



# The Impact of Training Program on Organizational Effectiveness: A Case Study of Healthcare Organization in Karachi-Pakistan

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## Abstract

The Environmental Safety Awareness among healthcare providers is a serious issue of the today's world. It is the primary responsibility of a healthcare organization to reduce the usually ignores the safety of hospital staff specially housekeeping staff. There is scarcity of data for accident and a systemic program to mitigate infection risks. This research focused on the awareness program and its effectiveness especially for nursing and housekeeping staff. The research question led to whether program meets with international standards and staff following the best practices. A self-structured questionnaire was filled by individuals and following results were extracted. The average score of training program was 59.54 (SD=0.54) and average organization effectiveness was 58.02 (SD=1.07). The correlation between training program and organization effectiveness was positive which indicated more the content cover in training program, the more the effectiveness of organization. Regression analysis stipulated that training program caused 0.968 unit increase in organization effectiveness. The training program and organization effectiveness scores reported by female were significantly more in male (P values <0.02). Similarly, participants who belonged to nursing profession had highest scores (P values <0.0001). Training program score was similar among staff working in different work place. However, high score of organization score was obtaining by employees working in ward followed by those working in emergency department and in ward. Office employees had significantly least score than their other counterparts. Training of employees led good impact on organizational effectiveness. Strategies should be made to enhance timely training especially in third world countries organization.

**Keywords:** Occupational health; Employee training; Organizational effectiveness; Environmental safety

## Introduction

The workers and staff exposed with patients and the chances of their health damages are high. According to the report of WHO, 35 Million hospital workers infected with different viruses and diseases worldwide. Among them, more than 90% cases were belonged to lower-income countries as it has been treated as a neglected issue. High Income countries usually promote Health and safety precautions and they strictly follow [1].

Nurses provide numerous healthcare services in a variety of work environments that often are potentially hazardous [2]. These hazards include, but not limited to, biological, chemical, environmental, physical, and psychosocial hazards. Exposure to biological agents and infectious diseases occur through inhalation, ingestion, or direct or indirect contact [3]. It is important that they must aware and have sound knowledge of universal precautions and compliance with them [4]. At organizational level, hospitals should have proper policies and procedures in order to ensure secure, healthy and incident free environment [5].

For a healthcare setting to achieve High reliability organization's high safety standards, several key elements of an integrated safety culture must be fostered by senior management, including Occupational Safety and Health (OSH) policy, acknowledgements of the risks, non-punitive response to reporting of incidents, near misses,

or unsafe behavior, joint effort and partnership of labor and management for addressing safety issues, management's financial resource commitment to support the safety program and monitoring and analyzing safety-related data and correcting OSH problems [6]. An EHS (Environment Health and safety) program is also a key indicator established in various hospitals to provide awareness and take necessary pre-caution to for safety compliance. A dedicated department can perform and monitor safety training program and compliance [7]. All new staff joining hospital undergoes General Orientation Program which includes the Safety Management Program, [8]. There are very few hospitals in Pakistan having safety training program for Employee for their awareness and health safety from infectious waste, Doctors and other staff also do not follows International health safety guidance [9].

Therefore, the study was designed to find out that the level of knowledge the paramedic staff have regarding healthcare precautions and to know that they are following these precautions in their daily routine of work. Another objective of the study is to have some idea about how much organization/hospital is supporting their staff for taken these health and safety precautions.

## Methodology

### Conceptual framework

A new study model was developed to conduct this research which consisted of dependent variables i.e. training program and an

independent variable i.e. organizational effectiveness. All the variables were extracted with the help of literature and previous studies.

### Target population

The participants of the research are healthcare workers - housekeeping and nursing staff-working in healthcare hospital. The hospital is consisting of 700 beds and among the one of the largest hospitals of Pakistan. The total number of employees associated and working in the hospital is 1200.

### Sample size and study duration

The sample size of this study consisted of 50 respondents. Convenient sampling method was used to collect data from housekeeping and nursing staff, working in different departments. All the participants had direct or in-direct relations/contact with patients during treatment. The study was conducted in March 2013 to January 2014.

### Research type and data collection

Quantitative research methodology used in this study which seemed more appropriate for given nature of the issues pursued and analyzed. The data were collected while first enrolling housekeeping and nursing staff in our study. They were asked to observe the hospital environment related to safety and health around the institute. During the study period, these participants were giving training too by principal investigator.

### Questionnaire development

The questionnaire was developed in the guidance of study model. It is designed to cover three major areas: Organization Training Program, Organizational Effectiveness and Staff Compliance for the same.

The questions included for asking contents of training program will be aligned with the international standards for healthcare safety such as WHO, JCIA, OHSAS etc. The questionnaire is attached as Appendix.

Demographic questions were designed on non-metric scale whereas for all the other areas question were structured on 5-Point Likert Scale (never, rarely, sometimes, often or always).

### Statistical analysis

Data were entered in MS Excel and analyzed in SPSS v. 21. Mean and standard deviation was computed for quantitative variable such as age and score of scales. Frequency and percentages were presented for qualitative variables such as gender, profession, working place and individual items of scale. Reliability of the questionnaire was tested by Cronbach's alpha. Teaching program score and organization effectiveness were compared by Mann-Whitney U test as these scores were non-normally distributed. The difference of score of same participants on training program and organizational effectiveness was checked by Wilcoxon's Signed Rank test. To check whether training program affects the organization effectiveness, correlation and regression analysis were executed. P value less than 0.05 was considered to confirm significant difference and association.

## Results

Of 50 participants, 42% were female and 58% were male (Figure 1). The mean age of the participants was 26.7 (SD=4.4) years. More than half (n=27) participants were from housekeeping staff, other 46% were from Nursing profession (Figure 2). Most of the participants (n=26) worked in ward (Figure 3).

The Cronbach's alpha value of the complete scale was 56.8%; while for training program scale, it was 24.5% and for organization effectiveness, it was 59.2% (Table 1).

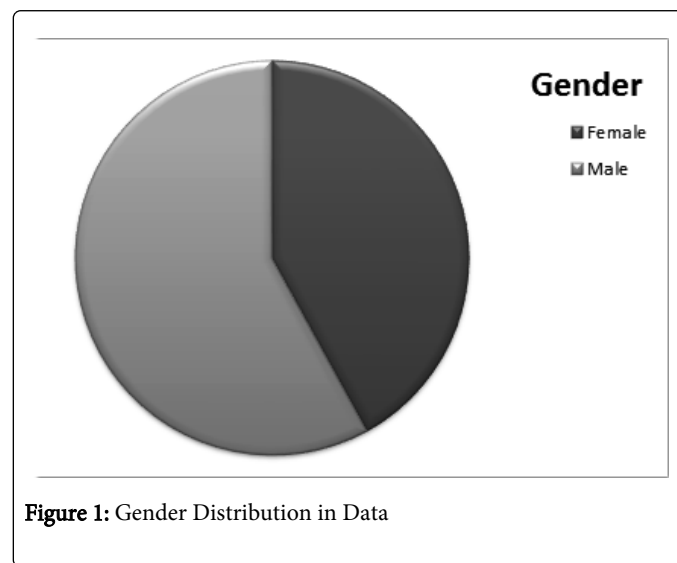


Figure 1: Gender Distribution in Data

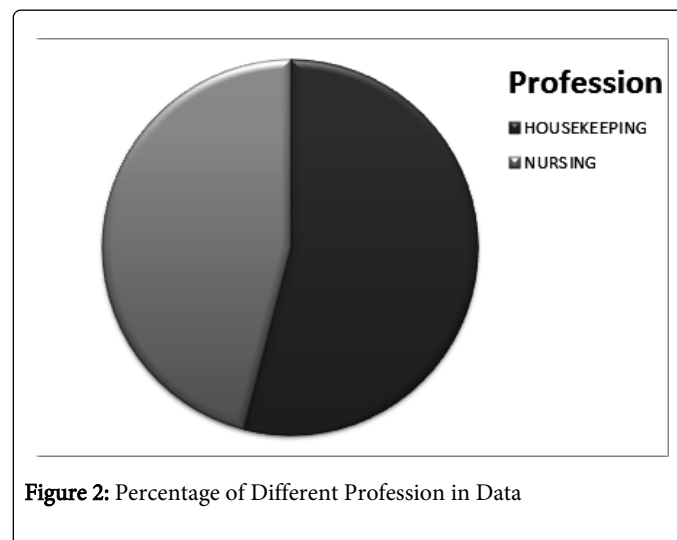
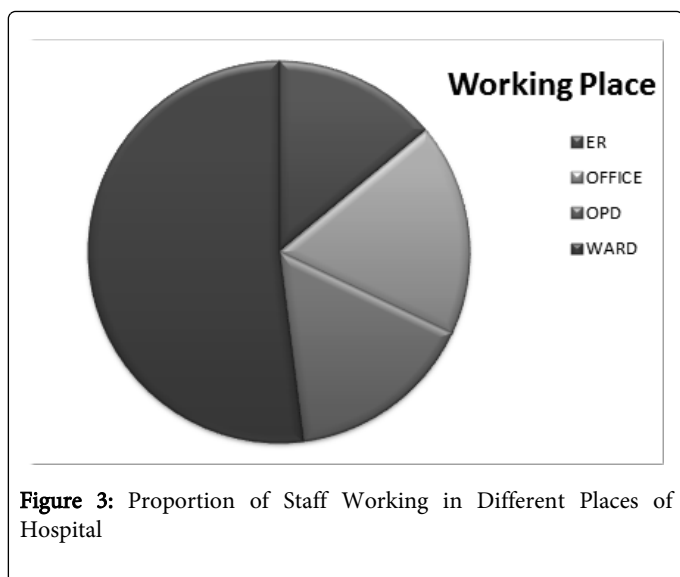


Figure 2: Percentage of Different Profession in Data



**Figure 3:** Proportion of Staff Working in Different Places of Hospital

Scale	Combined	Training Program	Organization Effectiveness
Cornbach's Alpha	0.568	0.245	0.592

**Table 1:** Reliability of the Questionnaire

The average score of training program was 59.54 (SD=0.54) and average organization effectiveness was 58.02 (SD=2.07). There was statistical significant difference between the two scores revealing that

training program had organizational effectiveness had significantly low score than the item scores for training program ( $P < 0.0001$ ). The correlation between training program and organization effectiveness was positive which indicate more the content cover in training program, the more the effectiveness of organization. Regression analysis stipulated that training program caused 0.869 unit increase in organization effectiveness (Table 2).

Statistics	Training Program	Organization Effectiveness	P Value
Mean	59.54	58.02	<0.0001
Standard Deviation	0.54	2.07	
Correlation	r=0.259		0.069
Regression	b=0.864		0.113

**Table 2:** Descriptive Statistics and Relationship of Scores

The training program ad organization effectiveness scores reported by female were significantly more than male ( $P$  values  $< 0.02$ ). Similarly, participants who belonged to nursing profession had highest scores ( $P$  values  $< 0.0001$ ). Training program score was similar among staff working in different work place. However, high score of organization score was obtaining by employees working in ward followed by those working in emergency department and in ward. Office employees had significantly least score than their other counterparts. Table 3 described the actual statistics of these comparisons.

		Training Program			Organization Effectiveness		
		Mean	Standard Deviation	P Value	Mean	Standard Deviation	P Value
Gender	Female	59.76	0.44	0.014	58.9	0.83	0.003
	Male	59.38	0.56		57.38	2.44	
Profession	HOUSEKEEPING	59.26	0.53	<0.0001	57.07	2.4	<0.0001
	NURSING	59.87	0.34		59.13	0.55	
Working Place	ER	59.57	0.79	0.576	58.86	0.69	0.001
	OFFICE	59.44	0.53		54.78	2.95	
	OPD	59.38	0.52		58.88	0.99	
	WARD	59.62	0.5		58.65	0.75	

**Table 3:** Comparison of Scores between different Demographic Characteristics

Item analysis revealed that most of the contents in training program were covered to a great content (Figure 4). The only item, reporting in case of disasters, had lowest frequency in this regard.

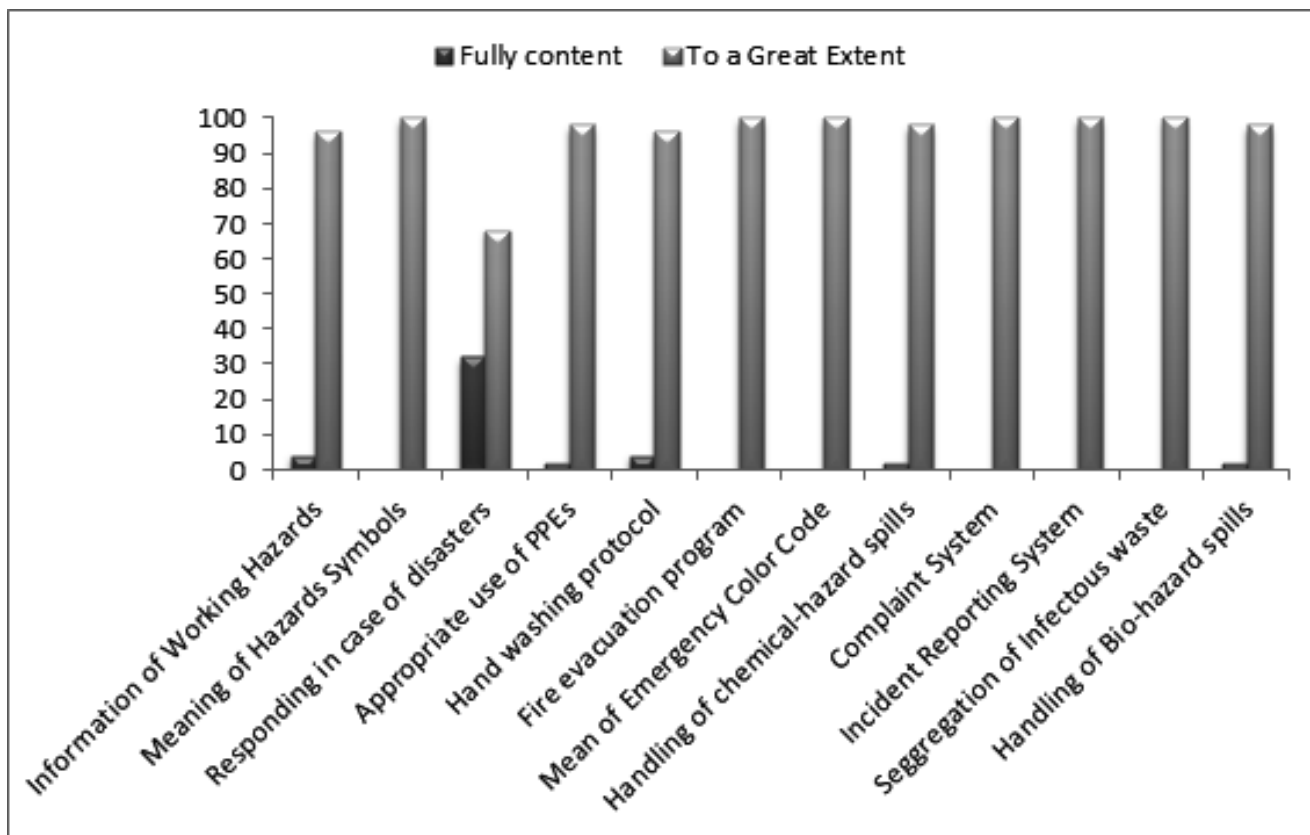


Figure 4: Item Analysis of Training Program Scale

Figure 5 displayed the status of organization effectiveness. Feedback about changes put into place based on event/incident reports was not given always, as reported by larger number of participants. Similarly, participation in department drill training had also low frequency.

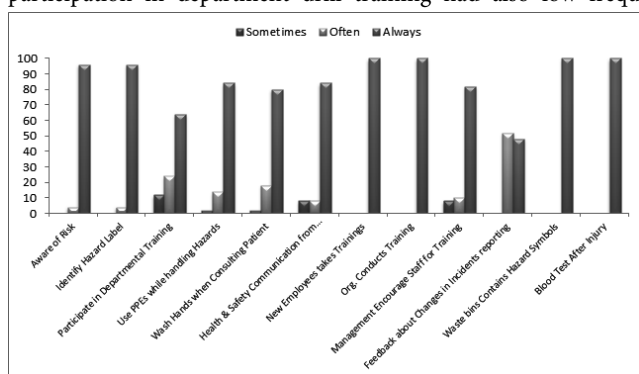


Figure 5: Item Analysis of Organization Effectiveness Scale

## Discussion

The study is of its first kind to be conducted in a tertiary care hospital of Pakistan. Though, the sample size is too small for this pilot study but it gave insight of current scenario obtained from the training

of paramedic staff. As discussed above, these individuals are the most vulnerable for any health hazards due to direct contact with patients and facing hazardous stuffs during working hour [10]. The number of selected participants in our study was also intuitively proportionally stratified as most of the participants were from ward. Male were in higher proportion as in Pakistani culture, the female staff especially for housekeeping are found less.

The reliability of the questionnaire was somehow good and that for organizational effectiveness while for training program it came out to be least. It does not employ that our questionnaire was not representative. On the other hand, since responses for training program was loomed towards progressive side that most of the participants found items in training which are required for learning health hazard system. It might be due to the fact that data were obtained from private sector where learning environment is better after all [11]. Moreover, it was observed that organizational effectiveness score was significantly least than training program item score which indicated that training program covered all the aspect however, organization was unable to practice all the precautionary items for hazards. This was also mentioned by Hussain M [9] that despite construction of well-designed buildings, practices and cares are doomed somehow [9]. Also, good support from workplace led towards good performance of staff in workplace [12].

Another finding of the study narrated that female had higher score while assessing training program while male had higher varied score while assessing organizational effectiveness. This also reflected a social

phenomenon that female had higher interest in learning which cause higher intellectual [13] whereas males, due to their social engagement, know more about the effectiveness of their whereabouts [12,14]. Nursing staff obtained higher score in both training and organization assessment than housekeeping indicating a matter of fact that housekeeping staff had less education and less observation skills about their organization hazards too [12]. Another interested fact was that assessment score of training program from different working place of the same department was significantly similar. However, OPD staff got higher score while assessing organization, followed by emergency department, ward and office staff acquired the least. This would be due to the fact that office staff encounters less hazards then clinical staff. Besides, their knowledge about system running in clinical area would be less than others. Therefore, a study also indicated that trained healthcare working force is crucial in tertiary care hospitals of Pakistan [15].

Item analysis revealed that the training covered most of the items to a great extent. Nevertheless, the practices were not found always. Like, appropriate use of protective personal equipment (PPE) was taught to a great extent whereas using them in handling hazards was not found always. It should be noted that PPE was specially designed as a part of training as it was highly recommended by US department of labor [16]. Washing hands was also not observed during all time. It is somehow sounded good that each new employee was trained for health hazards. This is usually least observed in public sector institute [15]. Moreover, health and safety communication was also found sometimes from management and feedback was extensively not always. Other studies in the same region also supported this findings that there exists a gap between communication with authority [9,12].

## Conclusion

Our study revealed that training of employees led good impact on organizational effectiveness. Strategies should be made to enhance timely training especially in third world countries organization and enhance communication between employees and top management.

## Recommendations

Same research is needed to be conducted on other hospital at large level in which training to each staff and management commitment should be provided as these encourage staff in trainings to meet standard requirements. ER (Emergency Room) where patient comes without pre-identification of diseases. Sometime bleeding or body-flooding may be with high infections. Here are many chances of infection transfusion through blood, skin and other ways. Housekeeping staff which is illiterate and ignored population of Pakistan must need to consider for their safety from infections patients/waste and use of personal protective equipment.

## Appendix: Questionnaire on the Impact of Training Program on Organizational Effectiveness (A Case Study of Healthcare Organization in Karachi-Pakistan)

Please choose the appropriate number against questionnaire given below (3)

Training Program (T-P) Does the training programs cover the following contents?	Never 1	Rarely 2	Sometimes 3	Often 4	Always 5
1					
2					
2					
4					
5					
6					
7					
8					
9					
10					
11					
12					

### Questionnaire 1: On Training Program

Organizational Effectiveness (OE)	Never 1	Rarely 2	Sometimes 3	Often 4	Always 5

1	I am well aware about potential risk in my job.					
2	I can identify Hazard Label and related standard precautions					
3	I Participates all drill trainings held for our department-					
4	I use personal protective equipment (PPEs) while handling hazards					
5	I wash my hands before/after consulting the patients					
6	I receive communication about health and safety in any form from top management					
7	New employees attend Environmental Health Safety Training sessions.					
8	Organization conducts frequently trainings on Health safety environment					
9	Top management encourages staff to participate in awareness and training programs.					
10	We are given feedback about changes put into place based on event/incident reports					
11	All infectious waste bins are pasted with the hazard symbol					
12	Blood test being done After needle injury					

**Questionnaire 2: Organizational Effectiveness (OE)**

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