

Perspectives of Occupational Hygiene Practices Among Cleaners in General Hospitals in Port Harcourt

NeedomLelabari John¹, GeorgyOgonna Obiechina² Ph.D.

Department of Human Kinetics & Health Education, University of Port Harcourt, Nigeria

For corresponding Author: Georgy Ogonna

Abstract

Background: Hospitalcleaning is a process which intends to remove foreign material such as dust, dirt, litter, cobwebs, mould, blood, secretions, excretions and micro-organisms from a surface or an object through the use of water, detergent and mechanical action and friction to prevent and control infection.

Aim: To study investigate personal hygiene practices of general hospital cleaners in Port Harcourt.

Materials and Method: Descriptive survey research design was used for the study. The population for the study consisted of 294 cleaners. The instrument was validated by three experts in the Department of Human Kinetics and Health Education. The reliability coefficient of the instrument was 0.75 was obtained. The researcher used Mean and Standard Deviation to answer the research questions while z-test was used to test the hypotheses at 0.05 level of significance.

Results: The findings from the study revealed that male and female cleaners in general Hospital practice personal hygiene and also make use of occupational safety equipment with grand mean of \bar{X} 2.74 and \bar{X} 2.73 respectfully. The result also showed that gender has no significant difference on some personal hygiene practices such as environmental sanitation methods employed by public hospital cleaners. The findings revealed that grand mean of occupational hygiene control techniques utilized by cleaners female (\bar{X} 2.78) was better than male cleaner. (\bar{X} 2.64) in general hospitals. The findings also revealed that there is no significant difference in the personal hygiene practices employed by respondents with the z-calculated value of 0.032 less than the z-critical value 1.960 and p-value of 0.974 at df of 292 at 0.05 alpha level.

Conclusion: Based on the findings the study concluded that there was significant difference on some hygiene practices such as the use of occupational safety equipment and occupational hygiene control techniques.

Key Word: Occupational Hygiene, Practices, Cleaners, General Hospitals

Date of Submission: 08-07-2020

Date of Acceptance: 23-07-2020

I. Introduction

Hospitalcleaning is a process which intends to remove foreign material such as dust, dirt, litter, cobwebs, mould, blood stained, secretions, excretions and micro-organisms from a surface or an object through the use of water, detergent and mechanical action and friction to prevent and control infection. Personal hygiene practices are very important issues with regard to hospitals as social service institutions. Hospitals are built to provide health and health-related services to people living within a defined location. Hospitals can be built, owned, administered and maintained by the Government or private individuals as well as organizations and institutions. No society can comfortably survive all the odds of ill health without hospitals. Hospitals provide health facilities that help to save and maintain human life and health. It have been found to be instrumental to societal advancement, well-being and comfort. It also compliment and amplify the effectiveness of many other parts of health system, providing continuous availability of services for acute and complex conditions^[1].

Cleaning is often delivered as part of hospital overall infection control package in response to an outbreak and the importance of cleaning as a single intervention remains controversial. Cleaners often have low occupational skills and belong to the less advantaged educational and

socioeconomic groups. The main goals of cleaning are to maintain functionality, appearance, and appropriate hygienic conditions of hospital. This mean that the work environments are neat, obstacle-free, habitable and accident-free,^[2]. Consequently, cleaners are often exposed to cold, heat, and poor ventilation, and in the case of surgery rooms, laboratories, or labour room, this may result in increased respiratory exposures. Cleaning involves both dynamic and static muscular work done with the use of various pieces of manual equipment. It is generally labour intensive and involves high cardiorespiratory and musculoskeletal loads. They are at high risk for occupational injuries in hospital like needle prick incidents due to improperly stored waste, leading to infections such as hepatitis B. Inhalation accidents due to spills or inadequate

mixtures. In this circumstance, the use of personal protective equipment (PPE) can be a life-saver^[3]. Thus hospital and their workers especially the cleaners should be able to adopt effective hygiene practices.

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases^[4]. Hygiene practices are needful and cannot be neglected as they impact on the protection of workers' health. Diagnosing and curing an occupational disease cannot stop further occurrences of long exposure to chemical agent. [5] explained that occupational hygiene is the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace, hazards which could impair the health and well-being of workers, and taking into account the possible impact on the surrounding communities and the general environment. Thus, the fundamental goal of occupational hygiene is to protect and promote the health and well-being of workers and the general environment, through preventive actions in the workplace, which include hand wash.

Hand-washing practices can be provided in a hospital setting for the improvement of the workers' hygiene. According to Ridgely^[6], workers should be taught to wash their hands properly and to use gloves to protect themselves and washing their hands thoroughly after every job cleaning each day is the best practice. According to^[7], (2019), the tools they need to fight the diseases are clean water, decent sanitation and good hygiene; however many hospitals and clinics in the country do not have access to clean water to wash hands with soap after handling certain unpleasant materials and substances. It is therefore unfortunate that many of healthcare facilities in sub-Saharan Africa are without access to clean water. This call for concern and need for possible control practice.

There are control practices that may be utilized in order to ascertain hygiene in the work setting and which hospital cleaners may utilize in such occupational hygiene control techniques to enhance their work and productivity. Adherence to safety guidelines and regulations is one of such techniques. Safety compliance involves safety guidelines and regulations, personal protective equipment (PPE), mitigation, training and design elimination. The safety compliance for workers or employees is embedded on the use of PPE. PPE is a specialized clothing or equipment worn by workers for protection against health and safety hazards^[8].

Hospital cleaners are expected to adopt personal hygiene practices for improvement of performance at work. Such hygiene practices are hoped to ensure that the cleaners are not victims of many diseases and hazards that can likely affect their health and productive abilities. It is also expected that hospital cleaners should make use of occupational safety equipment while carrying out their duties as part of personal hygiene practices, which will be of benefit to the cleaners. However, the researcher has observed that despite the practice of personal hygiene and the use of occupational safety equipment in the hospital, cleaners still fall victims of hazards that are found in hospitals. This may likely mean that hygiene practices used by these hospital cleaners have not been effective in eradication or reduction of hospital-related casualties for public hospital cleaners. The above issues constitute a gap in the existing body of knowledge, which this present study intend to fill which was to determined personal hygiene practices employed by male and female general hospital cleaners in Port Harcourt.

II. Materials and Methods

Descriptive survey research design was used for the study. Two specific objectives and two research questions guided the study. Two hypotheses were postulated and tested at 0.05 alpha level of significance. The population for the study consisted of 294 cleaners from three General hospitals in Port Harcourt and all population were used for this study. A self-structured and validated questionnaire titled; Determinants of Personal Hygiene Practice Questionnaire was used for the study. The instrument was validated by three experts in the Department of Human Kinetics and Health Education. The reliability coefficient of the instrument was 0.75 was obtained. The researcher used Mean and Standard Deviation to answer the research questions while z-test was used to test the hypotheses at 0.05 level of significance.

Ethical Approval

Ethical approval was obtained from the research ethics committees of the various hospitals that participated in this study and consent obtained from the participants.

III. Results

Table 1 Mean and standard deviation of personal hygiene practices employed by male and female public hospital cleaners in Port Harcourt

S/N	Items	Personal hygiene practices				Pooled mean	
		Male N = 118		Female N = 176		\bar{x}	Remarks
		\bar{x}	SD	\bar{x}	SD		
1	Washing hands with soap	2.92	1.20	2.99	0.85	2.96	Positive
2	Cleaning using disinfectant	3.30	0.62	3.09	0.81	3.19	Positive
3	Use of hand sanitizers	1.64	1.12	1.88	1.11	1.76	Negative

Perspectives of Occupational Hygiene Practices Among Cleaners in General Hospitals ..

4	Good housekeeping	2.89	0.89	3.10	0.83	2.99	Positive
5	Dusting	2.96	0.92	3.06	0.79	3.01	Positive
6	Regular washing of apron and foot wears with disinfectants	2.44	1.14	2.48	1.15	2.46	Negative
7	Routine cleaning methods	2.81	0.87	2.54	1.08	2.67	Positive
	Grand Mean	2.74		2.73			Positive

Table 1, showed the personal hygiene practices employed by male and female general hospital cleaners in Port Harcourt from items 1, 2, 4, 5, 6 and 7 revealed positive responses respectfully while items 3 and 6 were negative. However, the grand mean revealed that male and female cleaners in general Hospital practice personal hygiene and also make use of occupational safety equipment with grand mean of \bar{X} 2.74 and \bar{X} 2.73 respectfully.

Table 4.5: Mean and standard deviation of occupational hygiene control techniques utilized by male and female public hospital cleaners in Port Harcourt

S/N	Items	Occupational hygiene control techniques					
		Male N = 118		Female N = 176		Pooled mean	
		\bar{x}	SD	\bar{x}	SD	\bar{x}	Remarks
1	Utilizing adequate hazard control interventions	2.84	0.63	3.06	0.24	2.84	Positive
2	Adhering to controlled-exposure of the risk-agents	2.05	1.27	2.41	1.32	2.05	Negative
3	Deciding on appropriate protective measures	2.70	1.02	3.21	0.68	2.70	Positive
4	Enacting a proactive policy	2.49	1.01	2.24	1.11	2.49	Negative
5	Identifying related workplace accidents	2.70	1.06	2.12	1.15	2.70	Positive
6	Considering legislative regulations in use in the workplace	2.86	0.82	3.06	0.24	2.86	Positive
7	Behavior modification among hospital staff	2.83	0.90	3.39	0.68	2.83	Positive
8	Personnel education\training	2.35	1.15	2.74	1.01	2.35	Negative
	Grand Mean	2.64		2.78			Positive

Table 2, findings revealed that the respondents had positive responses in items 1, 3, 5, 6, and 7 while they had negative responses in items 2,4, and 8 respectfully. The findings also shows that grand mean of occupational hygiene control techniques utilized by female cleaners (\bar{X} 2.78) was better than male cleaner. (\bar{X} 2.64) in general hospitals.

Table 4: Z-test analysis of personal hygiene practices employed by male and female general hospital cleaners in Port Harcourt

Hospital Cleaners	N	\bar{x}	SD	df	P-value	z-cal	z-cri	Remark
Male	118	2.74	0.39	292	0.974	0.032	1.960	Ho retained
Female	176	2.73	0.39					

Table 3 result showed that gender has no significant difference on some personal hygiene practices such as environmental sanitation methods employed by public hospital cleaners. The findings also revealed that there is no significant difference in the personal hygiene practices employed by respondents with the z-calculated value of 0.032 less than the z-critical value 1.960 and p-value of 0.974 at df of 292 at 0.05 alpha level.

Table 4: Z-test analysis of occupational hygiene control techniques utilized by male and female public hospital cleaners in Port Harcourt

Hospital Cleaners	N	\bar{x}	SD	df	P-value	z-cal	z-cri	Remark
Male	118	2.64	0.96	292	0.001	6.312	1.960	Ho rejected
Female	176	2.78	0.77					

Table 4, indicated that there is significant difference in the occupational hygiene control techniques utilized by male and female hospital cleaners in Port Harcourt. With the z-calculated value of 6.312 greater than the z-critical value of 1.960 and p-value of 0.001 at df of 292 and at 0.05 level of significance, hence the null hypothesis is rejected.

IV. Discussion

Personal hygiene practices employed by male and female general hospital cleaners in Port Harcourt.

The findings in table 1 revealed that personal hygiene practices employed by male and female general hospital cleaners in Port Harcourt from items 1, 2, 4, 5, 6 and 7 revealed positive responses respectively while items 3 and 6 were negative. It is not surprising that females made up majority of the study population. This is because traditionally, in the African setting females are more involved in house-keeping, while men engage in farm work and other similar activities. However, the grand mean revealed that male and female cleaners in general hospital practice personal hygiene and also make use of occupational safety equipment with grand mean of \bar{X} 2.74 and \bar{X} 2.73 respectively. This present study is in linewith ^[9]that hospitals' work-related hygiene problems can be eliminated or reduced using a variety of exposure control methods such as design elimination, substitution, engineering controls, administrative controls, and personal protective equipment. Contrary to the study ^[10], in their study indicates that personal protective devices were either unavailable or in very short supply. Surprisingly, the respondents did not realized the importance of regular washing of apron and foot wears with disinfectants, and why they should use hand sanitizer.

The findings in table 3 result showed that gender has no significant difference on some personal hygiene practices such as environmental sanitation methods employed by public hospital cleaners. The findings also revealed that there is no significant difference in the personal hygiene practices employed by respondents with the z-calculated value of 0.032 less than the z-critical value 1.960 and p-value of 0.974 at df of 292 at 0.05 alpha level. The maintenance of good hygiene and sanitation through standard precautions which is a uniform approach developed by most countries. Edorisiagbon, ^[11]posited that the most commonly adopted preventive measures were information on risks, training paid by employer and wearing of personal protective equipment in industry, and training in services

Denton et al cited in ^[12] posited that cleaning will not completely eliminate infection-causing agents from environmental surfaces and reductions in their numbers will be transient; routine cleaning methods may not be sufficient to eliminate surface contamination. However, cleaners should focus on how to reduce the harmful effects of cleaning in other to ensure effective infection prevention and control as well as being healthier, safe, and environmentally sound. The application of disinfectants have been recommended for cleaning hospital environment and the use of hypochlorite and detergent for cleaning, dusting and cleaning.

Occupational hygiene control techniques utilized by male and female general hospital cleaners in Port Harcourt.

Table 2, findings revealed that the respondents had positive responses in items 1, 3, 5, 6, and 7 while they had negative responses in items 2, 4, and 8 respectively. The respondents did not adhere to controlled-exposure of the risk-agents. According to Bello, ^[13]opined that potentially harmful exposures from cleaning are a function of the physical characteristics of the cleaning product such as aerosols vs liquids, cleaning tasks like spraying vs. mopping, and characteristics of the built environment such as ventilation and room size.

The findings also shows that grand mean of occupational hygiene control techniques utilized by female cleaners (\bar{X} 2.78) was better than male cleaner. (\bar{X} 2.64) in general hospitals. The study geared towards advocacy of ^[14]that the practice of occupational health and safety in order to promote and maintain the highest degree of physical, mental and social well-being of workers; prevent adverse effects on health caused working conditions; protect workers from risks resulting from factors adverse to health; place and maintain workers' physical and mental needs and finally adapt work to humans. The findings also shows negative response to personnel education/training. The importance of training on the hazards associated with handling of medical waste and its disposal should be a priority. [15] in there study noted that cleaners generally have a low level of education when entering a job and they are generally offered very few training opportunities, neither on (new) cleaning techniques nor on occupational health and safety. The lack of training provided to workers in the sector may also be linked to the way cleaning work is perceived.

Table 4, indicated that there is significant difference in the occupational hygiene control techniques utilized by male and female hospital cleaners in Port Harcourt. With the z-calculated value of 6.312 greater than the z-critical value of 1.960 and p-value of 0.001 at df of 292 and at 0.05 level of significance, hence the null hypothesis is rejected. This finding agrees with the ^[16] who reported that occupational hygiene control techniques involve cleaning of surfaces and bedding, provision of safety tools and personal protective equipment (PPE), bridging supply gaps, job related pressures, complacence in adhering to mitigation measures, availing separate areas and containers to store medical waste. This study also agrees with ^[17]noted that occupational hygiene

control techniques could include necessary labeling and warning signs for alertness; regular inspection and maintenance of equipment, and critical physical plant; workers' training in new processes and equipment use in order to understand their purpose and how to implement or operate them correctly.

V. Conclusion

The findings revealed that there was significant difference on some hygiene practices such as the use of occupational safety equipment and occupational hygiene control techniques. Ministry of Health should ensure that all general hospitals cleaners adhere strictly to the use of occupational safety equipment. The use of the equipment will help in protecting them from occupational risks and hazards and thus safeguard their health. Government and policy makers should ensure adequate training and re-training of such vulnerable group of workers.

References

- [1]. World Health Organization.(2013). Bulletin of the World Health Organization91:386- 388. doi: <http://dx.doi.org/10.2471/BLT.12.112664>
- [2]. Bamidele, J O, Adebimpe, W O, Oladele, E A, Adeoye, O A (2015) Hygiene Practices Among Workers in Local Eateries of Orolu Community in South Western Nigeria 5(4):235-40. doi: 10.4103/2141-9248.16017
- [3]. Sa health.(2015) Policy guideline; Personal protective equipment (PPE) selection. Retrieved may 30, 2019 from https://www.sahealth.sa.gov.au/wps/wcm/connect/8776f5804a4632a38e90cfb0cfc4074a/guideline_personal+protective+equipment+ppe+selection_policy
- [4]. World Health Organization, (2020). Hygiene Overview; conditions and practices to maintain health and prevent the spread of diseases
- [5]. Goelzer, B. I. F. (2019). Chapter 30 - Occupational hygiene: Goals, definitions and general information. Encyclopedia of Occupational Health and Safety. Retrieved March 7, 2019 from <http://www.ilocis.org/documents/chpt30e.htm>.
- [6]. Ridgely, L.(2019). Personal protective equipment (PPE) that protects cleaning workers.2019. Retrieved may 30, 2019 from <https://www.cleanlink.com/hs/article/PPE-That-Protects-Cleaning-Workers--16893>.
- [7]. Akosile, A. (2018). Nigeria: 'Water, sanitation, good hygiene practices crucial in fight against ebola, other deadly diseases'. Retrieved May 31, 2019 from <https://allafrica.com/stories/201805240351.html>.
- [8]. Sharma, H.R, Appadurai, S., Wubshet, M., Tadess, T. (2008). Occupational Exposures And Related Health Effects Among Construction Workers. Ethiop. Journal of Health Biomedical Science, 1(1), 41-46.
- [9]. World Health Organization. (2009). Hazard prevention and control in the work environment: Airborne dust. Retrieved September 8, 2018 from http://www.who.int/occupational_health/publications/airdust/en/.
- [10]. Anozie O.B., Anozie, J. Lawani O.L, Mamah E, Ajah L.O, Mathew I. N.(2016). Knowledge of Occupational Hazards and Post Exposure Prophylaxis by Hospital Cleaners to HIV and Other Blood Borne Pathogens: Findings from Ten Hospitals in Abakaliki, Nigeria. American Journal of Clinical Medicine and Research Vol. 4, No. 2, 2016, pp 29-33. doi: 10.12691
- [11]. Edorisiagbon, J. (2015). Occupational safety management framework for healthcare and social assistance service providers. Unpublished Master Thesis, Helsinki Metropolitan University of Applied Sciences. Retrieved September 8, 2018 from https://www.theseus.fi/bitstream/handle/10024/93719/edorisiagbon_jam%20df%3Fsequence%3D4&isAllowed=y.
- [12]. Pellowe, C. M. (2007). Standard principles: hospital environmental hygiene and hand hygiene. Retrieved March 3, 2019 from <https://www.nursingtimes.net/clinical-archive/infection-control/standard-principles-hospital-environmental-hygiene-and-hand-hygiene/291499.article>.
- [13]. Bello, A. (2008). Assessment of Exposures to Cleaning Product Ingredients Used for Common Cleaning Tasks. Doctoral dissertation. Department of Work Environment. University of Massachusetts Lowell.
- [14]. International Labour Organization.(2018). Introduction to occupational health and safety. Your health and safety at work
- [15]. Woods, V., Buckle, P., (2006) Musculoskeletal ill health amongst cleaners and recommendations for work organizational change, International Journal of Industrial Ergonomics, Vol. 36(1), pp. 61-72.
- [16]. Ndejjo, R., Musinguzi, G., Yu, X., Buregyeya, E., Musoke, D., Wang, J. S., Halage, A. A., Whalen, C., Bazeyo, W., Williams, P. and Ssempebwa, J.(2015) Occupational health hazards among healthcare workers in Kampala, Uganda .Journal of Environmental and Public Health.. Retrieved September 8, 2018 from <https://www.hindawi.com/journals/jep/2015/913741/>
- [17]. Gorman, T., Dropkin, J., Kamen, J., Nimbalkar, S. (Eds) (2013). A General information for controlling exposures. Controlling hazards to hospital workers: A reference guide, Vol. 23. Baywood Publishing Co., Inc. Retrieved September 8, 2018 from <http://dx.doi.org/10.2190/NS.23.Suppl>.

Georgy Ogonna, et. al. "Perspectives of Occupational Hygiene Practices Among Cleaners in General Hospitals in Port Harcourt." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(7), 2020, pp. 14-18.