Relationship between Organizational Climate and Occupational Safety and Health for Nurses

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Abstract

Background: Nursing profession is hard and interesting, but unfortunately many nurses are exposed to occupational hazards that may cause them diseases and also reduce their performance in work. The organizational climate of the hospital may be one of the reasons that increase or decrease the exposure to occupational hazards.

Aim: The current study assess the relationship between organizational climate and occupational safety and health for nurses.

Subjects and Methods: A descriptive correlational design was utilized for this study to achieve the stated aim. The study was conducted at New Kaser El-Aini Teaching Hospital. A samples of 293 nurses were invited to participate in the questionnaire. For the purpose of this study, questionnaire for nurses was developed and utilized that consist of three parts: The first part was related to the nurse personal characteristics, the second part assess the nurses perception related to organizational climate, the third part was related to nurses perception of occupational hazards

Results: Half of the study sample were perceived positive hospital climate as, role clarity factor had the mean percentage (54.75%) and the lowest percentage (35.27%) social and (37.25) management. Moreover the study revealed that the study sample perceived psychological hazards was the most type of hazard that they exposed to during their work as (mean = 82.53%).

Conclusion: There was strongly positive relation ship between organizational climate and occupational safety and health for nurses as nurse who perceive positive climate reported low exposure to occupational hazards.

Recommendations: Hospital should assess organizational climate periodically to use results for creation a positive work atmosphere for productivity. Promoting positive organizational climate by promoting trust and team work 1 and openness through communication. Nurse manager must develop safety climate strategies for hospital, and set training program about protection from occupational hazards for their employee.

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Introduction

ORGANIZATIONAL climate includes organizational norms which are a grouping of expected behaviors, languages, principles and postulations that allow the workplace to perform at a suitable pace). Besides, organizational climate is formed of sharing values, beliefs and behavioral norms in an organization [1].

Organizational climate is defined as the set of characteristics that describe an organization and that distinguish the organization from other organizations and influence the behavior of people in the organization [2], organizational climate attempts to identify the environment that affects the behavior of the employees, due to the organizational climate importance on employee's attitudes and behaviors, researches increasing attention in organizational behavior literature.

Recent researches have found links between organizational climate and employee attitudes and behaviors. They reported that organizational climate have a relationship with positive behaviors like innovative behavior, organizational citizenship behaviors and negative organizational behaviors like counterproductive behaviors [3].

Organizational climate represents the condition of the organization's culture. The most common management issue faced by organization in this present day is search for creative flexible work environment that promotes job satisfaction and innovation. Being drained by fiscal constraint, downsizing, and outsourcing requires organization to change dynamics in the workforce that is accommodating [4].

Occupational Safety and Health (OSH) is generally defined as the science of the anticipation, recognition, evaluation and control of hazards arising from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment. This domain is necessarily vast, encompassing a large number of disciplines and numerous workplace and environmental hazards. A wide range of structures, skills, knowledge and analytical capacities are needed to coordinate and implement all of the "building blocks" that make up national OSH systems so that protection is extended to both workers and the environment [5].

Safety climate is a specific form of organizational climate, which describes indivi-dual perceptions of the value of safety in the work environment. A range of factors has been identified as being important components of safety climate. These factors include: Management values (e.g. management concern for employee well-being), management and organizational practices (e.g. adequacy of training, provision of safety equipment, quality of safety management systems), communication, and employee involvement in workplace health and safety [6]. A range of studies have demonstrated that these factors predict safety-related outcomes, such as accidents and incidents [7].

The extent of occupational safety and health has evolved gradually and continuously in response to social, political, technological and economic changes. In recent years, globalization of the world's economies and its repercussions have been perceived as the greatest force for change in the world of work, and consequently in the scope of occupational safety and health, in both positive and negative ways [5].

Significance of the study:

Health care worker is considered one of the largest work forces in the worldwide, it composes over 12% of the working individuals over all the world (Goniewicz et al., [7]). Healthcare providers are frequently exposed to many forms of infectious agents while doing their duties which may be preventable if health care workers observe with appropriate precautions (Fletcher et al., [8]). Moreover, [9] stated that healthcare workers work in an environment that is consider to be one of the common hazardous occupational settings.

Employees are the key element for organizations to achieve sustainable competitive advantage in today's dynamic and changing operating conditions and all organizations try to attract qualified employees, take advantage of them at the maximum level and keep employing them in working conditions in which the workforce have a critical role, for that reason, creating a healthy and positive organizational climate, which cares about the welfare of employees, is thought to be crucial. A positive working environment which appreciates employees is expected to positively affect their performance levels [4].

Aim of the study:

The aim of this study is to assess the relationship between organizational climate and occupational safety and health for nurses.

Research questions:

1- What is the nurses' perception of their organizational climate?

2- What is the nurses' perception of occupational safety and health?

3- What is the relationship between organizational climate and occupational safety and health for nurses?

Subjects and Methods

Research design:

Descriptive correlational design was utilized to achieve the aim of this study.

Setting:

The current study was carried out at New El-Kasr El-Aini Teaching Hospital and collected data from August 2016 to February 2017.

Subjects:

The number of the study sample was 293 nurses.

Tools of data collection:

It is composed of three parts as follows:

The first part:

Demographic data:

This tool was containing the personnel characteristics of the the study sample such as age, gender, marital status, years of experience, jop title, qualification and unit name.

The second part:

Hospital climate questionnaire: This tool was adopted from [10] and modified by the investigator to measure nurses' perception of the hospital climate. Was consists of 64 items. Divided under 7 factors. These factors were: Work environment [7]

items, motivation and satisfaction [13] items, management effectiveness [4] items, leadership effectiveness [6] items, role clarity [8] items, quality management [17] items, social relation [9] items.

Respondents' answers for each item were rated on a five-point scale ranged from never [1] to always [5].

The third part:

Occupational Health and Safety measures Questionnaire: This tool was adopted from [11], and modified by the investigator to assess occupational health and safety for nurses. The questionnaire was consisted of (33) items which contain (5) dimensions of different kinds of hazards the nurses may expose to namely: Physical (3) items, chemical (3) items, biological (6) items, psychological (7) items, ergonomic and organizational hazards related to un comfortable body mechanics (14) items.

Data collection:

- Consent to conduct the study was taking from the vice dean of graduate studies at Faculty of Nursing, Cairo University, and hospital administrator.

- The tools were reviewed by jury consisted of three professors in nursing administration to be tested for its content validity.

- The investigator contacted to the nurses to explain the purpose and procedure of the study and determine the available time to collect data.

- The questionnaires were distributed to the studied sample during morning, afternoon and night shifts.

- Data collection was completed over a six months period.

Ethical considerations:

Before commencing the study, ethical approval was granted from the Research Ethics Committee in which the study took place. The researchers ensured that the correct procedures were undertaken concerning informed consent, autonomy, anonymity and the maintenance of confidentiality.

Statistical analysis:

The collected data will be categorized, scored, tabulated, and analyzed by computer using Statistical Package for Social Science (SPSS). Descriptive statistics will be used in the form of frequency distribution and percentages. Appropriate statistical test were applied for data analysis.

Results

Table (1) shows that the majority of the study sample (71.0%) were females, while (29.0%) were male nurses. The biggest number of the study sample (55.2%) were in the age group between 30 to less than 40 and the least percentage (11.6%) were in the age group between 50 to less than 60. Furthermore, the table indicated that the highest percent of the study sample (26.3%) have years of experience ranged from 15 to less than 20 years but the least percentage of nurses (13.0%) their years of experience ranged from 1 to less than five years.

Table (2) shows that more than half of nurses were staff nurses and the least percent of nurses (18.4%) were head nurses while more than half of nurses (57.3) have bachelor degree. The table show that the highest percent of nurses (32.1) were working at Intensive Care Unit while only (2.7%) is the least percent of nurses who work at administration department.

Table (3) shows that the highest mean per cent perceived by study sample of organizational climate dimension was role clarity (54.75%) and motivation (53.54%) while the lowest mean per cent was management (37.25%) and social relation (35.27%).

Table (4) shows that the highest mean per cent perceived by the study sample psychological (82.53%), physical hazards (74.21%) and chemical (69.88%). Wile the lowest mean percent biological hazards (59.33%).

Table (5) shows a positive relationship between organizational climate and occupational safety as (r=335** & p=.000).

Table (1): Distribution of the study sample according to personal characteristics data (N=293).

Items	No.	(%)
Sex:		
Female	208	71.0
Male	85	29.0
Age/years:		
20 ≤30	53	18.1
30 ≤40	162	55.2
40 ≤50	43	14.7
50 ≤60	35	11.9
Years of experience:		
1 ≤5	38	13.0
5 ≤10	64	21.8
10 *t*≤15	65	22.2
15 ≤20	77	26.3
≤20	49	16.7

Table (2): Frequency distribution of the work characteristics of the study sample N=(293).

Items	No.	(%)
Job title:		
Staff nurses	168	57.3
Charge nurse	71	24.2
Head nurse	54	18.4
Qualifications:		
Nursing Diploma	87	29.7
Technician Health Institution	38	13.0
Bachelor degree	168	57.3
Department:		
Administration	8	2.7
Emergency	47	16.0
Intensive Care	94	32.1
Surgical	68	23.2
Medical	37	12.6
Other special departments	39	13.3

Table (3): Mean and standard deviation of respondent's perception regarding organizational climate (N= 293).

Dimensions	Minimum	Maximum	Mean	Std. deviation	Mean %
Work environment	7	21	10.10	±1.51	48.09%
Motivation	12	36	19.27	±1.80	50.75%
Management	4	12	4.47	±.63	37.25%
Leadership	6	18	8.78	±.90	48.77%
Role clarity	8	24	13.13	±1.11	54.75%
Quality	17	51	26.15	±2.22	49.33
Social relation	9	27	9.52	±1.38	35.27%

Table (4): Mean and standard deviation of respondent's perception regarding occupational hazards (N= 293).

Occupational hazards dimension	Minimum	Maximum	Mean	Std. deviation	Mean %
• Body mechanism & ergonomic hazard.	14	42	28.95	3.59	68.92%
• Psychological.	6	18	14.85	2.60	82.53%
• Biological.	7	21	12.46	2.15	59.33%
• Physical.	3	9	6.67	1.19	74.21
• Chemical.	3	9	6.29	1.77	69.88%

Table (5): Correlation between the study sample perception regarding organizational climate and occupational hazards.

	Total occupational hazard	
	r	p
Total organizational climate	335**	.000

Discussion

The findings of the current study showed that the numbers of female nurses are more than male nurses; this may be due to the dominance of females in the nursing profession as males are relatively new in nursing. Most of the study sample were in the age group ranged between 30 to less than 35 years and their working experience more than 15 years. This may be because the hospital provide positive work environment that lead to high satisfaction and retaining of nurses in this hospital. More over most of the study sample had bachelor degree in nursing. This may be because increase number of faculties in Egypt. And most of study sample were staff nurses; this may be because the fact that the majority of nurses in studied hospital were bed side nurses and less number of nurses hold supervisory positions.

Organizational climate was classified in to seven major dimensions as follow: Role clarity, motivation and satisfaction, quality management, management effectiveness, leadership effectiveness, work environment, and social relation.

Results of the present study proved that role clarity at the studied hospital was the highest positive factor perceived by nurses regarding organizational climate factors. More half of the sample nurses perceived role clarity positively. This could be because the studied hospital has clear jop description for different categories of nurses and clear accessible for different kind of policies. Also quality management program is applied at this hospital.

These results are consistent with, [10] who reported that nurses perceived role clarity positive, because head nurses and supervisors might be available to identify the boundaries for nurses responsibility and the desired out comes. On the same line Hoyle [12] reported that clear measurable objectives with clear goals establish a clear decisions. And when these principles were applied; people know what and how their performance will be measured.

The study revealed that the second perceived factor that makes positive organizational climate was the motivation provided by the organization and consequently jop satisfaction. This could be due to the availability of supportive supervisor who encourage employee to participate in clinical decision making, appreciate their activities, and allow freedom while performing their work activities. Also might be due to supervisor create a work environment of challenging.

The results of the study were matched with Hashemi & Sadeqi [13] who reported that most of the employees asked for a committee of the directors to support them and gave them the chance for participation in decision-making. Also reported that job satisfaction is so important in work; its absence often leads to lethargy and reduced organizational commitment. Lack of job satisfaction is a predictor of leaving a job.

The study concluded that there was negative perception of the study sample toward management effectiveness. This might be relate to that nurse mangers not explaining the reasons for employee criticism or blame. Also could be due to nurse manager not consider personal problems of their employee. Also this study concluded negative perception to ward management from older nurses, this might related to the fact as old nurses had experience and knowledge about the role of nursing manager in the hospital more young nurses. Nurse manager could use certain skills as: Human resource management, technical skills because that might accomplish work through people.

The results of the study supported with [14] found that there were no specific personality traits common to all successful managers. Some of them are analytic while others are intuitive. Some are good decision makers, while others are good planners.

Occupational hazards were classified in to five major groups of hazards as follows: Psychological, physical, chemical, biological, ergonomic hazards.

Results of the present study revealed nurses perceived psychological hazards were the highest that nurses exposed to. This might be due to the high work load which responsible for psychological pressure and nervousness. Also could be related to absence of effective supervision who don't support his employee that lead to loss of self confidence.

These results supported with Hebashy and Hasan [15] as concerning psychological hazards data showed that most of nursing interns highly exposed to irritation with everything, loss of self-control and loss of self confidence. Investigators may attributed this due to powerlessness of nursing interns, lack of experience, working most of times with suffering and unconscious people, lack of support from supervisors because they considered nurses intern supplementary staff not permanent workers, as they changed every two or three months according to the planned rotation.

The present study concluded that two thirty of the participant had exposure to chemical hazards during their work in hospital. This could be due to exposed to the waste (chemical, radiated things, infections. Another explanation that could be relate to exposure to pesticides or disinfectants and absence of adequate ventilation that protect from inhalation of poisoning substances which cause asphyxia.

This results matched with Dropkin et al. [16], who found that chemical hazards may result from patient treatment and maintenance of a proper environment in healthcare settings, which may cause asthma or trigger asthma attacks. Nurses chemical exposure can result from sterile, cleaning compounds hazardous drugs, disinfectants, mercury, anesthetic gases, latex etc. Chemical hazards considered unsafe and the most serious, as it's more not easy to detect their short and long term effect on the affected nurse.

In the same line the results supported with Eljedi [17] who found that there were different exposure incidents to chemicals experienced by 43.9% of the respondents with symptoms ranged from dermatitis and asthma to anaphylaxis. Hazardous chemical exposure occurred in a variety of forms-including aerosols, gases, and skin contaminants-from medications used in practice.

The study concluded that there was statistically significance relation between total nurses' occupational hazards with gender, current jop and department of work. This study was contradicting with the findings, who showed that there was no statistical significant relationship between nurses risks and gender. Moreover, [18] stated that there is no significant association between the occupational hazards and the ward, gender, while results of this study supported with (Hebashy & hasan, [15]) that there was statistical significant relation between total nurses' occupational hazards and gender, area of training and safety training.

The finding of the study revealed that there was statistically significance relation between biological, physical and ergonomic hazards and years of experience, age. This study match with the results of [19] who found significant association between occupational hazards exposure and age.

The results of the present study revealed that there was statistically significance positive relation between physical and psychological, psychological and biological hazards, body mechanism and biological, chemical with biological and chemical with psychological. This might due to close relation

between all occupational hazards and absence of guide lines and standards. Also could be due to supervisor not set training programme for self-protect.

This was supported with, Wubie **[20]** who reported that there was a lack of medical treatment and unavailability of occupational safety and health policy in place, and around half of the sample not receives safety and health training. Almurr **[21]** reported that respondents not take a training regarding safety practices.

As regarding, organizational climate dimension and occupational hazards, the present study revealed that there was statistically significance relation between leader ship and psychological hazards. And also there was statistically significance relation between biological hazards and quality. This mean that organizational climate which had low occupational hazards might affect on leadership effectiveness quality which subsequently increase productivity and outcome for organization at all. This results match with the study of Nova **[22]** who found that supervisor and manager commitment and involvement in safety is a major component of safety climate.

Finally the current study findings indicate that there was a positive relationship between organizational climate and occupational safety and health for nurses.

Conclusion:

The present study conducted to assess relationship between organizational climate and occupational safety and health for nurses the present study concluded that there was a positive relationship between organizational climate and occupational safety and health for nurses.

Recommendations:

In the light of the findings of the present study, the following are recommended:

- Nurse manager should promoting positive organizational climate by promoting team work, trust and openness through communication that include feedback.

- Hospital should encourage participation between governmental health institutions, and academic sectors, to do further researches focusing on health and safety among nurses.

- Training program about occupational hazards and especially about protective measures.

- Nurse manager should be develop policies and guidelines of safety practices.

- Head nurse should be rise nursing staff awareness regarding biological hazards.

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العلاقة بين المناخ المؤسسى والسلامة والصحة المهنية للمرضات

مهنة التمريض من المهن الشاقة والشيقة آيضا ولكن للآسف يتعرض كثير من الممرضات للآخطار المهنية التى قد تسبب لهم الآمراض وآيضا تقلل من آدائهم فى العمل وقد يكون المناخ المؤسسى للمستشفى سببا من الآسباب التى تساعد على زيادة التعرض للآخطار المهنية آو تقليلها لذا فإن الدراسة الحالية تدرس العلاقة بين المناخ المؤسسى والسلامة والصحة المهنية للمرضات، وقد تمت الدراسة على عينة مكونة من ٢٩٣ مشارك من آعضاء هيئة التمريض بمستشفى القصر العينى التعليمى الجديد حيث آعلم المشاركون فى الدراسة بكافة حقوقهم وآن إشتراكهم فى الدراسة تطوعى وتم إستطلاع آراء المشاركين فى الدراسة على مدى ٦ آشهر خلال الفترة من آغسطس ٢٠١٦ وحتى يناير ٢٠١٧. وكان من نتائج الدراسة إرتفاع نسبة المخاطر المهنية التى يتعرض لها الممرضات فى المؤسسة وخاصة المخاطر النفسية مما يؤثر على الآداء الوظيفى لدى الممرضات. حيث آثبت الدراسة آن هناك علاقة طردية بين المناخ المؤسسى للمستشفى والسلامة والصحة المهنية للمرضات، وبعد الإنتهاء من الدراسة فقد إقترح الباحث لعمل آليات لقياس المناخ المؤسسى وتقيمه بصورة دورية ولذلك للإستفادة من النتائج وإستخدامها فى تحسين المناخ، وإقترح آيضا عمل برامج تدريبية للمرضات لزيادة الوعى الصحى عن المخاطر التى يتعرضون لها آثناء العمل وكيفية الحماية منها.