

## **Relation between Intensive Care Units Nurses' Readiness for Change and Work Environment Characteristics at El – Menshawy General Hospital**

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### **Abstract**

**Background:** Changes in healthcare organizations are ongoing, but their implementation is extremely difficult, so healthcare worker should work together. Supportive professional practice environment is significantly associated with quality of care, stimulating and managing organizational change. **Aim:** to assess the relation between intensive care units nurses' readiness for change and work environment characteristics at El – Menshawy General Hospital. **Subjects and Method: Study design:** A descriptive correlational study design was used. **Setting:** The study was conducted in all Intensive Care Units (ICUs) of El Menshawy General Hospital. **Subjects:** It consisted of all (n=164) nurses working in ICUs. **Tools:** Two tools were used, Readiness for Change Questionnaire and Nursing Work Environment Characteristics Questionnaire. **Results:** The results showed that 66.6% of the ICU nurses' had weak levels of overall readiness for change. 58.5% of the ICU nurses' perceived fair level of nursing work environment. **Conclusion:** There was a statistically significant positive correlation between overall ICU nurses' readiness for change and their work environment. **Recommendations:** Informing nurses about policies and practices that decrease the potential negative impact of the proposed change. Conducting training program that support nurses to be adapted with change. Creating an environment which encourages nurses to participate in decision making.

**Key words:** Intensive care units nurses, Readiness for change, Nursing work environment.

## **Introduction**

Healthcare organizations often face with pressures for change, which are both internal and external in nature. External pressures include increasing globalization, communication explosion and political pressures. While, internal pressures encompasses the increasing level of education, improving socio-economic status and the desire to live a better quality of life.<sup>(1)</sup> Change is described as transition from one state to another, it is concerned with break down existing structures and create new one. Organizational change is a way to impart new attitude and behaviors in nurses that will help them to perform their tasks more effectively, efficiently while overcoming their fears against change.<sup>(2)</sup>

Change does not suddenly happen and should be preceded by readiness for change. Readiness is viewed as the degree to which an organization is assessed as ready to experience change.<sup>(3)</sup> Healthcare organizations are increasingly required to improve their ability to enhance nurses' support or acceptance for change initiatives through their readiness and beliefs about the change.<sup>(4)</sup> The concept of

readiness for change, including the ability of an organization to manage change as well as the motivation and character attributes of program leaders and the staff, institution resources, and the organization climates that determine whether significant changes are expected to occur in any organization.<sup>(5)</sup> Responses to change dimensions are readiness, commitment and resistance.<sup>(6)</sup>

Readiness for change includes factors such as, appropriateness, management support, change- efficacy, and personally beneficial.<sup>(7)</sup> Commitment to change includes, affective, continuance and normative commitment to change. Routine seeking, emotional reaction, short-term thinking and cognitive rigidity are all aspects of resistance to change.<sup>(8)</sup> The healthy practice environment is the crucial fact and challenge for the nurse managers and leaders, so they must regularly assess the nursing practice environment to maintain and improve it. The organizational aspects of a work context that facilitate or hinder professional activity have been defined as the nursing practice environment. Work environment entails nurses' safety, job security, good working

relationship among nurses, recognition for best effort and performance, greatly inspired for performing well and effective involvement in decision-making processes of the organization.<sup>(9)</sup>

To create a positive practice environment appropriate support is needed to attract and retain nurses so that positive consequences can be achieved for patients and a nurse's satisfaction.<sup>(10)</sup> There are five characteristics to professional nursing practice environment that interact and influence nurse, patient, and organization outcomes. Nurse participation in hospital affairs, nursing foundation for quality of care, nurse manager's ability, leadership and support of nurses, staffing and resources adequacy, and collegial nurse-physician relationships are among these qualities.<sup>(11)</sup>

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

Nurses are vital to the effectiveness of organizational change and play an important role in the change process.<sup>(12)</sup> Effective change stem from mixture and integration of different aspects including individual, organizational, and contextual factors.

The interactions amongst these variables provide an explanation about how and why healthcare organizational change efforts succeed or not.<sup>(13)</sup> A favorable professional nursing practice environment can have an impact on a nurse' readiness for change. The absent of essential work environment aspects impedes the nurse' ability to provide high-quality and safe care is influence by a lack of time or resources which required to complete comprehensive assessments.<sup>(14)</sup>

#### **Aim of the study**

This study aims to assess the relation between intensive care units nurses' readiness for change and work environment characteristics at El – Menshawy General Hospital.

#### **Research Question**

- What is the relation between intensive care units nurses' readiness for change and work environment characteristics at El – Menshawy General Hospital?
- What are the levels of ICU nurses' readiness for change?
- What are the levels of ICU nurses' perception of work environment characteristics?

## **Subjects and Method**

### **Study design:**

A descriptive correlational study design was used to achieve the aim of the study. It is a design that uses questionnaires to identify variables and relationships among them when enough information exists.<sup>(15)</sup>

### **Setting:**

The study was conducted in ICUs at Menshawy General Hospital, which affiliated to Ministry of Health and Population, (300) bed capacity, it divided into outpatient clinics and inpatient units. Inpatient units includes Intensive Care Units, Pediatric, Surgical , Orthopedic , Operating Rooms, Renal dialysis unit ,Urology , Obstetrics and Gynecology ,Medical, Emergency , Isolation, Poising center , Neonate Surgery , Oral and Maxillofacial surgery , and Endoscopes , CT scan , MRI , ECO ,X –Ray, Laboratories ,Sonar , Blood bank, laundry and kitchen.

The study was conducted in all ICUs including; Medical Pediatric, Cardiac, Neonate, Neuro, and Medical Intensive Care Units.

### **Subject:**

The study subject was consisted of all (n=164) available nurses working in ICUs include Pediatric (n=22), Cardiac (n=20), Neonatal (n=56), Neuro (n=13),and Medical ICU (n=53). The subject was calculated to be 164 nurses at 95% confidence level and purposive 90% power of the study and available at time of data collection.

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

To achieve the aim of the present study, the following tools were used:

#### **Tool I: Readiness for Change Questionnaire**

This tool was developed by the researcher based on Herscovitch and Meyer (2002)<sup>(16)</sup>, Oreg (2003)<sup>(17)</sup>, Anjani and Dhanapal (2012)<sup>(18)</sup> and El- Beshlawy F. (2018)<sup>(19)</sup>. This tool consisted of four parts as follow; **Part one:** Nurses' characteristics data included age, sex, years of experience, marital status, residence and level of education.

**Part two:** Nurses' readiness to change contained 20 items classified into four subscales, as follow; appropriateness included 6 items, management support included 4 items, change efficacy included 7 items and personally beneficial included 3 items.

**Part three:** Nurses' commitment to change contained 13 items classified into three subscales, as follow; affective included 5items, continuance included 4 items and normative included 4 items.

**Part four:** Nurses' resistance to change contained 13 items classified into four subscales, as follow; routine seeking included 4items, emotional reaction included 3items, short-term thinking included 2items and cognitive rigidity included 4items.

#### **Scoring System**

Nurses' responses measured on a five-points Likert-Scale ranging from (1-5), which 5= strongly agree, 4= agree, 3= uncertain , 2= disagree and 1= strongly disagree. Items (10, 19, 20) related to readiness for change, items (6, 7, 8, 11) related to commitment to change and items of resistance to change all these items were negative so the researcher reversed the score.

The level of readiness for change determined as: <sup>(20)</sup>

- Strong nurses' readiness for change  $\geq 75\%$ .
- Moderate nurses' readiness for change from 60% to  $< 75\%$ .
- Weak nurses' readiness for change  $< 60\%$ .

#### **Tool II: Nursing Work Environment Characteristics Questionnaire**

This tool was developed by the researcher based on Lake (2002) <sup>(21)</sup> and Swiger et al. (2017) <sup>(22)</sup>. It was used to assess nursing practice environments (Work Index). This tool contained 24 items classified into five domains, as follow;

Nurse participation in hospital affairs included 9items, nursing foundations for quality of care included 5items, nurse manager ability, leadership and support of nurses included 5items, staffing and resource adequacy included 3 items, collegial Nurse–Physician Relations included 2 items.

#### **Scoring System:**

Nurses' responses measured on a five-points Likert-Scale ranging from (1-5), which 5= strongly agree, 4= agree, 3= uncertain, 2= disagree and 1= strongly disagree.

The level of nurses' responses determined as <sup>(40)</sup>:

- Good nursing work environment  $\geq 75\%$ .
- Fair nursing work environment from 60% to  $< 75\%$ .
- Poor nursing work environment  $< 60\%$ .

**Method:**

**1- Ethical considerations;**

- Approval of ethical committee at faculty of nursing was obtained.

- The researcher introduced herself to the nurses, they informed consent for participation was obtained after explanation of the nature and the purpose of the study, confidentiality of the information obtained from them .

- The right to terminate participation at any time was accepted.

-The nature of the study wasn't causing any harm for the entire sample.

-Assuring the nurses about the privacy and confidentiality of the collected data and explained that it was used for the study purpose only.

2-Official permission to conduct the study was obtained from responsible authorities at El Menshawy General Hospital .The purpose of the study was made clear to the medical and nursing directors of the hospital to gain their cooperation.

3- The study tools were modified by the researcher based on review of the related literatures.The tools were translated into Arabic language and reviewed by the supervisors and submitted to five experts in the field of

nursing administration to check content validity and clarity of questionnaire. The face validity value of tool (I) was 87.3% and tool (II) was 85.4%. Based on the experts' responses, certain modifications were made and some sentences modified using simple words.

4- A pilot study was carried out on 10% (17) nurses and they were excluded from the study subjects. It conducted to test the tools for its clarity, feasibility, applicability, relevance of the questions, and to determine the needed time to complete the questionnaire.

5-Reliability of tools tested using Cronbach Alpha Coefficient test. Reliability of tool (I) was 0.940 and reliability of tool (II) was 0.851.

6- Data collection phase: The data were collected from nurses by the researcher. The researcher met the ICU nurses in small groups at their work settings and distributed the questionnaire. The estimated time needed to complete the questionnaire items from nurses was 20-30 minutes. The subjects recorded the answers in the presence of the researcher to clarify and ascertain all questions were answered. The data was collected over period of six months started from

January until June, 2020.  
7- Statistical analysis of the data data were fed to the computer and analyzed using IBM SPSS software package version 20.0. (Armonk, NY: IBM Corp) Qualitative data were described using number and percent. Quantitative data were described using range (minimum and maximum), mean, standard deviation. Significance of the obtained results was judged at the 5% level.

### Results

Table (1): Illustrate Intensive Care Unit nurses' personal characteristics. It showed that around half (50.6%) of ICU nurses' age ranged between 20 - < 30 years with mean age  $29.57 \pm 5.80$ . The majority (90.2%) of ICU nurses were female and also the majority (91.5%) of them were residence in rural area. Regarding level of education, majority (87.8%) of ICU nurses' had Bachelor degree in nursing, while the minority (3.7%) of them had master degree in nursing. Also, 92.1% of ICU nurses' were married. Regarding ICU nurses' years of experience, around three fifths (61%) of them had less than 10 years of experience, with mean score  $(9.10 \pm 6.52)$ . More than one- third (34.1 %) of ICU nurses' were working in Neonatal

ICU, followed by 32.3% of them working in Medical ICU.

Table (2): Illustrate overall ICU nurses' readiness for change. The table revealed that, two thirds (66.6%) of ICU nurses' had weak level of readiness for change. While, around one third (33.5%) of the ICU nurses' had moderate level of readiness for change.

Figure (1): Illustrate levels of ICU nurses' readiness for change. The table shows that, around one third (31.7%) of the ICU nurses' had strong readiness for change .While, less than two thirds (63.4%) of them had moderate readiness for change and minority (4.9%) of them had weak readiness for change.

Figure (2): Shows levels of ICU nurses' commitment to change. Minority (2.4%) of ICU nurses' had strong commitment to change while two fifths (40.2%) of them had moderate commitment to change. Above half (57.3%) of them had weak commitment to change.

Figure (3): Shows levels of ICU nurses' resistance to change. According to this figure, the minority (0.6%) of the ICU nurses' had strong and moderate resistance to change, while

(98.8%) of them had weak resistance to change.

Figure (4): Shows levels of ICU nursing work environment characteristics. Minority (4.9%) of the ICU nurses' perceived good level of nursing work environment. Above half (58.5%) of them perceived fair level of nursing work environment while more than one third (36.6%) of them perceived poor level of nursing work environment.

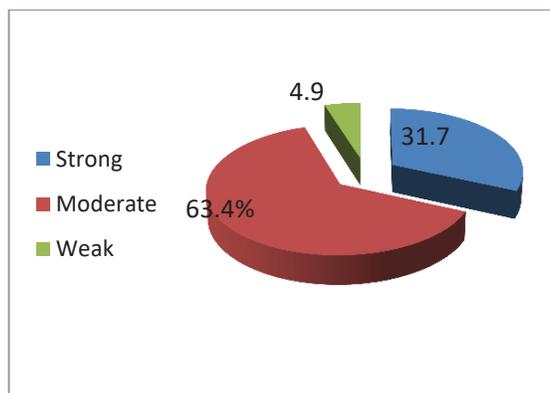
Figure (5): Represents correlation between overall ICU nurses' readiness for change and overall nursing work environment. The figure clear that there was a positive significant correlation was found between overall ICU nurses' readiness for change and their work environment.  $r = 0.614$

**Table (1): Intensive Care Unit nurses' personal characteristic (n = 164)**

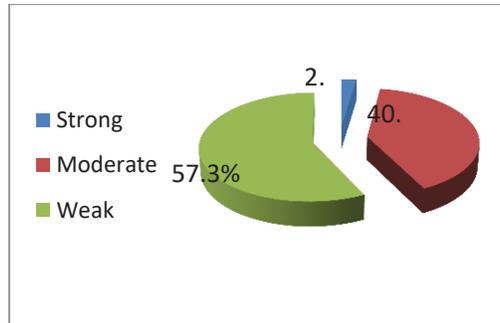
Characteristics	Nurses	
	No.	%
<b>Age</b>		
20 - < 30	83	50.6
30 - < 40	70	42.7
≥40	11	6.7
Min. – Max.	22.0 – 46.0	
Mean ± SD.	29.57 ± 5.80	
<b>Sex</b>		
Male	16	9.8
Female	148	90.2
<b>Residence</b>		
Rural area	150	91.5
Urban area	14	8.5
<b>level of education</b>		
Master in nursing	6	3.7
Bachelor degree in nursing	144	87.8
Diploma in nursing	14	8.5
<b>Marital status</b>		
Married	151	92.1
Un married	13	7.9
<b>Years of Experience</b>		
<10	100	61.0
10-<15	33	20.1
≥15	31	18.9
Min. – Max.	1.0 – 28.0	
Mean ± SD.	9.10 ± 6.52	
<b>Type of ICU</b>		
Pediatric	22	13.4
Cardiac	20	12.2
Neonatal	56	34.1
Neuro	13	7.9
Medical	53	32.3

**Table (2): Distribution of the ICU nurses according to overall readiness for change (n=164)**

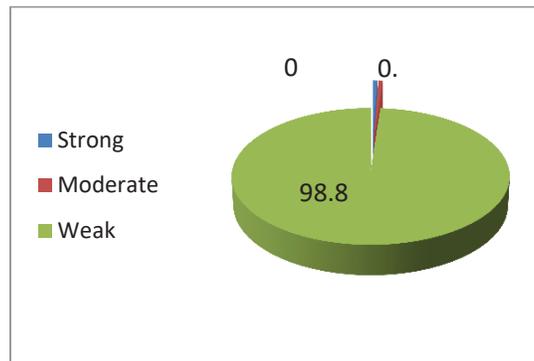
Readiness for change dimensions	Level of ICU nurses' readiness for change					
	Strong readiness		Moderate readiness		Weak readiness	
	No.	%	No.	%	No.	%
<b>Nurses' readiness for change</b>	52	31.7	104	63.4	8	4.9
<b>Nurses' commitment to change</b>	4	2.4	66	40.2	94	57.3
<b>Nurses' resistance to change</b>	1	0.6	1	0.6	162	98.8
<b>Overall</b>	<b>0</b>	<b>0.0</b>	<b>55</b>	<b>33.5</b>	<b>109</b>	<b>66.6</b>



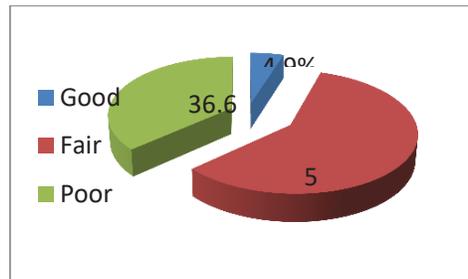
**Figure (1): Levels of ICU nurses' readiness for change dimension (n =164)**



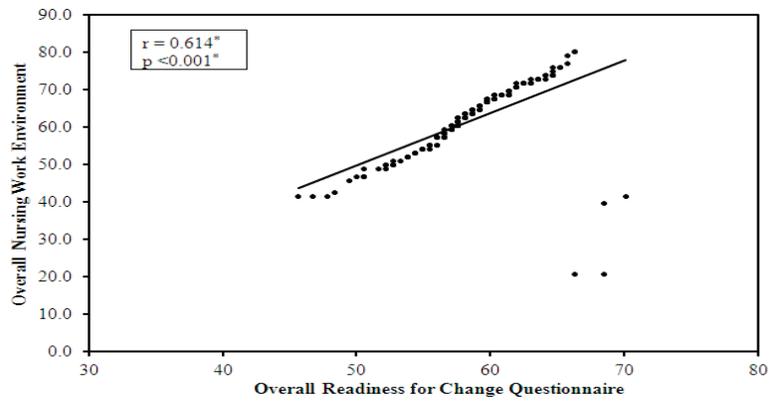
**Figure (2): Levels of ICU nurses' commitment to change dimension (n =164)**



**Figure (3): Levels of ICU nurses' resistance to change dimension (n =164)**



**Figure (4): Levels of ICU nursing work environment characteristics (work index) (n =164)**



**Figure (5): Correlation between overall nurses' readiness for change and overall nursing work environment (n = 164)**

## Discussion

Nurses' readiness for change is vital for achieving healthcare organizational goals and the success of change programs. The culture of healthcare organizations can be an influential character that has an effect on nurses' work environment and enhances the hospital's ability to adapt to environmental changes. If nurses are committed to their organization, the organizational changes can be managed successfully. <sup>(23)</sup>

In terms of overall ICU nurses' readiness for change, the present study discovered that, the majority of ICU nurses' had a low level of readiness for change. These findings could be due to lack of management support, appreciation, clear information, communication and assistance for nurses in decision-making. So, they were less commitment and less motivated to participate in any change program. This finding in the same line with **Madsen (2018)** <sup>(24)</sup> and **Inandi and Gilic (2016)** <sup>(25)</sup> they reported that nurses had low readiness for organizational change. This finding is contradictory with **Andrew (2017)** <sup>(26)</sup>

who found that nurses had high readiness for organizational change.

Regarding to the levels of ICU nurses' readiness for change dimensions, the findings of the present study illustrated that, the highest percentage of ICU nurses' had moderate readiness for change dimension. These results may be due to inadequate resources, poor communication system, vague information about change, less opportunity to participate in the change process and lack of staff training and development. The current results were in the same line with **El-Sayed et al. (2017)** <sup>(13)</sup> they found that the nurses had a moderate level of change readiness. The study findings disagreed with **El-Sayed et al. (2019)** <sup>(12)</sup> they show that, most of nurses had a high level of change readiness.

The present study finding that, more than half of ICU nurses' had weak commitment to change dimension. These findings could indicate that nurses are dissatisfied with their jobs as a result of work overload, lack communication skills, insufficient resources and poor working relationships. The current study was

agreement with **Dorgham (2012)** <sup>(27)</sup> who reported that the participants had low commitment toward their hospital. These results of the current study were agree with **Laschinger and Almost (2015)** <sup>(28)</sup> they found that, nurses less committed to their healthcare institutes, and less motivated to participate in any change process. The current study were disagreement with **Hakami et al. (2020)** <sup>(29)</sup> they found that the majority of the staff nurses had moderate level of organizational commitment. Also **Abd-elwahab and Elguindy (2014)** <sup>(30)</sup> they reported that, the mean score of staff nurses' organizational commitment was moderate. Also, it were inconsistent with the study demonstrated by **Lorber and Savic (2014)** <sup>(31)</sup> they mentioned that, the level of commitment among nurses was between high and moderate. Similar findings were also reported by **El-Demerdash et al. (2013)** <sup>(32)</sup> they found that, three-fourths of staff nurses had a moderate level of organizational commitment.

The findings of the current study represented that, majority of the ICU nurses' had weak resistance to change dimension. These results may be

attributable to a focus on benefits and discuss the effects of change on work values, attitudes, skills and staff relation. This result was in accordance with **Yilmaz and Kilicoglu (2013)** <sup>(33)</sup> they showed low dispositional resistance to organizational change. This result was contradictory with **Lamm and Gordon (2010)** <sup>(34)</sup> they found higher dispositional resistance to change among study subjects.

The present study found that, high percent of ICU nurses perceived a fair level of nursing work environment. These findings could indicate that nurses with more autonomy, greater control over the environment, and good relations with the medical team are conducting practice. These results congruent by the study of **Al Moosa (2020)** <sup>(35)</sup> they indicated that the studied nurses had moderate level of perception related to their work environment. Also, the results were supported by the study carried out by **El-Sayed et al. (2019)** <sup>(12)</sup> shows that the greatest portion of the studied nurses had moderately perceive professional nursing practice work environment, and **Raquel (2013)** <sup>(36)</sup> found that nurses had moderate

perception toward professional nursing practice environment.

These findings were contradicted with **Moisoglou (2020)** <sup>(37)</sup> who revealed that the studied nurses perceived unfavorable work environment. The findings were not supported by the study carried out by **Hessels et al. (2017)** <sup>(23)</sup> they found that there was a high attribute favoring professional nursing practice environment. The results were disagreement with **Lambrou et al. (2014)** <sup>(38)</sup> they stated that nurses perceived their professional working environment as stressful and this is due to low attributes favoring professional.

Concerning correlation between overall ICU nurses' readiness for change and overall nursing work environment, the results of the current study showed that, there was a positive statistically significant correlation between ICU nurses' readiness for change and their work environment. These findings could be attributed to the current work environment which allows nurses to make essential work decisions that enhance their readiness for change. Nurses' readiness to organizational change is enhanced by receiving assistance from their

supervisor, and working as a team with physicians through good relationships and collaboration.

These findings were consistent with **El Gohary and Abdelazyz (2020)** <sup>(39)</sup> who found that, there was a highly statistically significant positive correlation between nurses' readiness for organizational change and professional nursing practice environment .This result is in agreement with **EL-sayed et al. (2019)** <sup>(12)</sup> who found that there was statistical positive correlation between change readiness and professional nursing environment practices. Also, the study of **EL-sayed et al. (2017)** <sup>(13)</sup> they found significant correlation between change readiness and professional nursing environment practices.

## Conclusion

The present study concluded that majority of ICU nurses' had a low level of readiness for change. Highest percentage of ICU nurses' had moderate readiness for change dimension. Also most of ICU nurses' had weak commitment to change dimension. While majority of ICU nurses had weak resistance to change

dimension. Most of ICU nurses perceived a fair level of nursing work environment. There was a statistically significant positive correlation between overall ICU nurses' readiness for change and their work environment.

### **Recommendations**

**Based on the findings of the present study, the following recommendations are suggested**

#### **For hospital administration:**

-Establish an effective work environment with adequate staffing, resources, and encourage teamwork.

-Encourage the new ideas and foster creativity among ICU nurses and provide nurses with clear information about change.

#### **For nursing managers:**

-Assess of ICU nurses' readiness toward organizational change before initiation of organizational change.

-Continuously monitor and evaluate ICU nurses' readiness toward organizational change.

#### **For staff nurse:**

- Participate in all change programs to increase their knowledge about change.

-Be up to date with new technologies and procedures.

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