enough information and resources to support "Participative Decision Making" among staff nurses. Managers should encourage staff nurses to participate in the area in which they are really interested⁽⁵⁴⁾.

Nurses also reported that their managers 'sometimes' encouraged them to enhance their autonomy. Studies have shown that nurses who work in hospitals desire autonomy and responsibility and usually like to be led by a leader with a participative leadership style ("Allen 2000"⁽⁵⁵⁾, "Margall & Duquette" 2000)⁽⁵⁶⁾. In contrast, in a study on benefits and outcomes of staff nurses' participation in decision-making, "Krairikish and Anthony" (2001)⁽⁵⁷⁾ reported that nurse managers' leadership had little effects on staff nurses' participation in decisions

Furthermore, nurses reported that the three important variables that increased nurses' autonomy were supportive management, education and experience. On the contrary, the three most important variables that were reported to decrease autonomy were autocratic/non-supportive management, physicians and workload "McParland et al. 2000"⁽⁵⁸⁾.

V. Conclusion

It can be concluded that dominant leadership styles among head nurses were democratic and authoritarian leadership styles in both countries. As well as moderate laissez faire leadership style. Findings In Egypt, demonstrates that more than fifty percent (57.1, 54.3) of the studied nurses were disagree for independent in action base, and in knowledge base of autonomy. However, an equal value 51.4% of them were completely agree for responsibility in both action and value bases of autonomy

On the other hand, in KSA the majority (74.4, 74.4, 74.3, 66.7, 66.7, 64.1) of studied nurses were agree for both independent and right in action base , right, and responsibility in knowledge base , also responsibility in value base of autonomy respectively. Overall, results of the present study revealed that in KSA nurses had higher autonomy than nurses in Egypt, and there are statistical significant differences for all subscales of autonomy decision making except responsibility in action base ($P < 0.05$, 0.001).

Findings demonstrate that no statistical significant relationships are existed between working units and nurses' decision making autonomy in both countries Egypt and KSA. Furthermore, there are no statistical significant relationships between nurses demographic characteristics and decision making autonomy among nurses in KSA.

VI. Recommendations

* Based on findings of the current study:

- The ICU nurse managers have to ensure 'a nursing contribution to decision making at all levels of policy development and implementation, and to address the obstacles in particular medical dominance for actualizing nursing autonomy.

Specifically, ICU nurse managers need to consider;

Fostering nurses' autonomy by enabling them to exercise clinical decision-making, first in safe environments, such as nursing rounds, and then by implementing multi-professional teams.

Actively supporting nursing decisions and nursing accountability.

Providing continuous in-service education to increase nurses' knowledge base.

- Further research should be conducted to determine more closely at what kind of decisions and actions at the patient care level and at the unit level ICU nurse can practice autonomy decision making.
- Further research is needed to examine the barriers to decision making autonomy that nurses face in relation to unit operational decisions.

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