

# THE IMPACT DETERMINATION OF NURSES WORKING ENVIRONMENT ON PATIENT SAFETY OUTCOMES ADMITTED IN HOSPITAL.

**Alina Hameed**, BSN Student, Dept. Lahore School of Nursing, The University of Lahore.

**Khalida Usmani**, BSN Student, Lahore School of Nursing, The University of Lahore

**Muhammad Afzal**, MSN, MSC, MBA, Associate Professor, Principal, Dept. LSN, The University of Lahore.

**Sana Sehar**, MSN, BSN, Assistant Professor, Lahore School of Nursing, The University of Lahore.

**Prof. Dr. Syed Amir Gilani**, PhD, DMRD, MBBS, Dean, Faculty of Allied Health Science, The University of Lahore.

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## ABSTRACT

**Introduction:** Healthcare workers are the people who provides health service to patients. It is responsibility of the healthcare provider to provide care and safety to patients. The patient safety is the safety to provide to patient with preventions of adverse effect and errors associated with health care. Patient safety is an important and ultimate goal of health care providers. Worldwide, the first priority of health care organization is to provide safety to patient. It's essential to provide the better care to patient. Work environment of hospital in the environment where health care providers provide care to patient. This include nurse manager support, proper staffing and availability and use of resources to improve work environment, thus improves patient safety outcomes. **Methods:** an analytical cross section study design was used in this study. Convenient sampling was used for collection of data. Sample size was 154 nurses from Jinnah Hospital Lahore. PES-NWI (Practice Environment Scale Nurses work Index) questionnaire was used for work environment of nurses in clinical side. PSO (Patient Safety Outcome) scale was used to check the safety of patients. Data analysis was done by putting the data on SPSS software. **Results:** High rated frequencies and percentages of work environment scale .The participation of nurses in the work place that were found in this study were "mistakes as learning opportunities"(100%), "clinically competent nurses" (92.9%), nursing care is based on the "enough time to discuss patient care problems with other nurses"(85.7%). High rated frequencies and percentages of dependent tool is (100%) have staff often ignore procedures to make work easier in daily practices. However (92.2%) have "Staffs tell someone if they see something that might harm a patient". **Conclusions:** The conclusion of this study was to assess the association between NWE (Nurses working environment) and PSO. The nurses play an important roles in patient lives. PO is a part of nurse's everyday life. Results showed that there is positive significant impact NWE on PSO. The results of this study showed that if working environment of the nurses is better, it will improved the patient safety .

**Key words:** Work environment of nurses, Manager support, Conflict

## Correspondence Address

Muhammad Afzal,  
MSN, MSC, MBA  
Associate Professor  
Principal, Dept. Lahore School of  
Nursing,  
The University of Lahore,  
Pakistan  
E-mail: mafzalaku@yahoo.com

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## INTRODUCTION

Healthcare workers are the people who provides health service to patients. It is responsibility of the healthcare provider to provide care and safety to patients. The patient safety is the safety to provide to patient with preventions of adverse effect and errors associated with health care.<sup>29</sup> Patient safety is an important and ultimate goal of health care providers.<sup>15</sup> Worldwide, the first priority of health care organization is to provide safety to patient. It's essential to provide the better care to patient.<sup>10</sup>

The patient safety goals are identified by the Joint Commission Accreditation Program in England in 2012.

These goals identify the correct ways for providing care to patient. This includes improving communication skills among caregivers secondly improve the safety route for the use of medications. Thirdly to reduce the risk for infections and the fourth is accurate and proper medication. According to Joint Commission Accreditation in

(JCIA, 2012) there are many factors of patient safety. The work environment of nurses is the place in which nurses perform duties with different aspects of nurse-physician relation, nurses staffing, resources adequacy, and participation of nurses in the work place and nursing foundation of quality of care. According to a study, a (91.2%) nurse works as responsible in health care providers. Among them, nurses with 11-20 years of experience were (25.5%) and nurses with 5 to 10 years' experience were (26.6%).

Study show that nurses different conflicts in their work environment. There is high prevalence of (24.4%) of these issues in ward. The nurse face different conflicts about providing care to patient in work environment but these issues are not resolved by nurse's supervision. The nurse's conflicts related to work environment also effect on patient safety outcomes.<sup>26</sup> According to Joint Commission Accreditation in 2015 research done on patient safety in Pakistan and found that around (56.6%) patient are dying of poor care providing in hospital and (26.2%) are highly dissatisfied of the care provider (3.3%) of patients reported psychological distress even after hospitalization.<sup>27</sup>

### AIMS OF THE STUDY

The aim of this study was to identify relationship between work environment of nurses and patient safety outcomes in Pakistan.

### SIGNIFICANCE OF THE STUDY

#### Study participants

This study will help the study participants to improve their work environment which increase nurses quality of care and patient safety outcomes.

#### Management

The study findings will help the management of the hospital to improve the work environment of the hospital and the quality of service delivered to the patients so that increasing the patient safety outcomes. Formulate strategies to reduce exposure of nurses to these work environments for improving care delivery to patient's safety.

#### Future researches

In the aspect of future research this study provides base for the future research to further investigate relationship of work environment with other variable in more detail. It also helps them to further study this relationship using, correlational and experimental designs.

#### Policy maker

This research could be helpful for policy makers to develop policies that help to construct an environment that will be healthy for nurses. Due to which nurses will become satisfied and working efficiency of nurses will be up to the mark.

#### Patient

This study will be help for the patient because a manager work to improve environment of the hospital. As a result the nurse will be work in the healthy environment with the great competency. Due to which the patient quality of care will be improved.

### LITERATURE SEARCH

A cross sectional research on the support of nurse's manager was related with safety of the patients. To evaluate the survey system in which (16.4%) of nurses in the 396 hospitals. The average of this result is 41 nurses joined the survey to each hospital.<sup>11</sup> This study find to directly (7 to 10 %) outcomes of nurse's manager according to lapse model. The global assessment shows the results of both duty nurse's manager work hours and the patient care. The overall rating is 33 hours work in the hospital to provide the patient care. The working shifts ratio increase more than 33 hours to the reason of dissatisfaction of the patients.<sup>19</sup>

According to a cross sectional survey performed on nurses work environment in Ireland. The ward safety level score might had been 3. 28 and the standard deviation was 0. 76. Those intend well being scores went starting with 2. 55 should 4. 08. Also huge contrasts found in wards ( $p < 0. 001$ ).<sup>15</sup> Work environment recourses adequacy is more effectively used by female employees than males ( $p < 0.05$ ) which shows that there is a statistically major difference in the control of resources in

male and females ( $p < 0.05$ ).

In addition due to occupational role, level of stress is different for two distinct genders ( $p < 0.05$ ). And both gender effect on patient safety according to different aspects, medication errors, work load stress.<sup>30</sup> A cross sectional study conduct on the education level of nurses and its effect on quality of care and patient safety outcomes. Nurse's education level variables expected 0.004 variances on care and there is no significant level among them ( $p < 0.05$ ). There is no significant level between bachelor's programs and Diploma study in quality of care and patient safety outcomes.<sup>2</sup>

In a study it was found that the nurse's higher education is significant for the quality of care and decrease the mortality rate of patient ( $p < 0.05$ ). Bachelor's degree proportion increase 10% to reduce mortality rate and increase the patient safety outcomes.<sup>28</sup> A cross sectional study shows that health care provider collaborative relationship effect on patient safety outcomes. The nurses and physician collaboration measure towards the wards ( $p < 13$ ). The health care providers attitudes effect on the patient safety is 2.8 times greater than other wards issues ( $p < .001$ ) (Pamela, 2017).

### **HYPOTHEHIS OF THE STUDY**

Better working environment of the nurses (WEON) will improve the patients safety outcome.

### **METHODS SETTING**

The research was conducted in Jinnah hospital Lahore.

### **RESEARCH DESIGN**

The study was to investigate the work environment of nurses and patient safety outcomes to understand relationship of WEON on PSO quantitative analytical cross sectional study design was applied

### **POPULATION**

The study population was nurses.

### **SAMPLING**

In this study convenient sampling was used.

### **RESEARCH INSTRUMENT**

The PES-NWI (Practice Environment Scale Nurses work Index) was developed by Eileen T. Lake. The PES- NWI is a scale to use for the work environment of nurses and their work place aspects (Parker, 2010). This scale is on Likert scale, has five component with  $\alpha = 0.948$ . The dependent tool is patient safety outcome questionnaire developed by Joint Commission Accreditation in 2012. This tool is preferred for assessing the patient safety in hospital. Questionnaire is on Likert scale of 1-5 with  $\alpha = 0.738$ .

### **DATA GATHERING PROCEDURE**

An official written letter of permission to conduct the research was gained from institution. Questionnaire related to WEON and PSO was filled by the participants. The patient safety outcomes in nurses was observed by the researcher in different departments.

### **METHODS USED TO ANALYZE DATA**

Analysis of data was done on SPSS and data was presented in tables were designed for representation of frequencies, mode and standard deviation. Regression and Pearson test were applied to check relationship between work environment of nurses and patient safety outcomes.

### **STUDY TIMELINE**

The data was collected from September, 2017 to December, 2017.

### **ETHICAL CONSIDERATION**

In the study, ethical principles and values was taken into consideration and participants' ethical rights was respected.

- The participants of the study was asked to sign consent forms before responding to the question-naire and participants was informed about withdrawal from study if they are uncomfortable without any penalty.
- Respondents were assured that their information was kept confidential, and no assess was allowed to their names, designation and addresses.
- In this study, all participants was provided fair and equal chances to participate.

- No participant was excluded on the basis of religion, gender, color, cast or socioeconomic status.

**RESULTS**  
**PROFILE OF THE RESPONDENTS**

Respondents were taken from Jinnah hospital which is governmental hospital.

Research Question 1 – What is relationship between work environment of nurses and patient safety outcomes?

**Table 1. Demographic frequency**

Variables	Category	Percent
Age	20-25yrs	42.2
	26-30yrs	57.8
Working experience	2-5 years	85.1
	6-10 years	14.9
Designation	Register nurse	100
	Head nurse	0
Working hours	6 hours	90.3
	12 hours	9.7
Marital status	Married	70.8
	Single	29.2

Table no 1 shows that data consisted of Age of nurses 20-25 was 42.2%, 26-30 was 57.8%. Nurses having working experience 2-5 years was 85.1%, 6-10 years 14.9%.

100% register nurses. 90.3% were having duty hours 6 hours and 9.7 have duty timing of 12 hours. Marital status of nurses married was 70.8% and 29.2% was single.

**TABLE 2. In-dependent variable frequencies**

Work Environment of Nurse’s	Favorable N %	Mixed N %
Mistakes as learning opportunities”	100%	
Clinically competent nurses	92.9%	
Enough time to discuss patient care problems with other nurses	85.7%	
Conflict with a doctor	70.8%	
Enough staff to provide quality care		21.4%
Philosophy of nursing care		29.2%

Table No. 2 shows the frequencies and percentages of work environment scale according to the three point Likert scale. The high rated participation of nurses in the work place that were found in this study were “mistakes as learning oppor-

tunities” (100%), “clinically competent nurses” (92.9%), nursing care is based on the “enough time to discuss patient care problems with other nurses” (85.7%) .

Other components of the nursing work environment that were moderately affecting were the nurse manager who backs up the nursing staff in decision making, even if “conflict with a doctor” (70.8%). And the low rated components were there are not worthwhile rewards for “enough staff to provide quality care” (21.4%) and “philosophy of nursing care” that provide the patient care environment (29.2%).

**TABLE 3. Dependent variable frequency**

Patient Safety outcomes	S. Agree	Agree	Disagree
Staff often ignore procedures to make work easier in daily practices	100%		
Staffs tell someone if they see something that might harm a patient		92.2%	
Same mistakes happen again and again in the patient safety system	77.9%		
Easy to make changes to improve patient safety in this hospital			100%

Table No. 3 shows the frequencies and percentages of patient safety outcomes scale of each questions according to the five point Likert scale. The table's shows that (100%) have staff often ignore procedures to make work easier in daily practices. However (92.2%) have “Staffs tell someone if they see something that might harm a patient”. However hospital lets the same mistakes happen again and again in the patient safety system (77.9%) and “easy to make changes to improve patient safety in this hospital” (100%).

**TABLE 4: Pearson Co-relation**

Variables	Pearson Co- relation	Signifi- cance
Nursing leadership management support and patient safety outcomes	.541	.000
Nursing participation and patient safety	.6330	.011
Staffing ,resources adequacy and patient safety outcomes	.406	.000
Nursing foundation for quality of care and patient safety outcomes	.723 **	.000
Nurse physician relationship and patient safety outcomes	.647	.000

According to table 4 there is positive relationship

between nursing leadership management support and patient safety outcomes.  $r = .541$  and  $p = 0.01$ . There is positive relationship between nursing participation in the work place and safety outcomes of patient.  $r = .633$  and  $p = .011$ . Strong positive significant relationship between staffing and resources adequacy and patient safety outcomes.  $r = .406$  and  $p = .000$ . There is strong significant association between nursing foundation for quality of care and patient safety outcomes.  $r = .723$  and  $p = .000$ . And the association between nurse physician relationship and patient safety outcomes is more significant  $r = .647$  and  $p = .000$

**TABLE 5. Regression**

Model	R square change	F change	Beta	Sig. F change
	.345	80.092	.587	.000

According to table 5 the results of regression test. Results revealed positive significant relationship between variables. Significant relationship between nurses work environment and patient safety outcomes. The value of R square is .345. Significance level of  $p = 0.00$ , showing that work environment of nurses has significant impact on the patient safety outcomes. Thus, work environment of nurses has positive significant relationship with patient safety outcomes, which is, with increase work environment of nurses reduces the patient safety outcomes.

**DISCUSSION**

This cross sectional study finds out the positive impact of nurses work environment on patient safety outcomes in the Jinnah Hospital Lahore, Pakistan. Results of this study indicated that there is significant positive association between work environment of nurses and patient safety outcomes. Finding also show that most of the responses were favorable. This study also shows that the working arts of the nurses creates complication and thus effects patients safety outcomes.

The results of this study showed Positive significant relationship between independent variables components with dependent variable tool. Finding

of this study also clearly show that significant correlation between both variables. Nursing leadership management support is the component of work environment of nurses which has positive relationship with patient safety in study.

According to a previous research results shows the positive association between management support and patient safety outcomes because morbidity rates increased due to increased duty hours with workload on the nurse's manager. The patient safety effected due to workload on the staff and its reason to increase morbidity and mortality rate.<sup>7</sup>

The result of our study shows similar findings to the previous studies that effective leadership, management support and improved working hours of the nurses improves the patients safety outcome.

In this study results shows that positive significant relationship between staffing and resources adequacy and patient safety outcomes. According to a research study the working population in the world are health care providers. The shortage of nurses due to different reason and one of them is the work environment. In providing care to the patient and taking care of patient safety outcome, nurses are considered important broadly.<sup>9</sup>

Result of this study shows the similar findings to other studies nurse's shortage is also caused by environment in which nurses work which result in increased nurse's workload and decrease patient safety outcome occur due to the work environment of hospital. The medical errors occurs in the wards due to work load on nurses. Work environment is the basic issue for the nurses and as well as patients. The heavy work load in the hospitals to effect on the nurses health and patient safety. In this study results shows that strong significant relationship between nursing foundation for quality of care and patient safety outcomes.

A cross sectional study conduct on weak education level of nurses. Nurses having poor

education face the more work environment issues and it's also effect on the safety of patients. Moreover, when nurses are educated the clinical place show positive relationship with patient safety and if nurses are not educated their work at clinical place is also low with patient safety.<sup>3</sup> Result of this study shows the similar findings to previous research of nursing foundation for quality of care and outcomes of patient safety.

The results of this study also shows that strong significant relationship between nurse physician relationship and patient safety outcomes. According to cross-sectional studies that health care provider collaborative relationship effect on patient safety outcomes. The nurses and physician collaboration measure in the wards. The health care provider's attitudes effect on the patient safety is many times greater than other wards issues (Pamela, 2017).

One of the result of this study shows the similar findings of health care quality of patients and the patient safety affected by different reasons including practitioners, staff, and leadership and the health care system level. Primary focus is to improve the safety outcomes of patients.

### LIMITATIONS

The main limitation of this study was shortage of time and too much less sample size 154 due to which we cannot generalize this study on whole population.

This study only used a convenience sample of the Jinnah hospitals, the findings related and not necessarily representative.

The study design is a cross-sectional type, which is not enough for getting a better understanding of the relationships between variables.

### CONCLUSION

The conclusion of this study that improved working environment of the nurses effect patients safety outcome significantly. The nurses play an important roles in patient lives. Patients outcome is a part of nurse's everyday life.

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**AUTHORSHIP AND CONTRIBUTION DECLARATION**

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Alina Hameed	Supervise all project and provide help to student in discussion part.	
2	Khalida Usmani	Working in this research project as preceptor and facilitate to student for writing the introduction and methodology of this project.	
3	Sana Sehar	Work as la learner in this research project and play role as date collector.	
4	Muhammad Afzal	Work as a learner in this research project and play role as data collector.	
5	Prof. Dr. Syed Amir Gilani	Supervise and facilitate for conducting this research project	