Occupational Medicine & Health Affairs
ISSN: 2329-6879

Tandi, et al., Occup Med Health Aff 2016, 4:4
DOI: 10.4172/2329-6879.1000228

Research Article Open Access

Clinical Health Personnel Perception and Feedback on Occupational Health and Safety Management Practices in the South West Region, Cameroon

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Rec date: Jan 20, 2016; **Acc date:** Jan 27, 2016; **Pub date:** Feb 3, 2016

Abstract

Background: This study aims at determining the perception and degree of satisfaction of health personnel involve in clinical practices with respect to Occupational Health and Safety (OHS) management practices, and assess the level of responses with selected OHS dimensions.

Methods: A cross sectional study was randomly performed using a validated self-administered questionnaire among health personnel involve with clinical hospital based practices.

Results: A total of 152 personnel took part in the study. Female (118, 77.6%) respondents were more represented in the study than men (34, 22.4%) with Mean (SD) age of 35.7 ± 8.64 years. Training and competence was perceived highest with (Mean SD, 4.14 ± 0.58) and safety goals perceived the least with (Mean SD, 2.31 ± 1.06). The study showed there was no significant effect for neither duration of service nor job position (<10 years of service Mean (SD) 2.62 ± 0.40, p>0.05 and the nurses with Mean (SD) 2.60 ± 0.41, p>0.05). Correlation analysis showed a significant correlation between OHS dimensions and safety satisfaction and feedback.

Conclusion: Generally, health personnel perceived OHS dimension very low. In this study it is evident that health facilities need to step up OHS practices as well as an inclusive and committed management and supervisory skills, based on the significant correlation between some OHS dimensions and safety satisfaction and feedback among the personnel.

Keywords: Health personnel; Safety practices; Occupational health; Workplace; Cameroon

Introduction

Many nations have been able to respond and keep to international norms and standards governing occupational health and safety measures at different levels of work according to International Labour Organisation (ILO) Act governing health and safety at workplace, while some are still lagging behind.

Some have been able to do so either due to pressure being exerted by external forces or as a result of their own recognition of the need for change and the importance of effective and efficient working conditions and environments.

Occupational Safety and Health (OSH) defined as," the science of the anticipation, recognition, evaluation and control of hazards arising in or 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" [1]. In this article we used Occupational Health and Safety (OHS) to refer to OSH in order to keep consistency with our topic while maintaining OSH as references with cited related publications.

According to WHO report in 2006, over 59 million health workers are exposed to various types of health and safety hazards every day including biological, chemical, and physical hazards [2]. However, health care facilities stood as potential environment for exposure to a variety of hazards. Most prominently, include exposure to both blood and body fluids in addition to infected air borne aerosols. Health personnel became exposed as a result of their contacts with infectious fluids and droplets aerosols from broken skin and membranes of their patients leading to risk of contracting infections such as; HIV, hepatitis, influenza, tuberculosis and other diseases.

Previous study have shown that health personnel are at risk of acquiring infections due to exposure especially blood-borne viral related types like hepatitis B&C subtypes and HIV [3]. Also, health personnel are faced with exposure to ergonomic, physical, chemical and psychological hazards as they lift and push their patients around in addition to the high workload in some cases as well as receiving insulted words from their dissatisfied patients. All this, coupled with poor wages leads to psychological stress and depression among health personnel. Worldwide estimation showed that out of the 3 million health personnel exposed to blood-borne viral infection, 66 thousands are infected with hepatitis B, 16 thousands with hepatitis C and between 2 thousands to 5 thousands with HIV every year [4].

The concern of OHS management is as a result of the failure of the management to highlight major incidences in order to protect the health and safety of their workers in accordance with OHS legislation to fulfill their duty as employer to ensure a safe and conducive work place for their workers [5]. However, legislation alone might not be enough in bringing out the different difficulties faced by occupational health and safety management within the health sectors work places. Some of these difficulties may be evaluated base on individuals (workers) engagement depending on their views, unsafe behaviors that may result to accidents or unfavorable working environment. It has been documented that about 80 to 90% of industrial accidents were accounted for by the negligence on the part of the employees in performing the right procedures at their various duty post [5]. This has brought about the need for an effective occupational health and safety management in relation to productivity as an important issue to blend the interaction between facilities, people and management practices. It is important to assess the level of perception among health workers regarding their health and safety at their various workplaces.

Sub-Saharan Africa where Cameroon is found has 11% of the world's population, 25% of the global burden of disease, 3% of the world's health workers, <1% of global health expenditure [6]. Cameroon with a population of 20,549,221 inhabitants has health care workers ratio of about 0.8 to 1.2 personnel per 1000 population [7]. Cameroon epidemiologic profile is dominated by transmissible diseases of which the prevalence tends to increase over time, with leading causes of death including: HIV/AIDS, lower respiratory infections, malaria, diarrheal diseases, pre-natal conditions and cerebro-vascular diseases [8]. In this article, we focus our findings on three categories of health personnel [physicians, nurses and the paramedics (laboratory technicians)] who are directly involved with clinical care services to patients. These categories of personnel constituted 70.85% of the general public health workforce of the nation [9]. Although very little have been documented in Africa about infections resulting from workplace injuries among health workers, a study performed in a health facility in South Africa showed infection with HIV as a result of sharp objects injuries with 41% amongst nurses, 38% cleaners and 6% administrators [10]. In Cameroon, it has been documental that 4.6% HIV, 6.3% Hepatitis B virus and 1. 7% Hepatitis C was reported amongst health workers in the South West region and 18.25% of Hepatitis B among health care workers in a district of the Northern region of the country, all of the participants who indicated no previous history of infection but their sources of infection was not determine [11].

Satisfaction at work is seen as one of the primordial factor that influences health workers performance and commitment, turnover and retention, as well as quality services and productivity to both their employer and patients [12]. Overwork burden and overtime due to shortages of personnel in addition to poor working conditions and environment, and inadequate management measures can greatly affect the morals of workers and the quality of service delivery to their patients. Thus, setting adequate measures that addresses safety management and working conditions will likely improve personnel safety, leading to better quality health care services to patients and facility benefits. Little attention has been documented regarding health personnel views, their health and safety management practices at work in Cameroon.

This study aims at determining the perception and degree of satisfaction of health personnel involve in clinical practices with respect to Occupational Health and Safety (OHS) management practices, and assess the level of responses with selected OHS dimensions in the South West Region of Cameroon.

Methods and Material

A cross-sectional pilot study was performed among health personnel of the Buea Regional Hospital Annex and the Kumba District Hospital, in Fako and Meme Divisions of the South West Region of Cameroon. The South West Region is consisted of 1,498,598 inhabitants most of who are based on rural settlement and activities. An invitation letter for participation was sent to all the 6 referral hospitals within the region which harbour most of the patients and cases within the communities. Kumba District Hospital and Buea Regional Hospital Annex expressed their interest to participate in the survey. A sample frame was obtained from the two hospitals and a random sampling conducted to sample 80 participants each from a facility. The study population were recruited on voluntary bases among three categories of health personnel consisting of physicians, nurses and laboratory technicians and a total of 152 out of 160 (95%) personnel were recruited with 77 (52.4%) out of 147 personnel from Buea and 75 (59.5%) out of 126 from Kumba. An informed consent form alongside the questionnaire instrument was issue to each participant through the director's secretariat of each facility who in turn return it to the secretariat upon completion.

A self-administered questionnaire adopted upon permission and modified from Nor Azimah et al., 2009 study was used for the data collection [5]. This questionnaire consisted of 2 sections; to assess health personnel perception on the management of OHS in public hospitals as, socio-demographic data of respondents and, workers perception from the different dimensions of responsibilities of OHS management. This was further grouped into the follow dimensions; Management commitment, Competence and training, Safety satisfaction and feedback, Safety communication, Work pressure, Supervisor's roles Leadership style, Safety objectives, Safety involvement, Safety reporting. All this represented the independent variables while safety satisfaction and feedback represented the dependent variables. A 5 point score Likert-type scale was used for the analysis of data with 5 indicating strongly agree or highly satisfied and 1 indicating strongly disagree or highly dissatisfied.

Ethical Approval

Prior to the commencement to the study, ethical clearance was sought and obtained from the hospital department responsible for human resources for health research. Ref. 1071/DHK/M/12/13, and have therefore been performed in accordance with the ethical standards laid down in the 1964 declaration of Helsinki.

Data Management and Analysis

Data were analyzed by means of the Statistical Package for Social Science 20.0 (SPSS Inc., IL, US) software for descriptive and inferential statistical analysis. Percentages and frequency were determined for data on demographic profiles and workplace information. The association between the correlation and relationship of the independent and the dependent variables were assessed using Pearson's correlation. The comparism of gender, occupational status and duration of service was determined using t-test and One Way ANOVA analyses respectively.

Results

The results show a response rate of 95% (152 out of 160). The majority of the participants were females 118 (77.6%) and the mean (SD) age of respondent was 35.7 ± 8.64 years (Table 1).

Demographic items	Number of Participants (n)	Participating (%)
Gender		
Male	34	22.4
Female	118	77.6
Age group (years)		
20-29	42	27.6
30-39	66	43.4
≥ 40	44	28.9

Table 1: Demographic profiles. Total participants (n=152).

About 36.8% of respondents had worked for more than 6 years as health personnel with 56.6% expressing between 6 to 10 years of working in their current hospital facility. Most of the respondents were working in the general wards (56.6%) with 62.5% running shifts and 60.5% working within ≤40 hours per week. Most of the respondents were permanent workers 112 (73.7%) with the public health sector and those holding a diploma as the majority group (85.5%), with the nurses 117 (76.9%) being the most represented cadre (Table 2).

Workplace profile	Number of Participants (n)	Participating percentage (%)
Years as a health personnel		
<1	5	3.3
1-5	56	36.8
6-10	54	35.5
11-15	9	5.9
16-20	1	0.7
>20	27	17.8
Years at current health facility		
<1	11	7.2
1-5	86	56.6
6-10	41	27
11-15	3	2
16-20	0	0
>20	11	7.2
Department		
OPD	31	20.4
SD	15	9.9
Wards (ICU, FM, MM etc.)	86	56.6
Laboratory	20	13.2
Number of working hours per week (hours)		
21-40	92	60.5
41-60	51	33.6
>60	9	5.9
Running shift		
Yes	95	62.5
No	57	37.5
Status at hospital		
Permanent	112	73.7
Contract	40	26.3
Job Status		
Physician	15	9.9
Nurse	117	76.9
Laboratory Tech.	20	13.2
Qualification		
Diploma	130	85.5
Bachelor	19	12.5
Doctorate	3	2

Table 2: Demographics and Occupational dimensions (N=152).

Dimensions	Mean	SD	Range
Work pressure	3.1	0.41	2.13-4.00
Safety incidents	3.52	0.5	2.14-4.50
Safety communication	3.05	0.44	2.14-4.14
Safety participation	2.79	0.75	1.33-4.14
Competence and training	4.14	0.58	2.75-5.00
Safety satisfaction and feedback	2.59	0.41	1.65-3.53
Safety goals	2.31	1.06	1.20-5.00
Leadership style	3.49	0.56	2.10-4.50
Management commitment	3.24	0.36	2.43-4.29
Role of supervisor	3.74	0.38	2.73-4.64

Table 3: Perception of OHS management.

The 10 dimensions were used to determine OHS management as perceived by the respondents. Generally, the respondents perceived the various dimensions with an overall Mean (SD) score that ranged from 2.31 to 4.14 as everyone perceived the dimension differently from being agree/satisfied to disagree/dissatisfied. The respondents

perceived training and competence highest with mean (SD) score of 4.14 ± 0.58, while safety goals was the least perceived with mean (SD) scale of 2.31 ± 1.06 (Table 3). We further conducted a one way ANOVA analysis to compare occupational status and duration of service as the independent variables against safety satisfaction and feedback as the dependent variable (Table 4).

One way ANOVA analysis (N=152)					
Dimensions		**N**	**Mean**	**SD**	**Significance**
Duration of service	<10 years	115	2.62	0.4	0.228[a]
	10 to 20 years	11	2.51	0.47	
	>20 years	26	2.48	0.41	
Occupation	Physicians	15	2.59	0.34	0.918[a]
	Nurses	117	2.6	0.41	
Occupation Status	Lab. Technicians	20	2.56	0.45	0.039[b]
	Permanent	113	2.55	0.4	
	Contract	39	2.71	0.42	
[a]Kruskal-Wallis test; [b]Student's t-test					

Table 4: Comparing occupation, status and duration of service.

Kruskal-Wallis test showed there was no significant effect for neither duration of service nor job position (<10 years of service mean (SD) 2.62 ± 0.40, p>0.05 and the nurses with mean (SD) 2.60 ± 0.41, p>0.05). Hence the assumption of homogeneity of variance was not violated as the null hypothesis was accepted. A student's t-test performed shows a significant variance with permanent workers status mean (SD) 2.55 ± 0.40, p<0.039. Table 5 showed the comparism between gender and different dimensions. There results revealed that the two groups perceived the dimensions equally with a common significant differences with competence and training, and leadership style with p<0.05, thus the null hypothesis was accepted. This shows that occupational health and safety affects both men and women equally at work place.

Dimensions	**Mean ± SD**		**p-value***
	Male (n=34)	**Female (n=118)**	
Work pressure	3.18 ± 0.37	3.07 ± 0.42	0.177
Safety incidents	3.66 ± 0.50	3.48 ± 0.49	0.076
Safety communication	3.02 ± 0.36	3.05 ± 0.46	0.679
Safety participation	2.79 ± 0.79	2.78 ± 0.75	0.937
Competence and training	4.49 ± 0.53	4.05 ± 0.56	<0.001
Safety satisfaction and feedback	2.60 ± 0.43	2.59 ± 0.41	0.88
Safety goals	2.32 ± 1.02	2.31 ± 1.08	0.949
Leadership style	3.26 ± 0.55	3.56 ± 0.54	0.005
Management commitment	3.21 ± 0.39	3.25 ± 0.35	0.584
Role of supervisor	3.69 ± 0.44	3.76 ± 0.37	0.326
*Significant at t=<0.001			

Table 5: Comparing gender (t-test analysis).

Dimension	**WP**	**SI**	**SC**	**SP**	**CT**	**SG**	**LS**	**MC**	**RS**	**SF**
Work pressure (WP)	1									
Safety incidents (SI)	0.04	1								
Safety communication (SC)	0.09	0.028	1							
Safety participation (SP)	0.068	0.079	0.226**	1						
Competence and training (CT)	0.06	0.041	0.211**	0.078	1					
Safety goals SG	0.072	0.045	0.121	0.302**	0.1	1				
Leadership style (LS)	0.042	0.045	0.166*	0.176*	0.187*	0.379**	1			
Management commitment (MC)	0.015	0.082	0.132	0.016	0.069	0.03	0.036	1		
Role of supervisor (RS)	0.081	0.068	0.011	0.076	0.113	0.217**	0.398**	0.028	1	
Safety satisfaction and feedback (SF)	0.014	0.028	0.087**	0.003**	0.015**	0.077**	0.013**	0.191	0.054*	1
*p<0.05; **p<0.01										

Table 6: Interscale correlations between OHS management variables and safety satisfaction and feedback.

To determine the correlation between safety satisfaction and feedback with the dependent variables, we use Pearson's correlation analysis. The results of this analysis are shown on Table 6 with 5 dimensions showing a significant positive correlation with the dependent variable, Safety communication, safety participation, competence and training, leadership style and role of supervisor all with p<0.01.

Discussion

This study is one of the first attempts to assess the ways public health personnel in Cameroon perceived OHS dimensions management practices at their work place. The overall perception of the health workforce was congruent to similar study performed in Asia [5].

Table 3 show competence and training as the main OHS dimension perceived as high by health personnel Mean score of 4.14 ± 0.58. This dimension consisted of questions that addresses; a) if their training has covered health and safety at their job, b) what to do to ensure safety standards; c) their understanding of health and safety requirement and, d) health and safety risk involve with their job. Most personnel agree that their professional training has covered their work related health and safety risk and management standards. This is in conformity with the postulate that, safety and risk related training is vital for health practitioners as it will render for a careful and competent practices for an effective outcome, as opposed to the untrained counterpart [13-15]. Safety goals was seen to be the least perceived. This may have been due to a lack of a proper management system to promote the safety of health personnel at their workplaces. Safety satisfaction and feedbacks were rated averagely low with Mean SD of 2.59 ± 0.58 that respondents agree with feedbacks but were not satisfied with the management system. Incongruent with previous studies [5,14], satisfaction of personnel at work will definitely leads to more input and better outcomes of results. Also, work pressure was scored slightly low (3.10) this imply that personnel did not perceived they have enough co-workers to handle the workload, satisfied with their job schedules or able to take off time from work.

By using Pearson's correlation analysis, our results showed the positive correlation between OHS dimensions and personnel safety satisfaction and feedback. As illustrated in Table 6, safety participation, competence and training, leadership style, safety goals, and role of supervisor were significantly correlated with safety satisfaction and feedback. This is greatly in line with similar studies [5,16], that illustrated how positive directions of relationships leads to an improved predicted safety climate resulting in the reduction of injury frequency in the work place.

With the significantly correlated variables, safety participation, goal and safety communication correlated with safety satisfaction and feedback. This was expected because an effective participation and communication will result in better output and minimization of injuries. To improve work outcomes and accuracy, assessment of work place health and safety, a good reporting and communication system must be in place with clear health and safety goals [17]. Also leadership style and role of supervisor were also found to be significant. This was expected as effective leadership style would result in effective supervision and safety Satisfaction and response. Previous studies also showed that appropriate leadership style could help to reduce incidents or injuries in the workplace [15,16], and thus improve employees' safety satisfaction. Competence and training was also significantly correlated with safety satisfaction and feedback. This also explains that, an acquired competence and training turns to increase safety satisfaction and feedback will also increases. Unlike in the study of Nor Azimah et al. [5] study, this study found more dimensions which were not significantly correlated with each other. Work pressure, safety incidence and management commitment were said not to correlation with each other nor has a significant correlation with safety satisfaction and feedback.

Work Pressure had no significant correlation with safety satisfaction and feedback in this study indicating that respondents agreed that as they have more work, their satisfaction and feedback also decreases. A study performed in Cameroon indicated that there exist absolute shortage of health personnel [18], this may have accounted for the low score of this item. In this study gender perceived OHS dimensions equally, which implies that health and safety at work affect personnel of both sex equally and cooperation among everyone in a workplace setting will lead to a common goal of positive commitment towards safety and health practices. However, individual accountability is a major factor that contribute to safety practices disseminating to all departments and commencing with a healthy and enhance management commitment.

Previous studies [19,20] have indicated that management turns to project employees as been accountable for their injuries at work place and iterate that safety culture is relevant for both management and employees for a healthy and safety practices. However, in this study management commitment which is perceived as the main contributor in establishing a thriving and pervasive safety climate within an organization, was found to be otherwise and incongruent to previous studies [5,21], and have no significant relationship with health personnel satisfaction and Feedback. This may have been due to the fact that the respondents did not believe it was the role of management to be determining factors that influenced their knowledge and competence in occupational health and safety or due to an undefined clear and well established safety and culture regulations within the organization leading to respondents not perceiving it as important. Also it may be due to the fact that respondents may have considered their training and competence to be part of their integral role of safety culture rather than as an additional enforcement.

Conclusion

This study showed that OHS management practices was perceived to be low in the South West region of Cameroon with competence and training reflecting the highly perceived scored dimension by health personnel within the region. Safety satisfaction and feedback scored averagely implying that health personnel were not very comfortable with the OHS management practices. This study was limited by assessing only clinical health personnel of the South West region and few health facilities that may have influence the results of the study. Despite this, the study revealed a significant correlation between safety satisfaction and feedback with, safety communication, safety participation, competence and training, safety goals, leadership style and role of supervisor. The study also showed evident results that, there is a need for health facilities to step up OHS practices as well as an inclusive and committed management and supervisory skills. The need for structures in charge of proper training and refresher courses for personnel at health facilities should be enhance, as a proper organization with a well-defined safety climate will leads to better outcomes for personnel, facilities and patients.

As a preliminary study we cannot generalized our findings to the entire nation as this was only restricted to some health facilities in the South West region of Cameroon and needs a more coverage in future study to draw a clearer conclusion. In addition there is a need for a sufficient human resources for health in all cadres to improve performance through a well-structured and evaluation system that will involve, management commitment and personnel involvement hazards prevention and control as well as continuous health training on safety practices.

Competing Interests

The authors declared that they have no competing interests.

Authors' Contributions

TET conceptualized, supervised data collection and analysis, write the draft and final manuscript. CYM participated in data coding and analysis. JWC supervised and participated in the final write up of the manuscript. All authors read and approved the final version of the manuscript.

Acknowledgements

We will like to appreciate Nor Azimah Abdullah for providing his instrument as a guide to this study. We also acknowledge and appreciated the assistance of Eko Alain Eko and Chick Ofilia Afoh during data collection of this study. The study had no grants nor financial support from any source.

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