The Effect of Quality Hospital's Environment on nurses' satisfaction and their Compliance with safety Precautions

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Abstract

Background: Increasing the nurses work environment quality is critical in the context of global paucity of qualified nurses. Workplace satisfaction has been a major factor in motivating positive job behavior. **Research Aim:** evaluate the effect of quality hospital's environment on nurses' satisfaction and their compliance with safety precautions. **Research design:** A descriptive design was utilized. **Setting:** Helwan General Hospital. **Subject:** A convenience sample was utilized to select the study population. **Tools**: Four tools were used as 1st tool predesigned questionnaire include (personal characteristics), 2nd tool "Quality of Hospital's Environment" and 3rd tool "Job Satisfaction scale" and 4th tool "Compliance with safety Precautions scale". **Results:** (60%) of respondent nurses complied with safety precautions, regarding to the total satisfactory level of quality of hospital's environment; it clarifies that 77 % of the respondent were satisfied. **Conclusions:** The conclusion can be drawn from this study would be that there were satisfactory level of quality of hospital environment and job satisfaction among the respondent nurses. Nurses satisfied with their work environment were willing to comply with safety precautions. **Recommendation:** Improving hospital environment to maintain high job satisfaction of nurses. Enhance compliance of safety precautions through encouragement and appreciating good performance, challengeable abilities activities to remain the nurse active all the time and encouraging teamwork spirit among nurses.

Keywords: hospital's environment, nurses satisfaction, compliance, safety precaution

Introduction

Nurses play an important role because nurses have more contact with patients than other members of health workers **(Faramarzpour et al., 2021; Supriadi et al., 2020)**. Nurses are the largest sectors of health care workers, and they are foundational for high-quality care. Retaining nurses who have positive work attitudes is important for the stability of the hospital nurse workforce **(Supriadi et al., 2020; Wu et al., 2020)**. The organizational aspects of a work setting that support or limit professional nursing practice are referred to as the work environment **(Wu et al., 2020)**.

Nurses who working in an unpleasant work environment experienced poor consequence, such as increased workplace violence, greater levels of burnout, and bad attitudes toward their jobs **(Wu et al., 2020)**. Preventing burnout and lowering clinical nurse turnover requires a quality hospital environment and compassion fulfillment. High levels of stress and exhaustion are reported by hospital nurses, most likely because of heavy workloads, a wide range of patient conditions, and professional relationship problems. While caring for dying patients, clinical nurses commonly face emotional difficulties **(Baek et al., 2020).**

When compared to work settings with acceptable working environment, the percentage of nurse interventions requested by patients that are not implemented is considerably higher in improper work environments **(Aiken et al., 2018; SkelaSavič et al., 2020)**. Underdeveloped workplace infrastructure, poor work organization, limited education, and unsuitable staffing rules all contribute to inhumane working circumstances **(Bae, Hwang, & Lee, 2018; Barrientos-Trigo et al., 2018; SkelaSavič et al., 2020)**. Patients' health and work autonomy are jeopardized by a nursing shortage and working with restricted

resources **(Aiken et al., 2018; Buchan et al., 2018; Skela- Savič et al., 2020)**.

Job satisfaction is indispensable in the daily life of the workforce, and the mechanism that drives job satisfaction requires the attention of the management of corporate organizations. Job satisfaction has been a major factor in motivating positive job behavior and organizations success . **(Akinwale , & George, 2020)**. According to **Faramarzpour et al., 2021** who stated that work discontent is one of the deciding causes for quitting the nursing profession. Meanwhile, the function of work environment and ethical climate in companies in nurses' satisfaction or dissatisfaction should be prioritized to assess and prevent nurses' desire to abandon their employment. There is a link between nurses satisfaction and performance, according to several research **(Setiawati, & Ariani, 2020)**. Working conditions, compensation and promotions, job stability, fairness, and relationships with coworkers and superiors are all variables that influence job satisfaction and performance **(Supriadi et al., 2020)**.

Compliance with safety precautions (SPs) may be affected by environmental variables like as materials and equipment availability, as well as managerial indifference or individual factors such as education and experience **(Al-Faouri et al., 2021)**. To avoid health-care-associated illnesses, health-care personnel should strictly adhere to established measures, according to health-care organizations **(Donati et al., 2020)**. Compliance with basic safety precautions is an effective and efficient way to enhance healthcare quality by lowering the prevalence of healthcare-associated infections. It is also necessary to safeguard nurses and other healthcare workers, patients, and communities. Especially in areas with little resources: the prevalence of severe spreading infectious illnesses such as Hepatitis B, C, and HIV is quite high, and preventative measures for these diseases are extremely limited **(Al-Faouri et al., 2021; Bekele et al., 2020)**.

Aim of the study:

This study aimed at evaluating the effect of quality hospital's environment on nurses' satisfaction and their compliance with safety precautions, through;

- Assessing the level of quality hospital's environment.

- Determining the effect of quality hospital's environment on nurses' job satisfaction.

- Identifying the effect of quality hospital's environment on nurses' compliance with safety precautions

Research questions:

- What is the level of quality hospital's environment?

- What is the effect of quality hospital's environment on nurses' job satisfaction?

- What is the effect of quality hospital's environment on nurses' compliance with safety precautions?

Methodology:

Research design: A descriptive correlational design**s** were utilized.

Research Setting: The study was carried out at carried out at Helwan General Hospital.

Research Sample: Convenience sample was utilized in this study.

Research Subjects: Subjects in this study were 100 nurses who were working in the inpatients departments at mention setting who were available at the time of study.

Tools of data collection:

Tool I: predesigned questionnaire which prepared by researcher post reviewing literature review **Akinwale and George, 2020** which included personal characteristics of the nurses such as age, gender, educational level, marital status, training courses, engagement in the nursing field

Tool II: Quality of Hospital's Environment; it adapted from **Aiken et al., 2008** and consists of 16 items divided on ergonomics (3 items), physical demand (3 items), work condition (6 items), used equipment (4 items). The response options for the items, are 1 = strongly disagree, 2 = disagree, 3 = sometimes, 4 = agree and 5=strongly agree. Satisfactory quality of hospital environment if score more than 60% and unsatisfactory if score 60% or less.

Tool III: Job Satisfaction scale; it adapted from **Al-Enezi et al., 2009** and consists of 17 items, that assess nurses' job satisfaction as the hospital polices encourages its employees to do their best, the hospital is capable of maximizing employee capabilities, High-performance nursing homes are rewarded….etc. The response options for the items, are 1 = strongly disagree, 2 = disagree, 3 = sometimes, 4 = agree and 5=strongly agree. Satisfactory quality of hospital environment if score more than 60% and unsatisfactory if score 60% or less.

Tool IV: Compliance with safety Precautions scale; it adapted from **Donati et al., 2019**. It consists of 13 items that assess nurses' compliance with the safety precautions as I dispose of sharps in designated containers, I wear gloves when administering injections, I wear safety glasses when starting IV's injection….etc. The response options for the items, are 1 = Never, 2 = sometimes, 3 = usually and 4=Always. Satisfactory compliance if score more than 60% and unsatisfactory compliance if score 60% or less.

Field work:

A review of recent national and international related literature using journals, periodicals, textbooks, internet, and theoretical knowledge of the various aspects concerning the topic of the study. Preparation of data collection tools was carried out over a period of six months from beginning of August 2020 - January 2021. The investigators prepared the tools and translated them into Arabic form to become ready for use. The investigator distributed the data collection forms with instructions about how to fill them. The time required to fill the questionnaires sheet was from 20 to 30 minutes. The filled forms were collected in time and revised to check their completeness to avoid any missing data.

Pilot Study:

The pilot study was conducted with 10 nurses who represent 10% of total sample at the previously mentioned setting in order to test the applicability of the constructed tools and the clarity of the included tools. The pilot also served to estimate the time needed for each subject to fill in the questionnaire. Those who shared in the pilot study were excluded from the study sample.

A group of experts in the administration nursing ascertained **the content's validity**; their opinions were elicited regarding the format, layout, consistency, accuracy, and relevancy of the tools. **Reliability testing** was carried out to test the reliability in terms of Cronbach's Alpha for tool I was 0.827, Tool II was 0.861, Tool III was 0.877 and Tool IV was 0.901.

Data collected from the studied sample was revised, coded, and entered using Personal Computer (PC). Computerized data entry and statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 24. Data were presented using descriptive statistics in the form of number and percent. The Correlation coefficients are used to measure how strong a relationship is between two variables. Chi-squared test is used to determine whether there is a statistically significant difference between the expected frequencies and the observed frequencies in one or more categories of a contingency table.

Ethical consideration:

The submission of the answer to the questionnaire was considered as consent to take part in the study. Confidentiality of the study subjects' data was sustained throughout the study by making the nurses' data nameless.

Results:

Table 1 described personal characteristics of respondent nurses. The data showed that (76 %) were female, the most age (50%) of the nurses were ranged between 20- ≤ 30 years old with a mean age of **31.2±7.9**. The most were diploma nurse, married, had more than 10 years of experience, receive training courses & with the following percentage of (75%, 84%, 37% & 92% respectively).

Table 2 presented satisfactory level of quality of hospital environment among the respondent nurses. It reported that satisfactory level of hospital ergonomics, physical demands, work conditions and using of the equipment of the respondent nurses were satisfied with the percentage of (80%, 96%, 81% & 79% respectively). Moreover, as regard to the total

satisfactory level of quality of hospital's environment; it clarifies that 77 % of the respondent were satisfied with $\overline{x} \pm SD$= 29.1 ± 2.34.

Table 3 represented that (73%) of respondent nurses had job satisfaction level with a mean of (31.17) and standard deviation of (2.8)

Figure 1 illustrated that (60%) of respondent nurses were satisfied with their compliance with safety precautions.

Figure 2 showed that (78%) of respondent nurses had satisfactory level with the total hospital environment.

Table 4 demonstrated that, was a highly statistical significant relationship between total quality of hospital environment and socio-demographic characteristics (age, gender, educational level & years of experience) among the respondent nurses (P <0.05).

Table 5 showed that, there was a significant statistical positive correlation between quality of hospital environment with the compliance of safety precaution of the respondent nurses and job satisfaction (r = 0.873 & 0.933 at P = < 0.01)

Table 6 displayed that, there was a significant statistical positive correlation between job satisfaction with the compliance of safety precaution the respondent nurses (r = 0.875 at P = < 0.01).

Table (1): Number and percentage distribution of the respondent nurses according to their socio-demographic characteristics (n=100).

Items	N	%
Gender		
Female	76	76
Male	24	24
Age (year)		
20- ≤ 30	50	50
31- ≤ 40	34	34
≥41	16	16
$\overline{x}$ **& SD** 31.2±7.9		
Educational Level		
Diploma Nurse	75	75
Technical Institute	4	4
Bachelor of Nursing	20	20
Post Graduate Studies	1	1
Marital Status		
Single	7	7
Married	84	84
Divorced	3	3
Widow	6	6
Years of Experience		
1 – 3	23	23
4 – 6	25	25
7 – 10	15	15
> 10	37	37
$\overline{x}$ **& SD** 7.33±4.7		
Training courses on nursing care		
Yes	92	92
No	8	8

Table (2): Satisfactory level of quality of hospital environment among the respondent nurses (n=100)

Hospital Environment		Satisfactory N = %	Un-satisfactory N = %
1.	Ergonomics	80	20
2.	Physical Demand	96	4
3.	Work Condition	81	19
4.	The Used Equipment	79	21
	Total	77	23
$\overline{x} \pm SD$		29.1 ± 2.34	

Table (3): Satisfactory level among the respondent nurses (N=100)

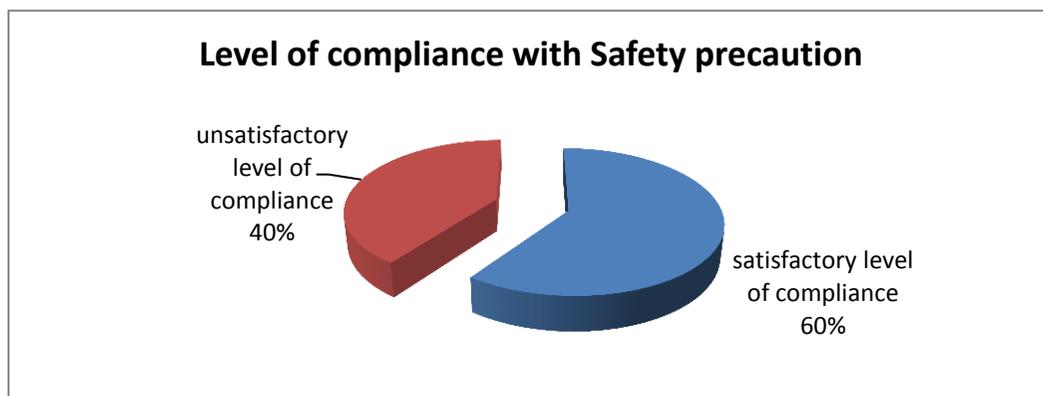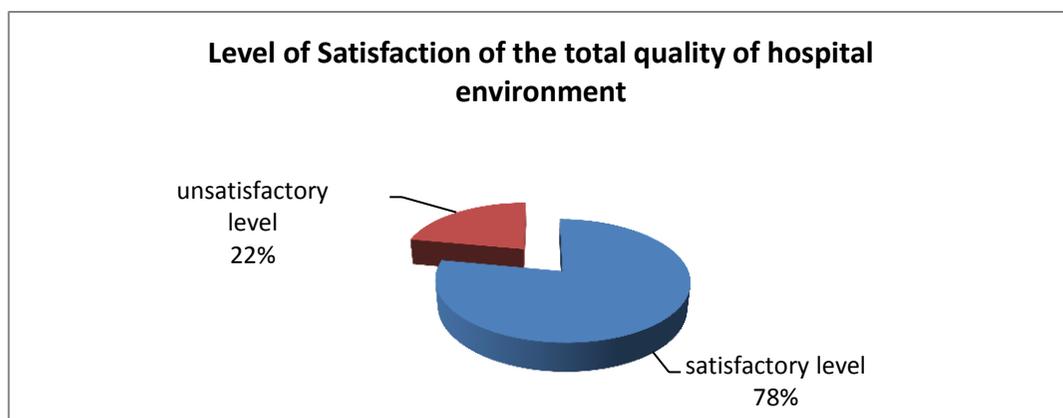| Items	Satisfactory N = %	Un-satisfactory N = %
Total Job Satisfaction	73	27
$\overline{x} \pm SD$	31.17 ± 2.8	

Figure (1): Level of Compliance with Safety Precautions among the Respondent Nurses (N=100)

Figure (2): Level of Satisfaction of the total quality of hospital environment among the respondent nurses (N=100)

Table (4): Relation between total quality of hospital environment and socio-demographic Characteristics among the Respondent Nurses (n=100)

	Satisfactory	Un- Satisfactory	χ^2	P-value
	NO=%	NO=%		
Age				
20- ≤ 30	23	27		
31- ≤ 40	30	4		
≥41	12	4	32.2	<0.01**
Gender				
Male	10	14		
Female	55	21	7.55	0.013**
Educational Level				
Diploma nursing	52	23		
Technical Institute	4	0		
Bachelor٬s degree	9	11	8.14	0.043*
Post Graduate Studies	0	1		
Years of experience				
1-3 years	17	6		
4-6 years	9	16		
7-10 years	13	2	13.6	0.04**
>10 years	26	11		

**highly significant $p \leq 0.01$ * significant $p \leq 0.05 > 0.01$

Table (5): Correlation between quality of hospital environment with the job satisfaction and compliance with safety precaution of the respondent nurses (n=100)

	Quality of Hospital Environment	
	Correlation Coefficient (r)	**P- Value**
Nurses Compliance	0.873	<0.01**
Job satisfaction	0.933	<0.01**

**highly significant $p < 0.01$

Table (6): Correlation between job satisfaction with the compliance with safety precaution knowledge of the respondent nurses (n=100)

	Job Satisfaction	
	Correlation Coefficient (r)	**P- Value**
Nurses Compliance	0.875	<0.01**

**highly significant $p < 0.01$

Discussion

Nurse Managers' leadership ability and support of nurses and nurse staffing and resource adequacy are critical in shaping nurse work environments that ultimately drive better nurse outcomes. To promote nurses' job performance and productivity, the focus should be not only on the care that nurses provided to patients, but also on the needs of nurses' self-care and their physical and psychosocial well-being **(Wei et al., 2018).**

This study aimed at evaluating the effect of hospital's environment on job satisfaction of nurses and their compliance with safety precautions. Sociodemographic characteristics of respondent nurses represented more than two-thirds were female, half of the nurses were ranged between 20- ≤ 30 years old with a mean age of 31.2±7.9. The most were diploma nurse, married, had more than 10 years of experience, and receive training courses. Whereas **Baek et al., 2020** investigated the association between nursing work environment and compassion satisfaction among clinical nurses and they found that the mean age was 29.51 ± 4.92 years, and most of the nurses were females (98.4%), but 74.8% were unmarried. Of the total sample, 49.7% had a bachelor's degree.

As regard to the total satisfactory level of quality of hospital's environment; the current study clarified that more than three quarter of the respondent were satisfied. Similarly, a cross-sectional descriptive study included 500 nurses, investigated nurses' perceptions of the nursing work environment in Jordanian hospitals, carried by **Suliman and Aljezawi (2018),** compared work environment perceptions of nurses across different health care sectors in Jordan, demonstrated that, nurses' attitudes regarding their work environment varied significantly across the three health care sectors, and total nurse satisfaction were more favorable in public hospitals, with a *p* value less than.005. The highest levels of workload satisfaction, managerial support, peer support, and overall satisfaction were reported by nurses in public hospitals. Nurses working in university-affiliated hospitals were the least happy with their professions, with the heaviest workloads

and the least supportive management and peers. These data show that nurses who work in public hospitals are the happiest and most satisfied. From researchers point of view; this result may due to the university- affiliated hospitals have many roles such education and researches, and economic costs of services which increase patients flow and workload on nurses. In addition, the bureaucratic leadership style and organization structure.

However, according to a systemic review carried by **Copanitsanou et al., 2018** , perceptions of a supportive work environment, manager motivation for achievement, professional nursing practice, availability of support services, smaller ward sizes, lower complexity of care, and opportunities for professional advancement were all predictors of job satisfaction for nurses. Furthermore, a bad work environment and characteristics of shift-work nurses might indirectly affect job performance as supported view by **(Giorgi et al., 2018; Baek, et al., 2020)**. Additionally, **Lee and Scott (2018),** demonstrated that the nurse work environment was shown to be favorably linked with individual nurses' favorable attitude on group problem-solving abilities among hospital staff nurses. It also revealed a link between work group effectiveness and the nurse work environment.

Moreover, the current study demonstrates that, was a highly positive significant relationship between level of satisfaction of the total quality of hospital environment and socio-demographic characteristics (age, gender, educational level & years of experience) among the respondent nurses (*P* <0.05). Similarly, **Suliman and Aljezawi (2018)**, found that nurses with lower academic qualification (diploma or less) were more satisfied with their hospital environment compared with nurses with higher academic qualification (bachelor's degree or higher). According to researchers opininin; this may be because of that higher education nurses tended to prefer a more ideal hospital environment like simulation field where they studied.

Healthcare associated infections (HAIs) considered one of the serious problems that face nurses as a healthcare provider while handling patients' services. Significantly, the

current study findings revealed that two fifth of respondent nurses did not comply with safety precautions. These results supported with, **Al-Faouri et al., (2021)**, found that all nurses scored a mean of 49.15 out of 80 in their compliance with standard precautions. This result indicated an intermediate level of compliance. Nurses are supposed to have sufficient knowledge in the field of infection control related to the continuous educational and training program. According to **Ogbonda et al., (2020),** who revealed that healthcare workers' (HCWs) have fair knowledge of safety precautions and poor compliance with safety precautions. This unsatisfactory level of nurses compliance with SPs may be due to lack of supervision , in addition unrevealed percentage of infection rate among patients and nurses.

Prominently, a significant statistical positive correlation between job satisfaction with compliance with safety precautions of the respondent nurses. Further, there was a significant statistical positive correlation between quality of hospital environment with the compliance, and satisfaction of the respondent nurses. That reflect the vital role of healthy working environment and job satisfaction. There is a positive correlation between nurses' job satisfaction and performance (**Buchan, et al., 2018 and, Lee, & Scott, 2018; Al-Faouri et al., 2021).** This result revealed that management's interest in providing an appropriate hospital environment that achieves nurses job satisfaction and encourage them to comply with SPs

Conclusion

Hospital environment commitment plays a vital role to increase the nurses' job satisfaction and compliance with the safety precautions according to our results. The conclusion can be drawn from this study would be that there were satisfactory level of quality of hospital environment and job satisfaction among the respondent nurses. Nurses satisfied with their work environment were willing to comply with safety precautions.

Recommendation:

1. Improving hospital environment to maintain high job satisfaction of nurses.

2. Conducting training programs on the importance of compliance with SPs should be organized frequently.

3. Raising awareness of nurses about the lack of compliance with SPs through memo of incidence of infection in the hospital periodically .

4. Enhance compliance of safety precautions through encouragement and appreciating good performance, challengeable abilities activities to remain the nurse active all the time and encouraging teamwork spirit among nurses.

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