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Factors Influencing Compliance with Occupational Safety and Health Regulations in Public Hospitals in Kenya: A Case Study of Thika Level 5 Hospital

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Abstract: ***Health care workers, especially nurses, have been identified as a neglected group with regard to monitoring of their occupational safety and health status, and research has shown that their safety and health does not get the attention it deserves by employers. Thika Level 5 hospital is one of the hospitals that are apparently adversely affected by the gaps that were identified by the countrywide OSH risk assessment within the health sector. The main purpose of the study was to determine factors influencing compliance with the occupational safety and health legislation in public hospitals in Kenya: using Thika Level 5 Hospital as a case study. The study was guided by the following two research objectives; to determine how communication and OSH training influence compliance with OSH legislation at Thika Level 5 Hospital. The study used a case study research design and targeted 140 nurses across the six departments of that hospital, and from which a sample of 70 respondents was drawn for the study. Stratified sampling technique was utilized to select respondents according to their departments. A questionnaire was the main instrument for data collection. Data collected was thereafter coded and analyzed using the SPSS version 21, which is the latest program. Descriptive statistics including percentages, frequencies mean and standard deviation were used to analyze the data that was obtained. Inferential statistics namely correlation and regression were utilized to determine the relationship between the variables. The results derived from the analysis were presented in form of charts and tables. From the findings, the study established that the tow independent variables showed a positive correlation and statistically significant relationship with compliance with safety and health regulations; communication ($r=0.721$, $p<0.01$) and OSH training ($r=0.869$, $p<0.01$). On the regression summary, the R Square was 0.761 which showed that compliance with safety and health regulations was affected by communication and OSH training. This indicated that there was a variation of 76.1% on compliance with safety and health regulations with communication and OSH training. The remaining 23.9% indicated that there were other factors which affected compliance with safety and health regulations at Thika Level 5 Hospital, which were not studied in this study. In the interpretation of coefficients, holding all the independent variables namely communication and OSH training constant at zero then compliance with safety and health regulations would have been 0.221. The findings also indicated that, taking all other independent variables to zero, a unit increase of communication led to 0.786 increases in compliance with safety and health regulations. A unit increase of OSH training led to 0.839 increases in compliance with these regulations. Training therefore has the highest contribution to compliance with safety and health regulations at Thika Level 5 Hospital. The study further recommended that Thika Level 5 Hospital ought to have a hazard reporting mechanism and training programes in response to emergency situations when need arises. The study also recommended that it was important to handle these areas as they have a great impact on outcomes of compliance with safety and health in public hospitals in Kenya and in particular Thika Level 5 Hospital.***

Keywords: Communication, OSH Training, Compliance with Occupational Safety and Health Regulation, Thika Level 5 Hospital, Public Hospitals in Kenya

1. Introduction

OSH has for decades dominated the international agenda prompting continued support for the International Labour Organization (ILO) to execute their mandate on behalf of the international community through regional and national governments. Among these is the protection of workers against occupational diseases and injury (WHO, 2010). A safe and healthy work environment promotes work productivity and is a key element of worker human dignity (ILO, 2010). Health care workers are known to be at a higher risk of infection from blood-borne pathogens than the general population (MOH, Kenya, 2014). The enforcement of the relevant safety and health legislation in healthcare institutions in Kenya is inadequate in many parts of this country. Appropriate audits on the same are in fact rarely carried out, by the relevant authorities, in a significant number of hospitals in Kenya. Material and financial resources that would comprehensively address occupational safety and health issues are virtually unavailable in many government hospitals due to limited finances. This state of affairs therefore often leads to apathy among the health workers including nurses and their managers, who consequently do not give the required attention to the fundamental aspects of work related safety and health (Kenya Ministries of Health and IntraHealth International, 2013).

2. Statement of the problem

In Kenya, a baseline Occupational Safety and Health (OSH) risk assessment was carried out by the Ministry of Health, Kenya, in collaboration with Intra Health International in 97 health facilities (level 2 to 5) across the country between 2012 and 2013 revealed that the ministry lacked an all-inclusive Occupational Safety and Health program. In spite of the concerted efforts by the Government of Kenya that were aimed at providing a safe working environment in hospitals countrywide, the OSH risk assessment identified serious gaps within the health sector. These gaps included lack of job hazard analysis, inadequate OSH training needs assessment for new and existing members of staff, and the

absence of displayed safety and health related standard operating procedures in health facilities (Kenya Ministries of Health and IntraHealth International, 2013).

Thika Level 5 hospital is one of the hospitals that are apparently adversely affected by the gaps that were identified by the countrywide OSH risk assessment within the health sector. A significant number of employees in that institution including a number of nurses are not comprehensively informed about the fundamental issues that are related to occupational health and safety in their respective places of work (Kenya Ministries of Health and IntraHealth International, 2013). Visual observations indicate that these employees are often exposed to air borne and blood borne diseases in the course of their duties, which is in contravention of the Kenyan OSHA Act, 2007.

Ensuring adherence or compliance to OHS requirements should be taken as in important step in order to prevent these health and safety problems (Nshunju, 2012). Efficient communication, continuous employee OSH training, involvement, and management influence are therefore absolutely necessary. In fact these were among the mitigation factors that were cited in the Risk Assessment Report. This research therefore seeks to investigate whether these factors currently determine compliance or non-compliance of the safety regulations in public hospitals in Kenya and specifically among nurses at Thika Level 5 hospital.

3. Purpose of the Study

The general purpose of this study was to determine factors that influence compliance with the occupational safety and health regulations in public hospitals in Kenya using Thika Level 5 Hospital as a case. The study was guided by the following two specific objectives; to determine the influence of communication and OSH training on compliance with the OSH regulations at Thika Level 5 Hospital.

4. Research Methodology

The study adopted a case study research design approach. The target population was 140 nurses across all the six departments at Thika Level 5 Hospital, and from which a sample of 70 respondents was drawn for the study using Stratified sampling technique. Questionnaire was the only instrument that was used in collecting data from the respondents. Descriptive statistics including percentages, frequencies mean and standard deviation were used to analyze the data that was obtained. Inferential statistics such as correlation and regression were utilized to determine the relationship between the variables.

5. Results and Analysis

Objective one sought to determine the influence of communication on compliance with safety and health regulations at Thika Level 5 Hospital. It was found that most nurses at Thika Level 5 Hospital agreed that workplace safety and health policy was effectively communicated to employees, (Mean = 2.46, Std. dev =1.197) and also knew the proper channels to follow regarding safety and health issues, (Mean = 2.71, Std. dev =1.296). It was further established that most nurses concurred with the view that Thika Level 5 Hospital did not have a hazard reporting mechanism, (Mean = 3.34, Std. dev =1.136). They however acknowledged the presence of safety signs and symbols at the hospital, (Mean = 2.80, Std. dev =1.052) and were also in agreement that the management had an open door policy on addressing safety issues, (Mean = 2.66, Std. dev =1.110) as explained in (Table 1).

Previous empirical studies were in agreement with these findings. Previous studies showed that poor communication was a primary reason for substandard behaviours ranging from poor safety performance (Hofmann & Morgeson, 1999) to low productivity and morale (Alexander, Cox, & Cheyne, 1995).

Table 1: Communication

Statements	**5**	**4**	**3**	**2**	**1**	Mean	Std Dev
The workplace safety and health policy is effectively communicated to employees.	4	2	6	17	6	2.46	1.197
I know the proper channels to direct questions regarding safety and health issues.	3	9	5	11	7	2.71	1.296
My organization doesn't have a hazard reporting mechanism.	7	9	8	11	0	3.34	1.136
There are safety signs and symbols in my organization.	4	3	11	16	1	2.80	1.052
Management operates an open door policy on addressing safety issues.	5	1	7	21	1	2.66	1.110

5 – Strongly Disagree, 4 – Disagree, 3 – Not Sure, 2 – Agree, 1 – Strongly Agree

Objective two sought to establish the influence of Occupation Safety and Health (OSH) training on compliance with safety and health regulations at Thika Level 5 Hospital. It was noted that majority of the nurses agreed to have received comprehensive training regarding work place health and safety issues, (Mean = 2.80, Std. dev =1.023) and also acknowledged the existence of a committee that was responsible for safety and health training at the hospital, (Mean = 2.77, Std. dev =1.031). It was asserted that, majority of the nurses disagreed not to have been adequately trained to respond to emergency situations in their work place, (Mean = 3.57, Std. dev =1.065) and most of them admitted that the hospital management previously encouraged them to attend relevant safety training programmes, (Mean = 2.91, Std. dev =1.222) as illustrated in (Table 2).

Past empirical studies were apparently in agreement with these findings. A study that was carried out by Toole (2002) stated that insufficient safety training was the root cause of accidents at the workplace since employees did not have the knowledge and skills to recognize potential hazards. Clarke (2006) stated that organizations that emphasized safety through training and other managerial practices may have observed an increase in safety compliance among their employees. According to Colligan and Cohen (2003),

employees who received safety training suffered fewer work-related injuries than their untrained counterparts. Barling, Kelloway, and Iverson (2003) stated that training allowed employees to acquire greater competencies to manage their work, leading to enhancement of their occupational safety.

Table 2: Training on safety and health

Statements	*5*	*4*	*3*	*2*	*1*	*Mean*	*Std Dev*
Employees receive comprehensive training regarding work place health and safety issues	1	10	7	15	2	2.80	1.023
There is a committee responsible for safety and health training	2	8	6	18	1	2.77	1.031
I am not adequately trained to respond to emergency situations in my work place	6	16	6	6	1	3.57	1.065
Management encourages the employees to attend safety training programmes	4	9	5	14	3	2.91	1.222

5 – Strongly Disagree, 4 – Disagree, 3 – Not Sure, 2 – Agree, 1 – Strongly Agree

The study used multiple correlation. Pearson's product-moment correlation coefficient (PPMCC) analysis was then conducted for this study to examine the strength of the relationship between the variables (communication, training, employee involvement, management commitment and compliance with safety and health regulations); by examining the extent of the correlation coefficient and by examining the statistical significance of the relationship.

According to Saunders, Lewis, and Thornhill (2009), this correlation coefficient (usually represented by the letter r) can take on any value between -1 and +1. A value of +1 represents a perfect positive correlation while a value of -1 represents a perfect negative correlation. A value of 0 means the variables are perfectly independent. As outlined, if this probability (p) is less than 0.01 ($p<0.01$) or 0.05 ($p<0.05$) then it is considered statistically significant. If the probability is greater than 0.01 ($p>0.01$) or 0.05 ($p>0.05$) then the relationship is not statistically significant.

According to correlation the findings in (Table 3), it was established that communication had a strong positive correlation with compliance with safety and health regulations, indicated by the value 0.721 that is also statistically significant at level 0.01. It was also established that training of safety and health had a strong positive correlation with compliance with safety and health regulations indicated by the value 0.869, which is also statistically significant at level 0.01.

Table 3: Correlation Matrix

		Compliance with Safety and Health Regulations	Communication	Training
Compliance with Safety and Health Regulations	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	**35**		
Communication	Pearson Correlation	**.721****	1	
	Sig. (2-tailed)	**.000**		
	N	**35**	35	
Training	Pearson Correlation	**.869****	.829**	1
	Sig. (2-tailed)	**.000**	.000	
	N	**35**	35	35

**. Correlation is significant at the 0.01 level (2-tailed).

From the regression summary results shown in (Table 4), the R Square is 0.761 which shows that compliance with safety and health regulations was affected by communication, training, employee involvement and management commitment. This indicated that there was a variation of 76.1% on compliance with safety and health regulations with communication, training, employee involvement and management commitment. The remaining 23.9% indicated that there were other factors which affected compliance with safety and health regulations at Thika Level 5 Hospital which were not studied in this study.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square
1	.872[a]	.761	.729

a. Predictors: (Constant), Communication, Training

From the ANOVAa results, it was established that the mean square was 1.272. The F-test result was 23.904 with a significance of 0.000. This meant that the probability of these results occurring by chance was less than 0.05 ($p<0.05$). A significant relationship was therefore present between the dependent variable (compliance with safety and health regulations at Thika Level 5 Hospital) and the independent variables (communication, training, employee involvement and management commitment). Degree of freedom (df) was 4.00 as shown in (Table 5).

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.089	4	1.272	23.904	.000[b]
	Residual	1.597	30	.053		
	Total	6.686	34			

a. Dependent Variable: Compliance with Safety and Health Regulations
b. Predictors: (Constant), Communication, Training

From the findings (Table 6), the t-test results for the coefficient of multiple determination for the two independent variables were 4.782 and 5.389. Once again, the probability of these results occurring by chance was less than 0.05, being less than 0.001 for the two independent

variables; communication and training. This meant that the multiple regression coefficient for the two independent variables were statistically significant at the $p<0.05$ level.

As per the SPSS generated table 4.11, the equation ($Y = \beta + \alpha 1X_1 + \alpha 2X_2 + \alpha 3X_3 \ldots.+\alpha nX_n$) becomes: $Y= 0.221 + 0.786X_1 + 0.839X_2$

Where Y is the dependent variable (compliance with safety and health regulations at Thika Level 5 Hospital), β is the intercept, X_1, and X_2 are the independent variables (communication and OSH training) respectfully.

According to findings (Table 6), holding all the independent variables communication and OSH training constant at zero then compliance with safety and health regulations would be 0.221. The findings also indicated that, taking all other independent variables to zero, a unit increase of communication led to 0.786 increases in compliance with safety and health regulations. A unit increase of OSH training led to 0.839 increases in compliance with safety and health regulations. Training therefore has the highest contribution of compliance with safety and health regulations at Thika Level 5 Hospital.

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.221	.222		.467	.027
	Communication	.786	.144	.768	4.782	.000
	Training	.839	.156	.891	5.389	.000

a. Dependent Variable: Compliance with Safety and Health Regulations

6. Conclusion

It was clear, from the findings in this study, that communication and training where the main factors that influenced compliance with occupational safety and health regulations in Thika Level 5 Hospital. It is also imperative for this hospital and all other public hospitals in Kenya to have a hazard reporting mechanism. This would reduce accidents since it results in self awareness of safety by employees and further creates room for effective communication on safety and health between employees and management. This study also concluded that public hospitals in Kenya and in particular Thika Level 5 Hospital ought to provide its employees with adequate training on how respond to emergency situations in the work place. This reduce or prevent emergency situations from occurring and in addition prepare employees on how to tackle them.

7. Recommendations

Based on this study, and analysis of factors influencing compliance with occupational safety and health regulation, the following recommendations to the policy makers and the management of the public hospitals in Kenya and in particular Thika Level 5 Hospital regarding compliance with safety and health regulations were as follows.

1) Thika Level 5 Hospital management should have a hazard reporting mechanism. This will ensure effective communication between management and workers in the organization regarding safety issues and enhance effective safety-related information sharing, which would reduce work related injuries. Previous studies seem to agree with the notion that poor communication is a primary reason for substandard behaviours ranging from poor safety performance to low productivity and morale.
2) The government should provide safety training programes, especially in public hospitals, in regard to how to respond to emergency situations including fire hazards among others. Thika Level 5 Hospital management should also initiate similar programms that are tailored to meet the needs of its employees es in their workplace. This will equip workers with the knowledge, capabilities and skills needed to respond to emergencies whenever they arise. These employees will also be able to identify risks in the workplace and the procedures that are available to prevent or minimize these risks from occurring.

References

[1] Alexander, M., Cox, C., & Cheyne, A. (1995). The concept of safety culture within a UK offshore organization. *Understanding Risk Perception Conference*. Aberdeen, UK.
[2] Barling, J., Kelloway, E. K., & Iverson, R. D. (2003). High-quality jobs, job satisfaction and occupational safety. *Journal of Applied Psychology , 88*, 276–283.
[3] Clarke, S. (2006). The relationship between safety climate and safety performance: A meta-analytic review. *Journal of Occupational Health Psychology , 11* (4), 315-327.
[4] Colligan, M. J., & Cohen, A. (2003). The role of training in promoting workplace safety and health. In M. J. Colligan, A. Cohen, J. Barling, & M. R. Frone (Eds.), *The psychology of workplace safety* (pp. 223–248). Washington, DC: American Psychological Association.
[5] Hofmann, D. A., & Morgeson, F. P. (1999). Safety-related behavior as a social exchange: The role of perceived organizational support and leader-member exchange. *Journal of Applied Psychology , 84*, 286-296.
[6] International Labour Organization. (2010). *Safety and Health at Work.* Retrieved October 5, 2015, from Global topics Web site: http://www.ilo.org/global/topics/safety-and-health-at-work/lang--en/index.htm
[7] Kenya Ministries of Health and IntraHealth International. (2013). *Report of the Occupational Safety and Health Risk Assessment.* Nairobi, Kenya: MsOH.
[8] Ministry of Health, Kenya. (2014, July). *Occupational safety and health policy guidelines for the health sector in Kenya.* Retrieved October 5, 2015, from Ministry of Health, Kenya Web site: http://www.health.go.ke/wp-content/uploads/2015/09/OCCUPATIONAL%20HEALTH%20AND%20SAFETY%20POLICY%20GUIDELINES%20FOR%20THE%20HEALTH%20SECTOR%20IN%20KENYA.pdf
[9] Nshunju, R. K. (2012). *Compliance to Occupational and Public Health Requirements and Associated Factors in Barbershops and Hair Dressing Salons, A Case of Kinondoni Municipality, Dar es*

Salaam,Tanzania. Dar es Salaam, Tanzania: Muhimbili University of Health and Allied Sciences.

[10] Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students* (5th ed.). Harlow: Pearson Education Limited.

[11] Toole, M. O. (2002). The relationship between employees' perceptions of safety and organizational culture. *Journal of Safety Research , 33*, 231–243.

[12] World Health Organization. (2010). Global strategy on occupational health for all: The way to health at work. (s. OHw, Ed.) *A proposed Global Strategy on Occupational Health for All , 2010*.