

Mediating Role of Nurses' Job Autonomy in Head Nurses' Boundary Spanning Activities and Nurses' Supervision Satisfaction: A Comparative Study

Reda Abd El-Fatah Said Ahmed Abo Gad¹, Walaa Mostafa Eid²

¹Assistant professor of Nursing Administration, Faculty of Nursing, Tanta University, Egypt

²Lecturer of Nursing Administration, Faculty of Nursing, Tanta University, Egypt

Corresponding Author: Reda Abd El-Fatah Said Ahmed Abo Gad

reda.gad@nursing.tanta.edu.eg, redagad51@yahoo.com

Abstract: Boundary spanning is essential for head nurses since nursing team does not work alone, as well nurses function in an intricate healthcare environment with numerous responsibilities, particularly at ICUs where nurses often in need for autonomous decision making because of critically ill patients. Nurses' satisfaction with head nurses' supervision is a result of managerial boundary spanning activities. This study intended to compare nurses' job autonomy as a mediator between nurses perceived head nurses' boundary spanning activities and their supervision satisfaction at Tanta University Main Hospital and El-Menshawey General Hospital. A descriptive, comparative via cross-sectional research design was applied. Setting: all ICUs at Tanta University Main and El-Menshawey General Hospitals were included. Subjects: All (N=402) accessible nurses in Tanta University Main's ICUs (n=256) and El-Menshawey's ICUs (n=146) was incorporated. Tools: Nurse managers' boundary spanning, nurses' job autonomy, supervision satisfaction scales were utilized. Results: nearly two-thirds of head nurses at El-Menshawey ICUs had high level of boundary spanning activities compared to nearly half at Tanta University ICUs had low level as rated by nurses. At El-Menshawey ICUs, the majority of nurses had high patient care autonomy level contrasted to over half had low level at Tanta University ICUs. More than three-quarters of nurses had high supervision satisfaction level at El-Menshawey ICUs compared to over two-fifths at Tanta University ICUs had moderate level. Conclusion: Head nurses' boundary spanning activities prophesy nurses' supervision satisfaction at El-Menshawey General hospital and nurses' job autonomy mediates the association among two variables. So, Enhancing head nurses' boundary spanning role through conducting educational program is needed especially at Tanta University Main hospital.

Keywords: Boundary spanning activities, Head nurses, Job autonomy, Supervision satisfaction.

I. INTRODUCTION

At intensive care units (ICUs), the work of nurses depends on different contributions from outside the unit, such as data on patients' needs and new advances, support from different experts, departments and superior management (Onishi, 2016). Head nurses facilitate nurses' access to opportunities, data, backing and resources, all of which positively impact nursing team working (Purdy *et al.* 2010). In this way, head nurses assume a key role in guiding and supporting nursing teams as an influential innovator in the effective working of organization to bring high-quality services (Melo & Neves, 2015; Menezes, 2010).

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Head nurses are the crucial connection between senior management and staff nurses (Marx, 2014). Consequently to be successful leadership, head nurses must keep a harmonious relationship with them to advance the strengthening and convey the power to the nursing team, upgrade the worth of individual aptitudes and ensure that each nurse recognizes the reason and importance of the work (Watson, 2009). As well as, head nurses must engender a positive workplace climate by guaranteeing access to appropriate resources and information, improving collaborative relationships among doctors and nurses, and connecting nurses to hospital broad matters (Stam *et al.* 2015; Heale *et al.* 2014; Macphee *et al.* 2014). In this way, head nurses are typically boundary spanners as noted by Meyer *et al.* (2011).

Head nurses' boundary spanning is defined by their activities to build up connections and to oversee interactions between their units and groups within or outside the hospital, as other professionals, departments, and patients (Marrone, (2010). Boundary spanning centers more around relationship management roles, containing filtering data from the situations to forestall hospital employees or influencing external bodies from accommodating the priorities of the hospital. For head nurses, a relationship management's viewpoint is valuable on account of their need to negotiate with top management or other professionals to get better care circumstances. What's more, boundary spanning incorporates obtaining feedback related to the unit's work movement. Feedback on day by day's practice can add to compliance with practice rules and the quality of care (Kaasalainen *et al.* 2015; Dulko & Mooney, 2010).

In nursing divisions, boundary spanning is obligatory for head nurses because nursing as teamwork can't complete the work single-handedly (Melo & Neves, 2015). As of its importance for healthcare organizations, boundary spanning becomes from the most important challenges for head nurses to be handled between upper administration and individual nursing groups and crosswise nursing teams as well among professionals to set up standards for nursing and shared goals for patient care (Onishi, 2016). Though head nurses need to be energetic boundary spanner. They have to delineate and negotiate the role as far as responsibilities and abilities; represent and symbolize fellow in large practice and; navigate in an uncommon organizational circumstances to collaborate and coordinate tasks successfully (Kousgaard, et al. 2015).

Marrone (2010) has shown the scientific classification of boundary-spanning activities including three behavioral classes: representation, coordination of task performance and, general information seek. Representation reflects interactions that primarily pointed toward others who possess much power than the nursing group and incorporates activities that give information about the nursing activities and expectations, convince others of the nursing decisions and shield the nursing group from over-burdening and stress. Representation empowers nursing team to build up a prevalent understanding with higher management, acquire work's resources and dedicate the nursing group's effort to accomplish its goal.

Coordination of task performance reveals interaction with the nursing group's lateral outer parties and incorporates activities that affirm the advancement of a shared task, organize each effort and acquire feedback. It empowers the nursing team to build up common support and cooperation with outside employees to improve the efficiency and effectiveness of work. Finally, general information seeking includes actions that provide external groups with general or specialized information or expertise; it likewise empowers the nurses to see environmental changes concerning to their work and gives them with chances for learning and development (Onishi, 2016; Marrone, 2010).

Each boundary spanning class demonstrated by the head nurses through wide array of activities that can be further classified into six domains namely: (1) Informing and persuading to let others know of units' objectives and activities, their value, and their advancement; and induce others to acquire outer support as required; (2) Buffering symbolizes controlling external pressures and demands to shield nurses from struggle and over-burdening; (3) Clarifying the position reveals communicating hospital's and nursing departments' policies, decisions, assessments and expectations to nurses and improving their understanding; (4) Connecting where head nurses can get backing and unit resources and encouraging nurses' access; (5) Feedback utilization addresses getting and acquiring feedback from different professionals concerning unit's performance; and (6) Cooperation and coordination of activities to get collaboration and coordinate efforts with different units and professionals for improving the performance of nursing unit (Onishi, 2016; Hanover Research, 2011).

Head nurses as boundary spanners influence outside opinions, buffer the nurses from external stress, negotiate over the organizational hierarchy and encourage high quality relationships with and among nurses using physical motion, interpersonal abilities, and discussion (Meyer, 2010; Gittel, 2003). Head nurses' boundary spanning expertise therefore

need to be supported by skilled communication and managing of relationship, technical efficiency and political astuteness that are utilized to fulfill differing needs crosswise boundaries (Meyer *et al.* 2014; Gittel, 2003).

Coordination of communication and relationships is an instant- and relationship-rigorous effort for head nurses who coach and give feedback to nurses throughout direct supervision (Hanover Research, 2011). Head nurses extent boundaries by organizing and combining information, materials, and HR, procedures, interrelated subsystems, hierarchical dimensions, practical groups, and spatial partitions. Likewise, head nurses span organizational structure boundaries concerning the supervision of nurses. By means of the formal reporting structure of the hospital (i.e., hierarchy), management positions are conferred with the authority to coordinate the activities and the standards expected of subordinate levels and are given responsibility regarding aspects of staff's and hospital's working and performance (Meyer, 2010).

Reporting relations are essential to ascertain that nurses are considered accountable for their allocated work, and to make sure that they can get hospital's resources and managerial backing with maintaining the flow of information and resources especially at intensive care units (Meyer, 2010). Accordingly, as nurses in high quality supervision would possess sufficient information, resources and trust to tackle issues, be engaged to decide, and act in an environment characterized by shared respect, it is anticipated that their perception of autonomy is high (Shacklock *et al.* 2015).

Autonomy is a notion that can be applicable to the health professionals; this implies enabling nurses to have substantial control over work on, encompassing a significant area for practicing their opinion (MacDonald, 2002). Blegen *et al.* (1993) defined by autonomy as "Authority and accountability for patient care and unit operations, and alluded to the right to make decisions and responsibility for outcomes". It has fundamental constituents: authority; accountability; knowledge with good base; and excellent communication among nurses and healthcare coworkers teams (Kopp, 2001). Job autonomy can be described as a practice, or group of practices including the delegation of responsibility downward the hierarchy in order to furnish staff greater decision-making authority than before in regard to the implementation of their essential work tasks (Leach *et al.*, 2003). So, job autonomy is seen as structural empowerment by get into information, backing, resources and enlarged opportunities that precisely influence nurses' level of control (Kanter, 1997).

Autonomy remains essential professional issue in the improvement of the job and extent of nursing practice (Maylone *et al.* 2011; Varjus *et al.* 2010). It can strengthen nurses' evidence-based practice performance, improve patient outcomes - since nurses who hold a higher level of autonomy give top notch patient care, preserve patient's safety, and lessening mortality- and, it encourages a growing feeling of commitment and accountability (Maharmeh, 2017; Keith & Cianelli, 2014). When ICUs' nurses are supported with authority, they start to ponder critically and autonomously about the successful planning and providing of nursing care procedures (Bys, 2016). Expanded nurses' autonomy, especially with regards to professional collaborations with equivalent authority to contribute, produces a healthy workplace environment for nurses through lessening work pressure, depression, and burnout and enhancing job fulfillment and workforce retention (Enns *et al.* 2015).

Otherwise, the autonomy of intensive care nurses can be restricted by the historical fact that the nursing has been reliant on the medical profession due to the medicine's dominance, power disproportion between sexes, and autocratic supervision manner (Traynor *et al.* 2010). These reasons combined with deficient of hospital backing as well financial and political obstacles considered as major challenge to nurses' interdependence (Baykara & S, ahino glu, 2014). Furthermore, education, legislation, institutional culture, and nurses' professional socialization - which differ crosswise countries - may influences on nurses' view of professional autonomy and their wish and ability to increase professional autonomy (Iliopoulou & While, 2010).

Moreover, hospital has intrinsic spatial boundaries therefore, head nurses need to move physically inside the hospital to support and enable intensive care nurses with authority in order that they can properly satisfy their caring obligations and provide care that focused on evidence-based and patient-centered high-quality, just as, to engage in vis-à-vis communication, monitoring, and direct nurses' supervision (Yang *et al.* 2016; Meyer, 2010).

Supervision can be portrayed as a meeting for reflection and learning, wherein an interactive dialogue happens between as a minimum two individuals. The dialogue forms a process of review, reflection, critique and renewal for professional practitioners (Davys & Beddoe, 2010). Supervision in nursing is central, as the head nurses give supervision of nurses to help and bolster them, make sure nurses' performances amid their schedule work, and encourage them to improve work,

by upgrading nurses' knowledge and expertise to carry out innovative-high quality nursing actions and, making decision in case of emergency (Melo & Neves, 2015; Paraprofessional Health Care Institute, 2005). Nurses appreciate head nurses' communication, participation, feedback and supervisory relationship (Melo, 2014).

Nursing supervision is depends on the professional relationship between the nurse and the head nurse. For the maintenance and extension of this relationship, it is extreme significance that nurses feel satisfied with head nurses' boundary span activities (Watson, 2009). Nurses' satisfaction with head nurses' supervision is a result of managerial work. So, if the hospital needs to retain nurses in an era of worsening shortages, it has to remain concerned with nurses' supervisory satisfaction. Supervision creates boundary spanning over work for head nurses across subsystem, functional, spatial, and various hierarchical boundaries. The influx of inputs (e.g., patients, equipment), different subsystems (e.g., admissions office, labs), and various healthcare services suppliers (i.e., multidisciplinary team) are affected nurses' work to achieve related hospital's goals. Head nurses must therefore organize the force flow and work forms over departments and patient care zones, professions, and roles to simplify nurses' work (Meyer *et al.* 2011; Meyer, 2010).

Head nurses in this way can influence nurses' satisfaction. For example, nurses' work satisfaction has been notably anticipated by the manager's leadership style just as by boundary spanning activities. In turn, nurse satisfaction is a relevant pointer for health care organizations due to its positive relationship with patients' satisfaction and nurses' retention (Meyer *et al.* 2011; Meyer, 2010). Conversely, the most evident outcome of dissatisfaction with the supervision is the nurses' turnover. Nurses with low supervision satisfaction converted workplace to keep away from working with their head nurses (Menezes, 2010).

Significance of the study

Nurses function in an intricate healthcare environment with numerous responsibilities (Maharmeh *et al.*, 2016; Varjus *et al.*, 2010). Particularly, ICUs are a stressfully setting, where critically ill patients need expensive care and intensive care nurses often in need for making urgent decision about weakening patients (Hartog & Benbenishty, 2015). Head nurses therefore are significant to optimally merging the nursing teams' labor via boundary spanning role, in such clinical environment - despite the truth that there has been limited research concentrating on head nurses' boundary spanning role and its related results (Meyer, *et al.* 2014; Onishi, 2016) - it can influences nurses' sense of the need for autonomy to make daily clinical decisions (Paganini & Bouso, 2015; Yang *et al.* 2016). So, when nurses have high-quality professional supervision and boundary spanning activities through head nurses' role, they are typically successful and work autonomously (Cummins, 1990) even they find making autonomous decision in ICU to be defying (Iliopoulou & While, 2010). Consequently, reinforcing nurses' autonomy is among the upper priorities for ICU head nurses to boost the supervision satisfaction of the nurses (AllahBakhshian, *et al.* 2016).

Theoretical Framework

The relationship between head nurses' boundary spanning activities, nurses' job autonomy and their supervision satisfaction is analyzed utilizing the theories of nursing services delivery and Leader-Member Exchange (LMX). As per nursing services delivery theory, hospitals are social construction that can be conceived as open systems involving subsystems as clinical support, production, adaptive, maintenance and administrative. Head nurses involve in boundary spanning by managing the flow of inputs (i.e., assets, and information), throughputs (i.e., giving the service) and outcomes (i.e., products) (Shacklock, 2015; Meyer and O'Brien-Pallas 2010).

Moreover, LMX conjectures that managers deal with employees in a different way, and thus, varying outcomes happen for various employees (Shacklock, 2015). Therefore, after some time, the nature of 'social exchanges' produces a varied quality of relationships amongst managers and followers. Successful LMX relationships are anywhere employees have high level of mutual support, trust, admiration, imperative feedback, entrust decision-making and power (i.e., boundary spanning activities) (Gerstner & Day, 1997), as well as, where staff seem to be satisfied by their managers. Such nurses are likewise more probable to have tangible advantages, as promotions and rewards, and intangible benefits as having control over practice and work out autonomy in making decisions that direct nursing conduct and practice environment, from this point, the nurses become satisfied with supervision satisfaction (Yukl, 2006). For the managers, the benefits contain predictable raises in esteem and loyalty, in addition to the satisfaction of affecting the behavior of nurses (Basu & Green, 1995).

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Utilizing the LMX and nursing services delivery lens, it is anticipated that head nurses involve in boundary spanning activities are coordinating and regulating the flow of information, processes, and services would influence nurses' perceptions of autonomy to be responsible for independent decisions (i.e., by managing and affecting their access to information, resources and support), particularly in ICU. These exactly same factors are also noteworthy indicators of nurses' supervision satisfaction. In contrast, poor boundary spanning activities are probably going to include blended messages from head nurses in conjunction with poor flows of information and resources. Such conditions are ready for making poor impression of nurses' autonomy, and thus prone to influence their supervision satisfaction. This framework provides a good lens for comparing the impact of head nurses' boundary spanning activities on nurses' autonomy and subsequent their supervision satisfaction at university and health sector.

I.1. The study aim

This study intended to compare nurses' job autonomy as a mediator between nurses perceived head nurses' boundary spanning activities and their supervision satisfaction at Tanta University Main Hospital and El-Manshawey General Hospital.

I.2. Research questions

- Can head nurses' boundary spanning activities affect nurses' job autonomy at Tanta University Main Hospital and El-Manshawey General Hospital?
- Can nurses' job autonomy affect supervision satisfaction at Tanta University Main Hospital and El-Manshawey General Hospital?
- Can head nurses' boundary spanning activities affect nurses' supervision satisfaction at Tanta University Main Hospital and El-Manshawey General Hospital?
- Can nurses' job autonomy mediate the relationship between head nurses' boundary spanning activities and nurses' supervision satisfaction at Tanta University Main Hospital and El-Manshawey General Hospital?
- Is the effect of the head nurses' boundary spanning activities on nurses' job autonomy and supervision satisfaction the same at Tanta University Main Hospital and El-Manshawey General Hospital?

II. SUBJECTS AND METHOD

II. 1. SUBJECTS:

Study design

A descriptive, comparative via cross-sectional research design was applied.

Settings

This study was completed in all Intensive Care Units at Tanta University Main Hospital and El-Menshawey General Hospital affiliated from Ministry of Health and Population.

Subjects

All (N =402) accessible nurses in the aforementioned hospitals incorporated in this study; Tanta University Main Hospital's ICUs (n=256) and El-Menshawey General Hospital's ICUs (n=146).

Tools: the study data was gathered by three tools.

Tool (1): Nurse Managers' Boundary Spanning Scale (NMBS)

The **Onishi's (2016)** NMBS scale was adapted by the researchers to explore to what extent nurses perceived their head nurses do boundary spanning activities. The NMBS included 26 items and grouped into: (1) feedback utilization (2-items), (2) clarifying the position (4-items), (3) buffering (4-items), (4) informing and persuading (6-items), (5) cooperation and coordination (4-items) and, (6) connecting (6-items); **besides**, eight items related to nurses' personal

characteristics. The nurses' rejoinders were on 5-points Likert scaling varying from 1 (never) to 5 (very great extent). Levels of head nurses' boundary spanning represented statistically into $\geq 75\%$ as high level; $< 75\%$ -60% as moderate level and; $< 60\%$ as low boundary spanner level. A higher score denoted that the nurses perceived that their head nurses do boundary spanning well.

Tool (2): Nurses' Supervision Satisfaction Scale

Nurses' supervision satisfaction scale was constructed by the researchers derived from **Nursery, (2016); Loureiro, (2011); Eisenberger et al., (2002)** in Likert scaling with five points scaling going from 1 (strongly disagree) to 5 (strongly agree). It contained 28 statements to evaluate nurses' supervision satisfaction with their head nurses. The sum of the numerical value provided the final global score. Nurses' supervision satisfaction was interpreted statistically into three levels; $\geq 75\%$ as high level; $< 75\%$ -60% as moderate level; $< 60\%$ as low level of satisfaction.

Tool 3: Nurses' job autonomy scale

Nurses' job autonomy scale by **Blegen et al (1993)** adapted by the researchers to identify nurses' job autonomy. It consisted of forty-two items classified into; patient care (21-items) and unit operations (21-items) decisions. The scale was on a five Likert-type with responses going from 1 to 5 (1= nurses have no authority and accountability; 2= nurses assume authority and accountability when asked; 3= nurses share authority and accountability with others; 4= nurses consult with others and participate in group decisions; 5= nurses have full independent authority and accountability). Levels of nurses' job autonomy took statistically scores of $\geq 75\%$ as high level; $< 75\%$ -60% as moderate level, and $< 60\%$ as low nurses' job autonomy level.

II. 2. METHOD:

Ethical considerations

Ethical approval was verified from the authoritarians' work force at the two hospitals. Nurses got the conceivable clarifications about the study's intent; their contribution was by their willing. Informed consent was gotten from nurses before data gathering and their privacy was ensured utilizing code numbers. All findings represented as group results.

Validity and reliability

A pilot study was done subsequent to structuring of the tools on ten percentage (n=41) of nurses to check the devices' relevancy. Afterward, they were kept out from the subjects to ensure the power of answers. Cronbach coefficient Alpha test was drawn on to find out the tools' internal consistency, the test outcome were viewed as acceptable as the questionnaires had high inner consistency; tool 1, ($\alpha = 0.83$) and tool 2, ($\alpha = 0.94$) tool 3 (patient care decisions was $\alpha = 0.89$ and unit operations was 0.96). Validation of the tools was appraised by demonstrating it to five experts from the Faculty of Nursing staff, Tanta University. Then, essential adjustments were done dependent on the pilot study and experts' suppositions.

Fieldwork

Each nurses had freely wrote out the questionnaire after gave out by the researchers to them in small groups in their units, as per their attendance; the meant for the study was clarified to them before receiving the sheet. The predestined time to complete the questionnaires was inside 20 - 25 minutes.

Statistical analysis

IBM SPSS version 20.0 was applied to analyze the obtained data. Number and percent were utilized to represent qualitative data. Range, mean, and standard deviation were utilized to display quantitative data. Obtained results were judged as significance at the 5% level. **The Pearson coefficient** to correlate between two normally distributed quantitative variables; **Chi-square test** (for categorical variables) to compare between different groups; **Student t-test** to compare between two studied groups were used and; **Monte Carlo correction** for chi-square when more than 20% of the cells had probable count fewer than 5.

III. RESULTS

Table (1): Comparison between nurses' personal characteristics at Tanta University Main Hospital and El - Menshawey General Hospital

Variable	Tanta University Main Hospital (n = 256)		El-Menshawey General hospital (n = 146)		Test of Sig. (p)	Variable	Tanta University Main Hospitals (n = 256)		El-Menshawey General hospital (n = 146)		Test of Sig. p
	n	%	p	%			n	%	n	%	
Age						Intensive Care Units					
<20	-	-	2	1.4	MC _p <0.001*	- Medical	30	11.7	58	39.7	χ ² <0.001*
20-30	139	54.3	117	80.1		- Cardiology	106	41.4	35	24	
30-40	97	37.9	26	17.8		- Pediatric	40	15.6	28	19.2	
≥40	20	7.8	1	0.7		- Neurology	47	18.4	25	17.1	
Mean ± SD	29.87 ±6.07		26.30 ±4.26		t<0.001*	- Anesthesia	33	12.9	-	-	
Years of experience						Qualification					
1-5	72	28.1	90	61.6	χ ² 0.001*	- Diploma	59	23	17	11.6	MC _p <0.001*
6-10	89	34.8	45	30.8		- Institute	67	26.2	53	36.3	
>10	95	37.1	11	7.6		- Bachelor	128	50.0	73	50.0	
Mean ± SD	9.72 ±6.30		5.60 ±4.43		t<0.001*	- MD	2	0.8	3	2.1	
Sex						Residence					
- Male	36	14.1	8	5.5	χ ² 0.008*	- Near	110	43.0	98	67.1	χ ² <0.001*
- Female	220	85.9	138	94.5		- Far	146	57.0	48	32.9	
Methods of Assignment						Marital Status					
- Case	146	57	146	100	χ ² 0.001*	- Single	49	19.1	7	4.8	MC _p = 0.007*
- Function	74	28.9	-	-		- Married	207	80.9	137	93.8	
- Team	36	14.1	-	-		- Other	-	-	2	1.4	
- Primary	-	-	-	-							

χ²: Chi square test

MC: Monte Carlo

t: Student t-test

p: p value for comparing between the studied hospitals

*: Statistically significant at p ≤ 0.05

Table (1), reveals that more than half (54.3%) of nurses at ICUs' Tanta University Main hospital were in the age group 20-30 years compared to the majority (80.1%) at El-Menshawey General hospital's ICUs. At Tanta University Main hospital, over one-third (37.1%) of nurses had >10 years of experiences while, over half (61.6%) of nurses at El-Menshawey General hospital had from 1-5 years of experiences. The majority (94.5% & 85.9%) of nurses were married and female (93.8% & 80.9%) at both El-General Menshawey and Tanta University Main hospitals, respectively. Half (50.0%) of nurses had a bachelor degree at two hospitals. More than half (57.0%) of Tanta University Main hospital's nurses lived far from the hospital compared to more than two-thirds (67.1%) of nurses who working at El-Menshawey General hospital lived near from it. All (100%) of nurses at El-Menshawey General hospital worked by case method of patient assignment compared to 57% at Tanta University Main hospital with nearly two-fifths (41.4% & 39.7%) of them worked in Tanta University Main hospital's cardiology and El-Menshawey General hospital's medical ICUs, respectively.

Table (2): Comparison between mean scores and levels of head nurses' boundary spanning activities as perceived by nurses at Tanta University Main hospital and El-Menshawey General hospital

Boundary spanning activities domains		Nurses' responses						test of sig p
		Tanta University Main hospital (n = 256)			El-Menshawey General hospital (n = 146)			
		Low	Moderate	High	Low	Moderate	High	
Feedback utilization	n	95	49	112	36	15	95	14.405* p < 0.001*
	%	37.1	19.1	43.8	24.6	10.3	65.1	
	Mean ±SD	6.82 ± 1.97			7.69 ± 1.62			
% score		60.30 ± 24.64			71.15 ± 20.27			p < 0.001*
Clarifying the position	n	72	108	76	41	21	84	33.553 p < 0.001*
	%	28.1	42.2	29.7	28.1	14.4	57.5	
	Mean ±SD	14.02 ± 2.70			15.45 ± 3.26			
% score		62.60 ± 16.89			71.53 ± 20.40			p < 0.001*
Buffering	n	69	99	88	33	27	86	17.049* p < 0.001*
	%	26.9	38.7	34.4	22.6	18.5	58.9	
	Mean ±SD	15.07 ± 2.67			15.56 ± 2.60			
% score		69.19 ± 16.69			72.26 ± 16.23			p = 0.074
Informing and persuading	n	181	28	47	50	14	82	63.076* p < 0.001*
	%	70.7	10.9	18.4	34.2	9.6	56.2	
	Mean ±SD	19.24 ± 4.45			22.85 ± 4.81			
% score		55.16 ± 18.55			70.21 ± 20.04			p < 0.001*
Cooperation and coordination	n	161	66	29	50	23	73	57.361* p < 0.001*
	%	62.9	25.8	11.3	34.2	15.8	50.0	
	Mean ±SD	12.60 ± 2.86			14.14 ± 3.72			
% score		53.76 ± 17.88			63.36 ± 23.28			p < 0.001*
Connecting	n	146	48	62	40	34	72	14.809* p < 0.001*
	%	57.0	18.8	24.2	27.4	23.3	49.3	
	Mean ±SD	20.43 ± 3.95			22.08 ± 4.32			
% score		60.14 ± 16.48			67.01 ± 18.02			p < 0.001*

χ²: Chi square test

t: Student t-test

p: p value for comparing between the studied hospitals

*: Statistically significant at p ≤ 0.05

As evidenced in **table 2**, concerning feedback utilization boundary spanning activities domain, more than two-fifths (43.8%) of nurses at Tanta University Main hospital's ICUs and nearly two-thirds (65.1%) at El-Menshawey General hospital's ICUs reported that their head nurses had high level with mean score 6.82 ± 1.97 and 7.69 ± 1.62 at two setting respectively. Also at Tanta University Main hospital, around two-fifths (42.2% & 38.7%) of head nurses had moderate level regarding to clarifying the position and buffering boundary spanning activities domains as perceived by nurses, respectively, contrasted to above half (57.5% & 58.9%) of them had high level at El-Menshawey General hospital's ICUs, respectively.

While, high percent (70.7%) of head nurses had low level of informing and persuading boundary spanning activities domain as perceived by nurses at Tanta University Main hospital's ICUs compared to more than half (56.2%) had high level at El-Menshawey General hospital's ICUs with mean score 19.24 ± 4.45 and 22.85 ± 4.81 at two setting respectively. Additionally at Tanta University Main hospital, over half (62.9%, 57%) of nurses perceived their head nurses do cooperation & coordination and connecting boundary spanning activities domains with low level, contrasted to around half (50% & 49.3%) had high level at El-Menshawey General hospital, respectively with a statistically significant difference (P=0.001) between the two hospitals in all boundary spanning activities domains.

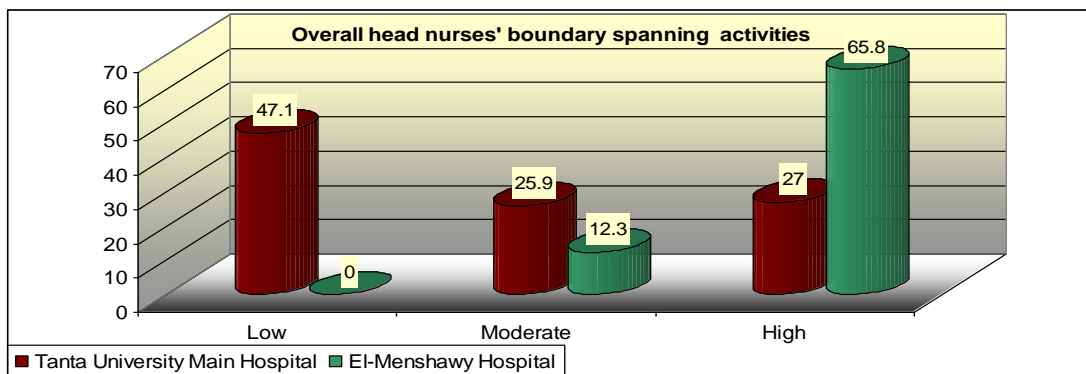


Figure (1): Comparison between nurses perceived head nurses' overall boundary spanning activities at Tanta University Main and El-Menshawey General hospitals

As illustrated in **Figure 1**, nearly two-thirds of nurses perceived that their head nurses had high level of overall boundary spanning activities at El-Menshawey General hospital's ICUs compared to nearly half of them had low level at Tanta University Main hospital's ICUs with statistically significant differences.

Table (3): Comparison between mean scores and levels of nurses' job autonomy at Tanta University Main hospital and El-Menshawey General hospital

Work autonomy main items		Nurses' responses						Test of sig P
		Tanta University Main hospital (n = 256)			El-Menshawey General hospital (n = 146)			
		Low	Moderate	High	Low	Moderate	High	
Patient care decisions	n	148	101	7	17	12	117	23.930 <0.001*
	%	57.8	39.5	2.7	11.6	8.2	80.2	
	Mean ±SD	65.36 ± 10.20			62.32 ± 11.11			
	% score	52.81 ± 12.14			49.19 ± 13.22			0.006*
Unit operation decisions	n	240	12	4	117	3	26	2.107 0.390
	%	93.7	4.7	1.6	80.1	2.1	17.8	
	Mean ±SD	42.07 ± 11.36			31.21 ± 17.08			
	% score	25.08 ± 13.53			12.15 ± 20.33			<0.001*

χ^2 : Chi square test

MC: Monte Carlo

t: Student t-test

p: p value for comparing between the studied hospitals

*: Statistically significant at $p \leq 0.05$

As uncovered in **Table (3)**, nurses' job autonomy's levels and mean scores presented a statistically significant difference ($P=0.001$) at two hospitals. More than half (57.8%) of nurses had low autonomy level regarding patient care decisions at Tanta University Main hospital with mean score 65.36 ± 10.20 compared to the majority (80.2%) of them had high level at El-Menshawey General hospital with mean score 62.32 ± 11.11 , while, the majority (93.7%, 80.1%) of nurses had low autonomy level regarding unit operation decisions with mean score 42.07 ± 11.36 and 31.21 ± 17.08 at Tanta University Main hospital and El-Menshawey General hospital, respectively.

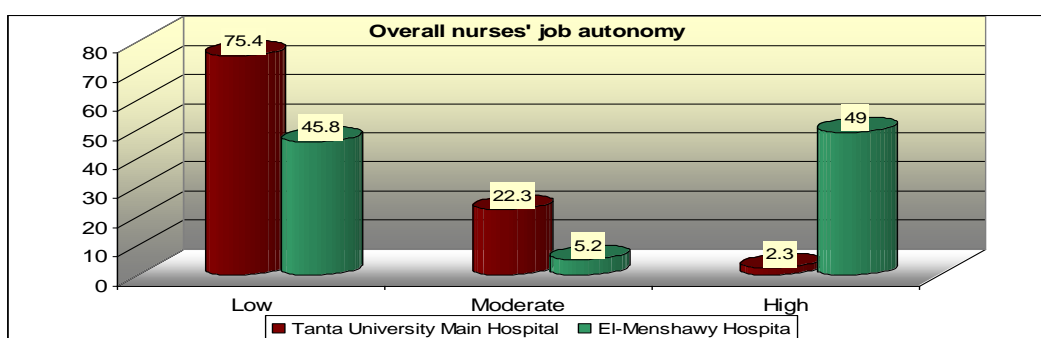


Figure (2): Comparison between the overall nurses' job autonomy at Tanta University Main hospital and El-Menshawey General hospital

The overall nurses' job autonomy showed a statistically significant differences between the two hospitals as presented in **Figure 2**, more than three-quarters of nurses had low level of overall job autonomy at Tanta University Main hospital compared to more than two-fifths of them at El-Menshawey General hospital, as well as, nearly half of nurses had high level at El-Menshawey General hospital dissimilarity to the minority at Tanta University Main hospital.

Table (4): Comparison between mean scores and levels of nurses' supervision satisfaction at Tanta University Main hospital and El-Menshawey General hospital

Overall supervision satisfaction	Tanta University Main hospital (n = 256)		El Menshawey General hospital (n = 146)		Test of Sig.	p	
	n	%	n	%			
Levels of overall nurses' supervision satisfaction						$\chi^2 = 20.409^*$	<0.001*
Low	55	21.4	20	13.6			
Moderate	108	42.3	15	10.2			
High	93	36.3	111	76.2			
Mean \pm SD	73.55 \pm 8.28		69.52 \pm 10.73		t=3.920	<0.001*	

χ^2 : Chi square test

t: Student t-test

p: p value for comparing between the studied hospitals

*: Statistically significant at $p \leq 0.05$

At the two hospitals, overall nurses' supervision satisfaction detected a statistically significant difference ($P=0.001$), as exemplified in **table, 4**. More than three-quarters (76.2%) of nurses had high level of supervision satisfaction at El-Menshawey General hospital with mean score 69.52 \pm 10.73 compared to over two-fifths (42.3%) of them had moderate level at ICUs of Tanta University Main hospital with mean score 73.55 \pm 8.28.

Table (5): Correlation between nurses perceived head nurses' boundary spanning activities and their job autonomy at Tanta University Main hospital and El-Menshawey general hospital

Head nurses' boundary spanning activities domains	Nurses' job autonomy							
	Tanta University Main hospital (n = 256)				El-Menshawey General hospital (n = 146)			
	Patient care decisions		Unit operation decisions		Patient care decisions		Unit operation decisions	
	r	p	r	p	r	p	r	p
Buffering	0.068	0.107	0.050	0.023	0.395	<0.001*	0.373	<0.001*
Clarifying the position	0.002	0.974	0.056	0.213	0.245	0.003*	0.227	0.001*
Connecting	0.128	0.141	0.021	0.212	0.251	0.002*	0.353	<0.001*
Feedback utilization	0.158	0.011*	0.004	0.341	0.258	0.002*	0.369	<0.001*
Cooperation and coordination	0.052	0.201	0.462	0.122	0.167	0.044*	0.238	0.004*
Informing and persuading	0.005	0.472	0.344	0.067	0.317	<0.001*	0.394	<0.001*
Total	0.204	0.001*	0.315	0.201	0.334	0.001*	0.412	0.001*

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

Overall and all head nurses' boundary spanning activities' domains had a statistically significant positive correlation ($p \leq 0.05$) with nurses' patient and unit job autonomy at El-Menshawey General hospital contrasted to no statistically significant correlation at Tanta University Main hospital. Also at Tanta University Main hospital, the total and feedback utilization boundary spanning domain had a statistically significant correlation ($p=0.011, 0.001$) with patient care decisions as demonstrated in **Table 5**.

Table (6): Correlation between nurses' job autonomy and their supervision satisfaction Tanta University hospital Main and El-Menshawey General hospital

Nurses' job autonomy	Nurses' supervision satisfaction			
	Tanta University Main hospital (n=256)		El-Menshawey General hospital (n=146)	
	r	p	r	p
Patient care decisions	0.172	0.061	0.315*	<0.001*
Unit operation decisions	0.051	0.420	0.160	0.053
Total	0.218	<0.001	0.234*	0.004*

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

Nurses' supervision satisfaction at El-Menshawey General hospital had statistically significant positively correlated ($p=0.001$) with overall and patients' care decisions autonomy, while, no statistically correlation was detected between nurses' supervision satisfaction and two components of autonomy at Tanta University Main hospital, as discovered in Table, 6.

Table (7): Correlation between nurses perceived head nurses' boundary spanning activities and their supervision satisfaction Tanta University hospital Main and El-Menshawey General hospital

Nurses perceived head nurses' boundary spanning activities domains	Nurses' supervision satisfaction			
	Tanta University Main hospital (n = 256)		El-Menshawey General hospital (n = 146)	
	r	p	r	p
Buffering	0.064	0.221	0.338*	<0.001*
Clarifying the position	0.180	0.301	0.456*	<0.001*
Connecting	0.159	0.061	0.433*	<0.001*
Feedback utilization	0.201	<0.001*	0.266*	<0.001*
Cooperation and coordination	0.083	0.098	0.253*	<0.001*
Informing and persuading	0.037	0.463	0.172*	0.006*
Total	0.189	<0.001*	0.392*	<0.001*

r: Pearson coefficient

*: Statistically significant at $p \leq 0.05$

Total and all head nurses' boundary spanning activities' domains were statistically significant positively correlated ($p=0.001$) with their supervision satisfaction at El-Menshawey General hospital, while at Tanta University Main hospital no statistically significant correlation with nurses' supervision satisfaction was detected except with feedback utilization and total of domains, as illustrated in table 7.

IV. DISCUSSION

Nowadays, the health-care environment requires hospitals' unit managers to organize and direct efforts autonomously across their boundaries and to manage relationships with different professionals, units and divisions (Onishi, 2016). Head nurses' boundary spanning behaviors reflected as a critical part of their proficient tasks that deliberate job autonomy of nurses which automatically improve their satisfaction with clinical setting as a whole including work duties and supervision's satisfaction (Yukl, 2006) and Meyer, 2011). The increased focus on creating integrated care across and within the different health care sectors brought us to measure head nurses' boundary spanning activities as perceived by nurses and related nurses' job autonomy and supervision satisfaction in two different setting.

Head nurses' boundary spanning activities

As evidenced in these results, nearly two-thirds of head nurses had high level of overall boundary spanning activities at El- Menshawy General hospital's ICUs compared to nearly half of them had low boundary spanning as perceived by their staff nurses at Tanta University Main hospital's ICUs with statistically significant differences. Currently, experience in management position enhances job fluency which deepens nursing boundary spanner expertise (Meyer et al. 2014). The role of head nurses in connecting the nurses across the hospital boundaries and processes as well facilitating their access to information contribute to the success of inter-organizational performance. Meanwhile, this result may be attributed to lack of head nurses' boundary spanning expertise that are reinforced by skilled negotiation and participative management, as well administrative expertise which necessary to manage conflicting needs through boundaries.

Head nurses need a great effort to coordinate the input flow from outward the ICUs since the nurses' work depends on this contribution (Marrone, 2010). In the same context, Hayward, (2016) stated that head nurses as boundary spanners have to act as connectors to maintain relationships between senior management and staff, experts to offer direction, efficiency and eliminate confusion and is a broker that focus on staff nurses' demands. Along with the study results Kousgaard, et al. (2015) emphasized the difficulty and multifaceted character of the boundary spanning role. Also, Martine, et al. (2009) addressed that spanning professional boundaries occur in health sector to some degree and weak on its process and evidence based on patient outcomes. William, et al. (2006) noted that predefined roles for clinical boundary spanners appeared to be challenging to accomplish in reality.

The present study results showed that more than two-fifths of nurses at Tanta University Main hospital's ICUs and nearly two-thirds at El-Menshawy General hospital's ICUs reported that their head nurses had high level of feedback utilization boundary spanning activities. In practice, nurses necessity to have strong relationship with their supervisors to facilitate mutual learning, feedback, and support (Watson, 2009). Possible clarification of this result that the fact that El-Menshawy General hospital as a governmental hospital affiliated to Ministry of Health and Population referred the most complex cases to Tanta University hospital to obtain complete care in high technology environment. So, time factor that affect head nurses' engagement in boundary spanning activities doesn't become problematic as well they had enough management support and time to listen to patients' opinions regarding nursing care and pass this information into staff members.

This result in agreement with Van Meerkerk & Edelenbos (2018) who revealed that participative management and support contributes to boundary-spanning behavior. Also, Wing, et al. (2015) indicated that nurse managers should enable nurses' access information, support and resources, as all of which positively influence their functioning. Duffield et al. (2011) revealed that staff nurses perceived nurse managers who provide positive feedback and consult with staff on daily problems as good leaders. Also, insufficient capability in providing precise feedback related to professional values and conduct had documented by Fitzgerald, et al. (2010).

At Tanta University Main hospital's ICUs, around two-fifths of head nurses had moderate clarifying the position and buffering boundary spanning activities level as perceived by nurses, contrasted to above half at El-Menshawy General hospital's ICUs had high level as shown in the current study results. These results reflect the share feature of the staff nurses' potentially benefiting from their head nurses' actions and managerial skills since they can protect his/her staff from criticism or unreasonable demands, coordinate and negotiate as required to ensure that the unit nurses is not overloaded with work, explain nursing and organizational choices that enable staff to realize, and determine what is anticipated of the unit by the hospital.

These results are supported by Williams, (2011) who highlighted the need for strong communication and managerial skills emerge strongly from the literature on boundary-spanning. Also, he revealed that the key facets of roles spanning health include the ability to manage and influence through facilitation and convening; building and sustaining inter-professional relationships; and managing conflict as much as collaboration, which requires diplomacy and negotiation skills.

As evidenced in the current study results, high percent of head nurses at Tanta University Main hospital's ICUs had low level of informing and persuading boundary spanning activities domain as perceived by nurses compared to more than half had high level at El-Menshawy General hospital's ICUs. This result is surprising at Tanta University Main hospital's

ICUs because it was expected that those head nurses engage in boundary spanning activities to facilitate information exchange within and outside of their own large circle of network in this rapidly changing environment, persuade staff from other professions to support the goals of the unit, actively promote the work outcomes of the unit to other departments, and cope with daily challenges faced them in patient care and technology.

This finding may be due to that large teaching hospital's environment as Tanta University hospital actually varied in its services and multifaceted where severely ill patients are admitted, more complex patients' problems are treated and increased number of transferred cases from other setting (private or governmental hospitals like El-Menshawey General hospital). Beside, the fact that head nurses employed full time to be responsible for supervising and managing unit operation with severe shortage in staff nurses and increasing workload with diminished resources. All of these factors affect head nurses' time to engage in boundary spanning or integration activities which become a challenge for them.

Head nurses' employed in boundary-spanning positions are characterized as needing extra time to exchange information, negotiate main concern, organizing actions and relationships. So, exercising boundary spanning role is difficult for head nurses (**Abbotte, 2007**). The present study result supported by **Van Meerkerk, (2014)** who stressed on the importance of boundary spanning actions for involving nurses and their concern for constructing a trust between them, fostering coordination concerning making the decision and establishing a connection about different intricate issues. Also, **Aungst, (2012)** explained that the movement of boundary-spanning efforts is slow and imprecise because it requires persistence, time and effort to build a boundary-spanning structures and relationships. **Finn and Waring, (2006)** reported that high workload demands in a complex environment affect people working in boundary area which made shared knowledge at risk.

Regarding cooperation & coordination and connecting boundary spanning activities domains, the current study findings uncovered that over half of nurses perceived head nurses' with low level at Tanta University Main hospital's ICUs, contrasted to around half had high level at El-Menshawey General hospital's ICUs. This result may be justified by the fact of high ICU's head nurses' workload as well as, the physical spatial boundaries between the ICUs at Tanta University Main hospital that may affect on their boundary spanning actions.

Co-ordination and integration is an essential to support the capability of head nurses in performing their roles at an organizational and system level to bridge gaps in services and disintegration at a clinical level was documented by **Freijser et al. (2015)**. The present study result is supported by **Huxley et al. (2011)** who found that management's action has been located to be an indicator of team integration and support. Also, **Huby et al. (2010)** revealed that the manager's function is major in backup collaborative and integrated working.

Nurses' job autonomy

Existing study results uncovered that at Tanta University Main hospital's ICUs, more than three-quarters and over half of nurses had low level regarding overall autonomy and patient care decisions, compared to the majority and nearly half of them had high patient care decisions and overall autonomy level at El-Menshawey General hospital's ICUs. So far, the quality of patients' care particularly at ICUs is exactly influenced by the extent to which the intensive care nurses are active and empowered by decisions autonomy related to plan the care of their patients and by the extent to their essential role in decisions concerned the organization.

This result may be attributed to the fact that all of nurses at El-Menshawey ICUs worked by case method of patient assignment compared to more than half at Tanta University Main ICUs, the head nurses' actions through the ICUs' boundaries as obtaining new ideas and resources are required to achieve the goals and to solve unit's problems. Moreover, differences such as unclear meaning of nursing autonomy and inappropriate measurement tools occurred as a result of challenges in the field of professional autonomy among nurses.

The same result also was found by **Eid, (2016)** who revealed that nurses at ICUs had low level of autonomy in patient care at Tanta University hospitals. Also, in teaching hospitals moderate degree of job autonomy was reported by nurses as documented by **Amini, et al. (2015)**. As well, **Dorgham and El-Mahmoud (2013)** reported low level of decision making autonomy as a result of leadership style and centralized decision making. Conversely, **Elizabith, et al. (2015)** not support this finding and revealed that intensive care nurses have high autonomy level in decision making about nursing care.

According to the current study findings, the majority of nurses had low autonomy level regarding unit operation decisions at Tanta University Main ICUS and El-Menshawey ICUs. This result reflects that the two hospital's unit level decision making reached from the top down, staff nurses seldom consulted and did not acknowledge how decisions or policy was made. Also, this result may be due to those nurses don't perceived enough power nor receive adequate amount of managerial support and they handcuffed by barriers in obtaining their rights and have lower legal authority in decision making. As well as, they possess a lack of clarity about accountability for their own decision-making, and the differences in hospitals' regulations, rules, its management and working conditions.

Similar result was found by **Hussein et al. (2019)** and **Eid (2016)** who revealed the majority of staff nurses at El-Mansoura University Hospitals and at Tanta University hospitals had a low level of autonomy regarding to unit operation decisions. Contrary, **Elizabeth et al. (2015)** not support this finding and revealed that intensive care nurses have low autonomy level in decisions about unit operation and management. Also, **Ahmed and Safadi (2013)** found a shared decisional involvement for nurses with administration in governmental hospitals.

Nurses' supervision satisfaction

The present study result revealed that over three-quarters of nurses had high level of supervision satisfaction at El-Menshawey General hospital compared to over two-fifths at Tanta University Main hospital had moderate level. This result may be due to at El-Menshawey General hospital nurses experienced good professional relationship with their head nurses while poor communication at Tanta Main University hospital due to workload and spatial ICUs' boundaries. **Williams, (2011)** emphasized that boundary-spanning is as much about creating relationships to facilitate integration as it is about integrating care and practice. Across health sector in boundary-spanning roles, individual relationships and association are influenced by the aptitude to get things take place.

The current finding is along with **Rosa and Diogo, (2015)** who revealed that nurses were overall satisfied with supervision and concluded that leader who exercising all leadership roles improves nurses' supervision's satisfaction degree he/she guides. **Care Quality Commission, (2013)** stated that high quality supervision does not necessarily involve reflection on clinical practice but on professional behavior, and interactions with others and outcomes. Contradict to this result is **Goodwin et al. (2002)** who revealed that staff nurses who experience negative relationship with their supervisors that lead to their dissatisfaction.

Correlation between nurses perceived head nurses' boundary spanning activities and their job autonomy

Analysis of the current study results showed that the overall and all head nurses' boundary spanning activities' domains had a statistically significant positive correlation ($p \leq 0.05$) with nurses' patient and unit job autonomy at El-Menshawey General hospital contrasted to no statistically significant correlation at Tanta University Main hospital. This result means that nurses' decision autonomy influenced by protection from conflict and overloading to prevent stress and interrupted communication, entail connection and support with resources to become powerful and prevent frustration. Furthermore, receiving feedback about their performance on patient care, and the need for cooperation & coordinate efforts with who have knowledge to solve the problems will help them to make effective clinical decisions without restrain.

This result confirmed by **Bakeer and Nassar, (2018)** who concluded that nurse managers' actions have a vital role in promoting staff nurses' autonomy. Additionally, **Abd el Aal and Zein Eidin (2013)** revealed that the nurse managers' action had proved to be positively correlated with overall nurses' autonomy with its components i.e. patient care and unit operation. Also, **Blakely and Dziadosz, (2013)** indicated the management requirements for staff in roles that span boundaries include managing multidisciplinary input and team working, a greater level of autonomy in making decision, and more focus on organizing, planning and co-coordinating different parties. The nurse managers' boundary spanning benefits unit nurses daily and gets them beneficial information and resources that facilitate decision making.

Additionally, **Udod, (2012)** stated that leadership practices reflect boundary spanning expertise and positively associated with teamwork, also, enable nurse managers to connect with staff, maintain professional autonomy and reinforce interdependent team process. **Centre for Workforce Intelligence, (2011)** emphasized that there is a specific need for developing skills of boundary spanning to maintain individual working, including the capability to act independently, better skills of decision-making and risk assessment.

Correlation between nurses' job autonomy and their supervision satisfaction

The present study results revealed that at El-Menshawey ICUs, nurses' supervision satisfaction had statistically significant positively correlated with overall and patients' care decisions autonomy, while, no statistically correlation was detected between nurses' supervision satisfaction and two components of autonomy at Tanta University Main hospital. This finding is congruent with **Che`nevert & Vandenberghe (2016)** who reporting that nurses expect their working environment to provide them with professional greater occasions, involve them in decisions related to their practice, and promote expertise so that they can exercise autonomy. Also, **AllahBakhshian, (2016)** revealed lack of autonomous decisions such as leaving nurses with the feeling of working as a machine operator, had unfavorable impact on nurses' sense of contentment.

Bys, (2016) noted that nurses who do not feel sanctioned are more likely to think critically, act freely, deliver high-quality and effective care and, report greater supervision satisfaction. In healthcare environment, head nurses have a key role in authorizing nurses and promoting autonomous nursing practice. Inter-professional's support from head nurses help maintaining professional harmony and facilitating development toward a positive and independent professional identity as indicated by **Salhani & Coulter, (2009)**. Accordingly, provision of independent practice in ICUs becomes obligatory and can be facilitated by authorizing nurses, involved them in decision making and provided them with accountability and care.

Correlation between nurses perceived head nurses' boundary spanning activities and their supervision satisfaction

As the present study revealed nurses perceived head nurses' boundary spanning activities had an effect on their supervision satisfaction and as indicated by the statistically significant positive correlation between nurses perceived total and all head nurses' boundary spanning activities domains and their supervision satisfaction at El-Menshawey General ICUs, while at Tanta University Main ICUs no statistically significant correlation with nurses' supervision satisfaction was detected except with feedback utilization and total of domains.

In practice, nurses need to value connectivity with head nurse to navigate work and organizational contexts to achieve high-quality care. Actually, this result may be due to the low level of head nurses boundary spanning activities at Tanta University Main hospital. Also, this result suggests that the nurses at Tanta University Main hospital do not acknowledge their head nurses' competences in the boundary spanning. The fact that staff nurses who do not acknowledge their leaders competence, being a source of dissatisfaction. Mostly boundary spanning activities is one of head nurses' leadership role and staff nurses' satisfaction is the outcome of that role (**Quaquebeke et al. 2010**).

Van Meerkerk & Edelenbos (2018) clarified that with head nurses' role in increasing the flow of information, and translating it across organizational boundaries, linking nurses, coordinating of tasks and processes across organizational boundaries contribute to the performance of team which in turn affects its satisfaction. **Meyer (2011)** supported the present study results and revealed higher leadership scores were associated with higher supervision satisfaction scores. **Cummings et al. (2010)** and **Hayes et al. (2010)** specified that leadership, communication and backing of the head nurses have been linked with nurses' comfort, work relationship and satisfaction.

V. CONCLUSION

This study finding portended that head nurses' boundary spanning activities prophesy nurses' supervision satisfaction at El-Manshawey General hospital and nurses' job autonomy mediate the association among boundary spanning activities and nurses' supervision satisfaction, as evidence by nearly two-thirds of head nurses at El-Menshawey General hospital's ICUs had high level of boundary spanning activities compared to nearly half of nurses had low level at Tanta University Main hospital's ICUs as rated by nurses. At El-Menshawey General hospital, the majority of nurses had high patient care autonomy level contrasted to at Tanta University Main hospital over half had low level. Along with more than three-quarters of nurses had high supervision satisfaction level at El-Menshawey General hospital compared to over two-fifths at Tanta University Main hospital had moderate level. The impact of head nurses' boundary spanning activities upon nurses' supervision satisfaction and perceptions of job autonomy differs at the two hospitals (i.e. El-Menshawey General and Tanta University Main).

VI. RECOMMENDATIONS

For hospitals' administration

- Prime importance to reform the hospitals' policies, methods, and procedures to simplify the utilization of boundary spanning and autonomy in making the decisions to improve nurses' satisfaction with supervision.
- Enhancing head nurses' boundary spanning role and activities through conducting educational program is needed especially at Tanta University Main hospital.
- Exercising participative management and support for head nurses by providing them with more unrestricted space to negotiate with upper management and other professionals to assure flow of information and take measures to gain cooperation and coordinate efforts with other units and improve unit's performance outcomes incorporating nurses' autonomy and satisfaction.
- Providing a supportive outlook with enough resources that sustain and appreciate further boundary-spanning conducts and collaborative and innovative work that backing decision making autonomy and improve nurses' satisfaction.

For head nurses

- Sharing of leadership roles among lower-ranked nurses, including staff nurses to facilitate their boundary spanning role when buffering and obtaining feedback from other professionals about a unit's performance.
- Supporting interpersonal skills by encouraging and inspiring nurses, exchanging visions and ideas, and transparent communication to reinforce the strengthening and convey the power to the nursing group for upgrading the value of individual skills and ensure that each nurse recognizes the purpose and significance of the work that advance satisfaction.
- Enabling nurses' access to opportunities, information, clinical support and resources, all of which positively influence nursing team functioning, decision making autonomy and satisfaction.
- Training program and workshop about decision making autonomy for nurses to improve their satisfaction

Further research: Needed to identify factors that affecting head nurses' boundary spanning role and nurses' supervision satisfaction

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