

Nurses' Perception of Work Environment Factors and its relation with their Work Engagement

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Abstract

Background: The working environment of nurses is getting global interest and concern because there is a growing consensus that identifying opportunities for improving working conditions in hospitals. It is essential to maintain adequate staffing, high-quality of patients care, nurses' work engagement and minimize their retention. **Purpose:** to explore nurses' perception of work environment factors and its relation with their work engagement at Menoufia University Hospital. **Research design:** A descriptive correlational research design. **Study subjects:** A simple random sample of 400 staff nurses were recruited from Menoufia University Hospital at Shebin El-Kom. **Setting:** This study was conducted in selected units at Menoufia University Hospital. **Instruments:** two instruments were utilized by the researchers including; Perception of Work Environment Factors Questionnaire and Level of Work Engagement Questionnaire. **Results:** two thirds of studied nurses had poor perception of work environment factors, moreover, more than half of them had low level of work engagement. There was a high statistical significant between total work environment dimensions related factors and there was a high statistical significant between total work engagement dimensions score of the studied subjects at $p \leq 0.001$. **Conclusion:** There was a highly statistical significant positive correlation between nurses' perception level of work environment factors and their level of work engagement. **Recommendation:** Facilitating job engagement of nurses by establishing a supportive, fair and impartial work environment, providing job autonomy, maintaining effective communication with nurses.

Keywords: Nurses' perception, Environment related factors, Work engagement.

Introduction

Nurses comprise the largest component of the health-care workforce and have increasing opportunities to practice in an enormous variety of settings. The profession of nursing is more than ever requiring the education of well trained, flexible and knowledgeable nurses who can practice in today's evolving health care environment (Black & Beth, 2020). Nursing teams in health-care settings are exposed to many demanding situations due to workforce shortages, increasing complexity of patient care and decreasing mental and physical work ability of the health care professionals. These factors influence nurses' intent to leave, empathy, motivation, job satisfaction, engagement, and patient safety (Shaheen & Eldeeb, 2018). Nursing is sometimes regarded as a difficult career due to variables such as the work environment and the different expectations that the profession entails. (Woodhead, Northrop, & Edelstein, 2016).

Nurses' work environments have been connected to patient outcomes and are described as elements of a practice setting that enable or hinder professional nursing practice. Nurses' work environment plays a key role in the quality and quantity of the care that they can provide as well as in workforce retention. Study showed that the work environment had influenced on nurses' intent to leave. When nurses perceived better working conditions, the intent to leave the job decreased and their work engagement increased (McHugh, Rochman, & Sloane, 2016).

The positive environment for nursing practice leads to higher quality patient care, may enable nurses to show their professional skills and knowledge and may foster self-actualization among nurses. Finally, a positive work environment may help in increasing employee retention and engagement in a current workplace (Al-Hamdan, Manojlovich, & Tanima, 2017). The positive work environment could significantly improve organizational outcomes. Identifying factors,

which influence the positive environment, may reduce turnover intention and increase work engagement among nurses. These factors include autonomy, environmental control, the relationship between doctors and nurses and organizational support (Madden, Mathias, & Madden, 2015).

Autonomy is self-direction that leads to engagement in one's work (Purdom & Michelle, 2016). The study was done by Zhang, Huang, Liu, Yan, and Li (2016) revealed that work autonomy made employees felt free to decide a free from control or external hurdles. Consequently, work autonomy can be taken as a valuable work resource that promotes work engagement.

Control over the nursing work environment is a democratic process facilitated by a visible, organized and supportive structure. The structure should give nurses input and involvement in decision making concerning clinical policies and problems in practice and personnel issues which affect nurses. The essential control over nursing work environment consists of control over the nursing practice and personnel policies in terms of a structure that enables control, the input and decision-making power, recognition of other professionals concerning the control over the nursing practice, and the extent to which there is shared decision making and this increase nurses' autonomy which in turn increase their work engagement (Kutney-Lee, et al., 2017).

High workloads, nurse views of a poor nursing work environment, and disruptive or unprofessional physician behaviors are all factors that could exacerbate what is already a global nursing shortage (Rosenstein, 2017). There are a variety of factors that motivate nurses to either change their work surroundings or stay in their existing positions. According to research conducted in some countries, a work environment suitable to nursing practice and effective communication with physicians connected with increased nurse job satisfaction, work engagement, and intent to stay. (Abu Al-Rub, El-Jardali, Jamal, & Abu Al-Rub, 2016).

Perceptions of organizational support derived from employees' interpretations of management's supportive behaviors, which may ultimately motivate or demotivate their work outcomes. When employees have Perceived Organizational Support (POS), it

reinforces their emotional and cognitive assessment of their organization and work (Zin, 2017).

Employees with greater POS may become more engaged in their work and organizations as part of social exchange theory's reciprocity norm to help out the organization in the achievement of its goals. This indicates that employees who believe their organization values their contributions and cares more about their well-being as a result are more inclined to return their organization by attempting to satisfy their organizational-related commitments by becoming more involved. (Ali, Rizavi, Ahmed, & Rasheed, 2018).

Work engagement is a measure of the levels of vigor, dedication and absorption in work among employees and it associates with their engagement and performance. The characteristics of work engagement include dedication and vigor, are considered the polar opposites of tiredness and cynicism (symptoms of burnout) in positive psychology, and the third element, absorption that represents the condition of being completely immersed in work. (Knight, Patterson, & Dawson, 2017). The relationship between people and their work is referred to as work engagement. (Schneider, Yost, Kropp, Kind, & Lam, 2018).

Vigor is viewed as people having a basic motivation to obtain, retain, and protect that which they value. Material, social, and energy resources are examples of resources that individuals value. Physical, emotional, and cognitive energies are three forms of energetic resources that are personally owned, intimately interrelated, and socially rooted in that emotional energy is always concerned with significant persons in one's social surroundings. (Wefald, Smith, Gopalan & Downey, 2017).

Dedication is assessed by five items, that refer to deriving a sense of significance from one's work, feelings of enthusiasm and proud about one's job and feeling inspired and challenged by it. Those who have a high level of dedication identify deeply with their work because it is meaningful, inspiring, and challenging. Besides, they usually feel proud and enthusiastic of their work. A person must appreciate the work and take pleasure in performing it in order to be engaged. As a result, an engaged employee is one who is

joyful and focused. Those that receive a low score do not identify with their work since it is not relevant, inspirational, or challenging to them; also, they are not enthusiastic or proud of their work. (Victor, Samson & Umadevi, 2016).

Absorption is the concentration of a professional who has trouble disconnecting from their work and focusing on their tasks. Absorption is defined by total immersion and the inability to disengage or separate from one's work function. Absorbed personnel should be able to focus on their work-related duties and efficiently utilize their attentional resources since they are fully immersed in their work. As a result, work engagement through absorption encourages employees to use their cognitive resources to seek out new perspectives, information, and expertise, which they may then integrate into new creative concepts. (Ramos, 2018).

Contemporary workplace a challenges prompt decision-makers to consider investing in the concept of work engagement, which has grown popular as a means of increasing worker productivity, competing effectively in the global economy, and achieving organizational goals (Al Mehrzi & Singh, 2016). It is a challenge for a business to have engaged personnel since they must engage not just the employee's body but also his or her soul and mind. (Bakker & Albrecht, 2018).

There is a strong relationship between work environment characteristics and work engagement. The work environment is a factor that can be used to determine each employee's level of engagement in the organization. Nurses who are highly engaged are usually energetic, enthusiastic about their work, and frequently fully immerse themselves in their work, which is conducive to improving their work performance, achieving work goals, and improving work-related outcomes such as nurses' turnover intention and nurse perceived quality of care. (Li, Li, & Wan, 2019).

The significance of the study

Work environment plays a vital role in influencing work engagement; establishing relationships at work could help foster a positive work environment to enhance work engagement. Employees who experience a valued connection may see higher levels of work engagement, which may result in increased organizational productivity.

Organizational leaders who create a poor work environment, on the other hand, may cause alienation and disengagement, hurting dedication to the organization's goals. Furthermore, the work engagement is considered important element of the strategic plan that Egypt is willing to achieve through the vision 2030. Whereas it's said to as the "heart" of the relationship between hospital departments and nurses.

The staff nurses who have job dissatisfaction and work disengagement, may result from lack of organizational support, inadequate staffing, diminished the autonomy of staff nurses and lack of resources. So, the purpose of the present study is to explore nurses' perception of work environment factors and its relation with their work engagement at Menoufia University Hospital

Purpose

The purpose of this study is explore nurses' perception of work environment factors and its relation with their work engagement at Menoufia University Hospital.

This purpose should be fulfilled through the following objectives:

1. Assess level of nurses' perception regarding work environment factors at Menoufia University hospital
2. Assess the level of nurses' work engagement at Menoufia University hospital
3. Determine the relation between nurses' perception level of work environment factors and their level of work engagement at Menoufia University hospital

Research questions

1. What is the nurses' perception of work environment factors at Menoufia University hospital?
2. What is the level of work engagement among nurses at Menoufia University hospital?
3. Is there a relation between nurses' perception of work environment factors and their work engagement at Menoufia University hospital?

Conceptual Framework

This study mainly focused on the motivational process and used the Job Demand Resources (JD-R) model that utilized as a lens to link the interactions

between work environment, job qualities, and work engagement.

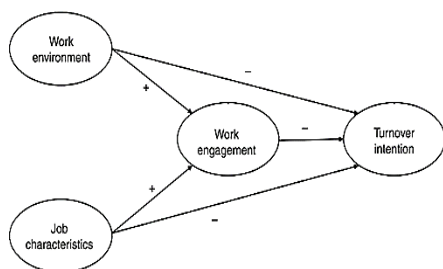


Figure (I): Job Demand Resources (JD-R) model (Schaufeli & Bakker, 2004).

The JD-R model describes the relations between personal characteristics, work characteristics and work outcomes (i.e. health, well-being and performance) on work engagement. Whereas earlier versions of the model focused primarily on burnout as outcome variable. Later versions also included more antecedents (such as work-related and personal resources) and other an outcome (i.e. work engagement). The JD-R model is a heuristic framework for connecting a wide range of job characteristics to a range of outcomes. (Taris & Schaufeli, 2016).

Methods:

Research design: A descriptive correlational research design was used to the present study subjects.

Setting: This study was conducted in selected units at hospital at Shebin El-Kom, Menoufia University Hospital, Egypt. Menoufia University Hospital was divided into general departments and specialty units. General units namely; medical, surgical, pediatrics, urology, cardiology, obstetrics and gynecology, ENT, chest, orthopedics, and oncology department. While, specialty units namely; emergency department, urology O.R., surgical O.R., orthopedics O.R., cardio-thoracic O.R., obstetrics and gynecology O.R., emergency ICU, surgical ICU, pediatric ICU, neonate, burn, and hemodialysis department.

Study Subjects:

A simple random sample of 400 staff nurses who had at least two years of experience working in the hospital and accepted to participate in the study. A simple random sampling technique was used to select staff

nurses who are working at Menoufia University Hospital. A list of all staff nurses from general departments and specialty units who has at least 2 years of experience was prepared. Each staff nurse was marked with a specific number (from 1 to 1200). By using the method of ideal bowl, the investigator assigned number to each member of staff nurses in a consequent manner, writing umbers in separate pieces of paper. These pieces of papers were folded in the same manner and mixed into a bowel. Lastly, samples were taken randomly from the box by choosing folded pieces of papers in a random manner without replacement so each staff nurse had one chance of being selected until to reach the required sample size (400 staff nurses).

Hospital/units	Nurses no.
General departments: (medical, surgical, pediatrics, urology, cardiology, obstetrics and gynecology, ENT, chest, orthopedics, and oncology department).	166
Specialty units: (Emergency department, urology O.R., surgical O.R., orthopedics O.R., cardio-thoracic O.R., obstetrics and gynecology O.R., emergency ICU, surgical ICU, pediatric ICU, neonate, burn, and hemodialysis department).	234
Hospital Menoufia University Hospital	400

Data collection tools:

Two instruments were used based on the study objectives to conduct the study:

Instrument one: Work environment factors Questionnaire developed by Gasparino & Guirardello (2009), self-administered questionnaire consisted of two parts: **Part I:** Demographic data such as (age, gender, qualifications, and years of nursing experiences, marital status and work units).

Part II: It consisted of 25 items grouped under 4 subscales; autonomy (5 items), environmental control (7 items), relationship between doctors and nurses (3 items) and organizational support (10 items).

The scoring system of each dimension was assessed by using 3 points likert scale such as 1-Disagree, 2-Neutral, and 3-Agree. The assessment followed by subscales and values < 60% were poor perception of work environment factors to professional practice, while ≥ 60% were good perception of work environment factors to professional practice.

Instrument two: Level of Work Engagement Questionnaire: developed by Schaufeli and Bakker (2003), It consisted of 17 items which divided into three subscales; vigor (6 items), dedication (5 items) and absorption (6 items).

The scoring system of each dimension was assessed by using 5 points likert scale with 1- Never, 2- Rarely, 3- Sometimes, 4- Often and 5- Always. The level of work engagement considered low if the percent score was (<60%). The level of work engagement considered moderate if the percent score was (60-75%) and the level of work engagement considered high if the percent score was (>75%).

Validity of the tools:

A bilingual group of five experts was selected to test the content and face validity of the instruments. The panel included two professors and three assistant professors from Nursing Administration department (Faculty of Nursing, Menoufia University). The researchers asked the panel to critique the instrument as a whole, including identifying areas of concern and reviewing the construction, flow and grammar. The panel examined the following criteria: relevant to the purpose of the study, clear and simple to be easy understood, comprehensive, appropriate length of the instrument and appropriate ordering of questions.

Reliability of the tools:

Test –retest reliability was applied by the researcher for testing the internal consistency of the instruments. It is the administration of the same instruments to the same participants under similar condition on two or more occasions scores from repeated testing were compared. Cronbach alpha reliability was (0.94 and 0.96) for work environment factors and work engagement questionnaire respectively.

Ethical consideration:

An informed oral consent to participate in the current study was taken after the purpose of the study was explained to study subjects. The researcher informed each staff that participation in the study was voluntary and he /she could withdraw from the study at any time. Confidentiality of the obtained personal data, as well as respect of participant's privacy was totally ensured.

Pilot study

The pilot study was conducted on 40 nurses, which represented 10% of the sample size and was included in the main sample size because no required modifications were made.

Data collection procedure:

Preparatory phase:

It was necessary to consider how to operationalize instruments, given that the research was conducted in an Arabic setting, where respondents spoke Arabic as their first language and not all staff nurses are highly graduated, so the instruments needed to be translated into Arabic language. First, the original English questionnaires items were translated into Arabic. Second, Arabic questionnaires items were translated into English. As a final check, the original English questionnaires and the back translated questionnaires introduced to an expert in English language to make comparison for any discrepancies. Then questionnaires tested for its validity.

Implementation phase (data collection):

Data was collected in the morning, afternoon and night shifts and the nurses filled in the questionnaires in the presence of the investigator to ascertain all questions were answered. The time required for each nurse to fill the questionnaire was estimated to be 15-20 minutes. Data was collected upon 2 months started from 26th of July 2020 to 26th of September 2020.

Data Analysis:

The collected data were organized, tabulated and statistically analyzed using SPSS software statistical computer package version 26. For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, comparison was done using Chi-square test (χ^2).

Correlation between variables was evaluated using Pearson and Spearman's correlation coefficient r . A significance was adopted at $P < 0.05$ for interpretation of results of tests of significance (*). Also, a highly significance was adopted at $P < 0.01$ for interpretation of results of tests of significance (**).

Results

Table (1): Represents demographic characteristics of the studied subjects. The highest percent of them (44.3%) were between (25-< 35) years old and most of them (80.2%)

were female nurses. Also more than one third of the studied subjects (38.3%) were technical institute nurse and (48.8%) had (5-< 15) years of experience. Regarding marital status, more than two third of the studied subjects (79.3%) were married and more than half of the studied sample and (58.5%) were working at specialty units.

Table (2): Shows total work environment dimensions related factors as perceived by studied subjects. As indicated from the table, there was a high statistical significant between total work environment dimensions related factors score of the studied subjects. Also as showed from the table, the highest poor perception among work environment dimensions related factors was environmental control (72.8%) followed by autonomy (66.3%) then organizational support (64.5%) and relationship between doctors and nurses (50%).

Table (3): Represents total work engagement dimensions score of the studied subjects. There was a high statistical significant between total work engagement dimensions

score of the studied subjects. The lowest level among work engagement dimensions was absorption (67.3%) followed by vigor (53.8%) then dedication (44.3%).

Table (4): Clarifies percentage comparison and correlation between total perception level of work environment dimensions related factors of the studied subjects and their level of work engagement. There was a highly positive statistical significant correlation between nurses' perception level of work environment factors and their level of work engagement at Menoufia University hospital

Fig (1) Illustrates percentage distribution of the studied subjects according to their total perceptions' level of work environment factors. It indicated 66.3% of them had poor perception.

Fig (2) Illustrates percentage distribution of the studied subjects according to their level of work engagement. It indicated that 55.8% of them had lower level of work engagement.

Table 1: Frequency Percentage Distribution of Demographic Characteristics of the Studied Subjects (N=400).

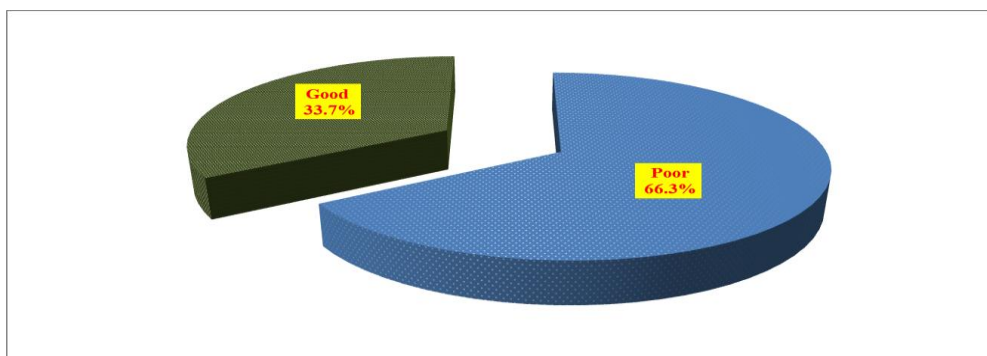
Socio-Demographic Characteristics	The studied sample (n=400)	
	N	%
Age (in years)		
▪ (< 25)	31	7.8
▪ (25-< 35)	177	44.3
▪ (35-< 45)	169	42.3
▪ (≥ 45)	23	5.6
Gender		
▪ Male	79	19.8
▪ Female	321	80.2
Educational level		
▪ Diploma	124	31
▪ Technical Institute	153	38.3
▪ Bachelor	116	29
▪ Post studies	7	1.7
Experience (in years)		
▪ (< 5)	55	13.8
▪ (5-< 15)	195	48.8
▪ (15-< 25)	123	30.8
▪ ≥ 25	27	6.6
Marital status		
▪ Married	317	79.3
▪ Not married	83	20.7
Work unit		
▪ General departments	166	41.5%
▪ Specialty units	234	58.5%

Table (2): Total Work Environment Dimensions Related Factors Score as Perceived by the Studied Subjects.

Dimensions	The studied sample (n= 400) Total work environment factors score		Chie square	P-value
	N	%		
<u>1.Autonomy</u>				
▪ Poor	265	<u>66.3</u>	94.75	0.000**
▪ Good	135	33.7		
<u>2.Environmental control</u>				
▪ Poor	291	<u>72.8</u>	102.47	0.000**
▪ Good	109	27.2		
<u>3.Relationship between doctors and nurses</u>				
▪ Poor	200	<u>50</u>	100.95	0.000**
▪ Good	200	50		
<u>4.Organizational support</u>				
▪ Poor	258	64.5	100.63	0.000**
▪ Good	142	35.5		

Table (3): Total Work Engagement Dimensions Score of the Studied Sample and Its Dimensions.

Dimensions	The studied sample (n=400) Total work engagement score			Chie square	P-value
	N	%	Mean \pm SD		
<u>1.Vigor</u>					
▪ Low	215	<u>53.8</u>	19.17 \pm 5.406	77.95	0.000**
▪ Moderate	123	30.8			
▪ High	62	15.4			
<u>2.Dedication</u>					
▪ Low	177	<u>44.3</u>	17.02 \pm 4.834	76.28	0.000**
▪ Moderate	128	32			
▪ High	95	23.7			
<u>3.Absorption</u>					
▪ Low	269	<u>67.3</u>	18.00 \pm 5.207	76.95	0.000**
▪ Moderate	87	21.8			
▪ High	44	10.9			

Fig 1: Percent Distribution of the Studied Nurses According to Their Total Perception Level of Work Environment Factors.**Fig 2: Percent Distribution of the Studied Nurses According to Their Total Level of Work Engagement.**

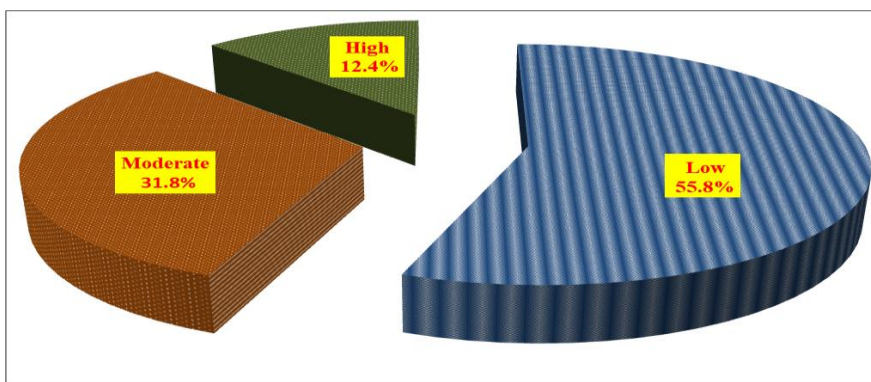


Table (4): Percentage Comparison and Correlation between Total Perception Level of Work Environment Factors of the Studied Subjects and their Total Level of Work Engagement.

Level of work engagement	The studied sample (n=400)				χ^2 P
	Level of work environment factors				
	Poor (n=265)		Good (n=135)		
	N	%	N	%	
▪ Low	185	46.3	38	9.5	66.839 0.000*
▪ Moderate	63	15.8	64	16.0	
▪ High	17	4.3	33	8.3	
r , P	0.485 , 0.000**				

Discussion

Nurses are considered a point of reference in the care of patients. The personal and work environment characteristics of these professionals can affect their work engagement (International Council of Nursing, 2017).

Before discussing the results related to these research questions, the light should be directed to demographic characteristics of the studied subjects. The result of the present study found that more than half of the studied subjects were from specialty units.

The majority of the nurses in the study were between the ages of 25 and 35, and the majority of them were female nurses. This, in my opinion, may be related to the fact that nursing is mostly a female-dominated profession, and that men have recently been recruited in nursing profession, as well as the fact that nurses are typically young, implying that they will have a long career ahead of them. As a result, measuring their level of work engagement is critical for retaining and promoting their excitement for the job. More than one third of the participants in the study were technical institution nurses with between 5 and 15 years of experience. In terms of

marital status, more than two-thirds of the participants in the study were married.

Concerning studied sample perception of work environment dimensions related factors at Menoufia University Hospital, the present study findings revealed that; more than two third of the studied subjects had good perception of relationship between doctors and nurses, while more than one third of them had poor perception on environmental control. In my opinion, good relationship between doctors and nurses working at Menoufia University Hospital due to medicine and nursing are closely linked professions in hospital care, and patient outcomes are dependent on the doctor's prowess in diagnosis and treatment, as well as nurses' constant observation and skills in passing on the right information to the right professional coworker. Additionally, from my point of view poor perception of environmental control because nurses expected comprehensive support from the authorities during these difficult period (Covid-19 outbreak) and breathtaking days. Officials didn't support nurses financially and spiritually.

The current study finding was consistent with research finding described in Thailand by

Nantsupawat, Kunaviktiku, Wichaikhum, Thienthong & Poghosyan (2017) who revealed that there was a strong collegial nurse-physician relation. The finding also was consistent with another study conducted in Philippines to: explore the relationship among nurses' work practice environment, organizational commitment, and work engagement, it revealed that the degree of nurse-physician relationship was relatively high (Balay-Odaoem, 2017).

The finding of this present study was contradicted with Guirardello (2017); Abdel-Sattar and Abdelhamid (2018) study which reported that the lowest mean score was collegial nurse-physician relations among work environment dimensions.

Concerning studied nurses' level of work engagement dimensions at Menoufia University Hospital, the present study findings revealed that; the highest level among work engagement dimensions was dedication, while the lowest level among work engagement dimensions was absorption. From my point of view, the level of absorption was low among staff nurses at Menoufia University Hospital may be related to the threat posed by Covid-19, as well as staff nurses experience extreme psychological stress due to their perception of job insecurity, limitations in autonomy, fears of infection during close contact with patients with limited resources, unfamiliarity with new specialized working environments and procedures, physical discomfort caused by special protection, witnessing patient suffering and death, and long-term separation from family members.

From my point of view, dedication is considered the highest level of work engagement dimensions among staff nurses at Menoufia University Hospital because upon the spread of COVID-19 disease, the position of nursing profession had been improved in the view of nurses themselves, officials, patients and communities. Although COVID19 patients felt helpless and dissatisfied, their love and interest for the nurses who cared for them grew, making them proud to be nurses.

The current study results were agreement with the results of Borges, Sequeira, Queiros, & Mosteiro-Diaz, (2020); Jinmei, Sirakamon, &

Akkadechanunt (2020) who found that the dimension score of dedication was the highest in the work engagement scale and absorption was the lowest dimension.

Conversely, the result of the present study was disagreed with Cao, Huang, wang, L., Li, Dong, Lu, & Shang (2020) and Huang, Wang, Dong, Li, & Wan (2020) who reported that among the three dimensions of work engagement, absorption scored the highest mean score. Furthermore, Tomietto, Paro, Sartori, Maricchio, Clarizia, De Lucia, & PN Nursing Group (2019) who reported that among the nursing staff studied, the averages indicated a predominance of dedication as a potential source of work engagement.

Concerning studied subjects perception of work environment factors at Menoufia University Hospital, the present study findings revealed that about two third of studied subjects had poor perception of work environment factors- From my point of view, their perception was poor for many reasons; the first reason during the spread of COVID-19, nurses experienced many challenges such as bad feeling of inefficiency, stress, excessive physical fatigue, dilemma between care delivery and infection, and enclosed in protective equipment during taking care of patients with COVID-19. Excessive stress has a negative impact on staff nurses' ability to deal with their environment in a normal manner, resulting in poor performance and, as a result, a negative impact on the organization where they work.

The result of present study was consistent with Dutra, Cimiotti, & Guirardello (2018) who conducted a study about; Nurse work environment and job-related outcomes in Brazilian hospitals, and showed that nurses reported poor work environment, also, the study conducted by Abdel-Sattar and Abdelhamid , Abdulsalam, & Alzahrani (2018) who reported that the majority of the nurses investigated had a negative perception of their work environment, according to Work Environment Perception as a Predictor of Patient Safety Culture among Nurses at Al-Ahrar Teaching Hospital.

In contrast with present study findings, Abd-Elrhaman & Ghoneimy (2019) who found

that more than half of staff nurses perceived their work environment as average level regarding staff nurses' perception toward work environment. This could be attributed to problems with staff nurses due to an insufficient staffing and resources in the hospital. Also, there was inadequate of nurse's participation in hospital administration and work affairs as hospital and head nurse didn't give them opportunity to share in decision making. Also, the current study result is contradicted with a study conducted by Almuhsen, Alkorashy, Baddar, & Qasim (2017) who revealed that nurses had moderate to high level regarding work environments' perception.

Concerning the work engagement level among the studied subjects, the current study findings revealed that; more than half of the studied subjects had low level of work engagement, while one third had moderate level and minority of them had high level of work engagement. From my point of view, the lowest level of work engagement among nurses may be due to their inability to adapt to changes in their environment as a result of COVID-19 outbreak in comparison to other occupational groups as increased workload, lack of equipment and barrier protective clothes, lack of autonomy and unfavorable relationship between doctors and nurses due to this stressful situation to all of them and lack of environmental control during this sudden unplanned change in their work.

In agreement with this study results, Eliwa (2019) who reported that more than half of staff nurses (58.2%) had low work engagement level. Wan, Zhou, Li, and Shang (2018) also showed that nurses had a relatively low level of work engagement. Also, the current study result is supported by Attia ,Abo Gad, & Shokir (2020) who revealed that more than two-fifths of staff nurses had low level perception of overall work engagement. And is supported by Wang, Liu, Zou, Hao, & Wu, (2017) who indicated that there was a low level of work engagement among nurses and only (21.0%) of them showed high level of work engagement.

Conversely, the result of present study was disagreed with Darwish (2020) who

concluded that the studied nurses had moderate work engagement level.

Concerning the correlation between total perception level of work environment factors of the studied subjects and their level of work engagement at Menoufia University Hospital, the current study findings revealed that; there was highly significant statistical positive correlation between nurses' perception level of work environment factors and their level of work engagement at Menoufia University hospital .

From my point of view, the majority of nurses would be more engaged in their work, if their work environment characterized by less problematic interactions with physicians, supervisors, peers, and patients; adequate workload and preparation; more certainty about treatment; greater autonomy; feedback; more variety and significance of tasks; safe nurse staffing levels; good communication, collaboration and teamwork with physicians; competent nurse managers; support from hospital management to enable nurses to provide effective and efficient patient care; safe, empowering and satisfying workplace; a high level of trust between management and nurses; a culture that supports communication and collaboration; a climate where employees' feel physical and emotional safety and well-being; meaningful recognition and authentic leadership and vice versa.

This current study result was confirmed to the review by Mohda, Shaha, & Zailana (2016) who identified that there was a positive significant correlation between nurses' perception level of work environment and their level of work engagement which means the more conducive the work environment, the more the nurses would become engaged in their organization and jobs. This finding was supported by Popli & Rizvi (2016) where meaningful workplace environment is considered a key determinant of nurses' engagement.

Conclusion

The majority of studied subjects at Menoufia University Hospital had poor perception of work environment factors. Also, more than two third of them had good

perception of relationship between doctors and nurses, while more than one third them had poor perception on environmental control. Moreover, more than half of them had low level of work engagement, while one third had moderate level of work engagement. Also, the highest level among work engagement dimensions was dedication, while the lowest level among work engagement dimensions was absorption. Finally, there was highly statistical significance positive correlation between study subjects perception of work environment factors and their work engagement.

Recommendations

Based on the findings of the current study, the following recommendations are suggested:

- Nurse manager need to build a supportive work environment as effective way to increase nurses' psychological bonding and enhancing positive work-related outcomes that may, in turn, enhance organizational performance and their work engagement.
- Facilitating job engagement of nurses by establishing a supportive, fair and impartial work environment, providing job autonomy, maintaining effective communication with nurses, helping them with career development and planning, and caring about their well-being through different levels of management.
- Further research is needed to assess the impact of other work environment factors on nurses work engagement.

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Limitation of the Study:

The current study was done at the time of Covid19 with the risk of infection, which increased the difficulty and timing for each step especially during data collection and decreasing number of collected sheets per day for following preventive measures

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