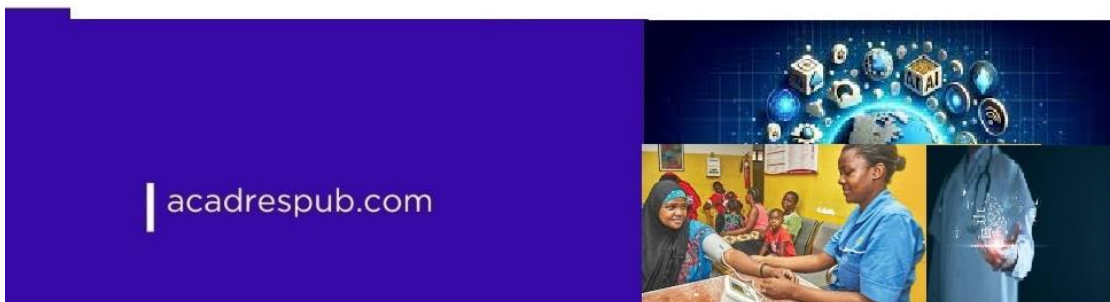




OMANARP INTERNATIONAL JOURNAL OF HEALTH SCIENCES



Vol. 2, Issue II, Pp. 66-73, Sept., 2025

IMPACTS OF MOTIVATION OF PUBLIC HEALTH WORKERS ON HEALTHCARE WASTE MANAGEMENT PRACTICE IN GENERAL HOSPITALS OF KATSINA STATE, NIGERIA

Saba, Mohammed¹; Omolade, Akinmade Olatunde;²
&
Badaki, Olusegun Lasisi³

^{1&3}Department of Human Kinetics and Health Education, Federal University Dutsin-Ma, Katsina State, Nigeria.

² Department of Human Kinetics and Health Education, Lagos State University of Education, Ojo/Ijanikin, Lagos

Contact: msaba@fudutsinma.edu.ng ¹omoladeao@lasued.edu.ng ² obadaki@fudutsinma.edu.ng ³,

Tel. 08160050544

ABSTRACT

ARTICLE INFO

Received Date: 30th August, 2025

Date Revised Received: 1st Sept;2025

Accepted Date: 15th Sept;2025

Published Date: 17th Sept;2025

Citation: Saba, M. et al (2025) Impacts of Motivation of Public Health Workers on Healthcare Waste Management Practice in General Hospitals of Katsina State, Nig: OMANAP INT.J.HEALTH; Vol.2, Issues II Pp.66-73, Sept,2025.

Community health nurses (CHNs) in Nigeria are essential frontline healthcare providers, particularly in rural and underserved areas. This research determined the impact of motivation of healthcare workers on healthcare waste management practice in Katsina State general hospitals. Motivation of healthcare workers is one of the global challenges in healthcare. The research used a cross-sectional survey design. The population comprised the public healthcare workers at general hospitals in Katsina State. The General hospitals were stratified into existing senatorial zones. Purposive sampling method was used to select two general hospitals in each of the zones. Twenty percent of the respondents were selected in each of the hospitals. Researcher's designed questionnaire was used and subjected to pilot test using Cronbach's Alpha with internal consistencies of 0.719. Data collected were analyzed using descriptive statistics to describe the research question raised for this study. T-test independent sample was used to compare the opinions of male and female public healthcare staff. The hypothesis was tested at 0.05 level of significance. The result indicated rejection of hypothesis which means the views of both male and female public healthcare workers on motivation variables were not significant. The study concluded that, the motivation both male and female personnel does not differ from each other's on healthcare waste management practice.

Keywords: Motivation, Public health, Workers, Healthcare, Waste management, contamination

Introduction

Healthcare wastes are unique class of wastes that are created in small amounts and have a significant risk of contamination and harm. Public health professionals that handle situations inadequately or improperly run the risk of causing infections, hazardous effects, injuries, and environmental, air, and water pollution, among other major public health implications. Healthcare wastes are a unique class of wastes that are created in small amounts and have a significant risk of contamination and harm. Public health professionals that handle situations inadequately or improperly run the risk of causing infections, hazardous effects, injuries, and environmental, air, and water pollution, among other major public health implications (Sapkota, Gupta, & Mainali, 2015; WHO 2021). Shahida, Saira, Lubna, and Kehkashan, (2005) revealed that hospital waste came into limelight in 1983 when the World Health Organization, European Office convened working group at Bergen. At the conference, some professionals such as; Medical specialists, hospital engineers and administrators from 19 countries of the World participated; and concluded that healthcare waste required a system approach involving: the Awareness, Segregation, and Source of reduction of radioactive waste. EPA (2017) defined Healthcare waste as a subset of waste produced in health facilities, such as hospitals and research and development centres. Healthcare waste are wastes contaminated by blood, body fluids or other potentially infectious materials and is often referred to as regulated medical waste.

Globally, WHO (2021) reported that, developed countries generates one to five kg/bed/day, while in developing countries, shows some meagre data on waste generated, but available data indicated lower figures of between one to two kg/patient/day. The report also shows 85% of healthcare waste to be non-hazardous, 10% infectious waste; while and 5% non-infectious but hazardous (chemical, pharmaceutical and radioactive). Nwankwo (2018) contended that the quantity of waste produced in hospital depends on the level of national income and the type of facility concerned. In Kenya, about 0.5% kg of healthcare waste was generated for every person admitted in a hospital (Muthoni, Nyerere, & Nguji 2016).

Muthoni, Nyerere and Nguji (2016) stated that, healthcare waste generation, collection, transportation, storage, treatment, and disposal have recently become a serious concern for public health workers due to the devastating impact on the environment and the people. The main sources of healthcare waste according to Muthoni et al (2016) are the health facilities, laboratories, pharmaceutical stores/units, mortuary and autopsy centers, animal research and laboratories, blood banks and collection centers,

accident emergency units, delivery units, and nursing homes. Healthcare facilities generate wastes by-products of which can be classified into infectious and non-infectious wastes (Kitsios, & Kamariotou 2012). Infectious wastes contain pathogens in quantitative proportion that could transmit infectious diseases on exposure to the pathogen.

Healthcare waste management practice is the process of managing the trash generated by hospitals while implementing measures to prevent the spread of infection. There is a dearth of knowledge on healthcare waste management in developing nations, including Nigeria, in the areas of collection, segregation, storage, transportation, and disposal (Wachukwu, & Leanva, 2014). Management of healthcare waste has been a major challenge in recent times for public healthcare workers, engineers, planners and hospital management. Large quantity of solid wastes generated are needed to be collected, transported, treated and finally disposed - of (Alagoz, & Kocasoy 2007: Abah, & Ohimain, 2010). Unfortunately, in many developing countries, Nigeria inclusive, the system for managing healthcare wastes were inefficient and cannot cope with the large volumes of waste being generated.

In developed nations, it may become more evident to see public healthcare workers attending classes and/or short courses on how to properly dispose-of healthcare waste as a way of equipping them with the knowledge, and skills necessary to protect themselves, other healthcare workers, patients/clients, and the community at large from health risks behaviours. During their formal education in developed countries, seminars, professional conferences, and on-the-job training; the healthcare professionals receive formal instructions in healthcare waste prevention, control and management. It is unclear in some developing countries whether public healthcare workers are trained on healthcare waste prevention, control and management strategies that could motivate them positively to be committed to their work (Millanzi, Herman, & Mtangi 2023).

Motivation in the waste management practices refers to inducement that enhances the productivity of an employee. Motivation can be positively or negatively and its absence hinders productivity. Positive motivation among the hospital environment induces the public health worker's productivity. Similarly, negative motivation marred the productivity in an organization to dispose hospital waste effectively and reduce the hazards cause to the hospital community and the public in general (Amadi, 2009). In Nigeria, the handling and the management of waste is being compounded by blind approaches towards solving the bottle necks associated with it. A visit to our hospitals revealed immense problems facing our hospitals due to poor waste management practices. And

if something is not done right and fast, Nigeria will soon become a nation of one man, one refuse dump (Etim, Academe, Emenike, & Omole, 2021).

In some General Hospitals in Katsina State of Nigeria, healthcare wastes are indiscriminately managed and often mixed with municipal waste, thus causing serious health and environmental challenges, particularly to the public health workers operating at dump sites. However, inadequate essential protective materials seem to lower the morale of public healthcare workers in which the resultant effects shows that waste generated are not collected, transported, treated and disposed regularly. The motivational impact of the inhuman conditions experienced by the public health workers in charge of collection and disposal of waste in the hospitals could be vividly observed in some General Hospitals in Katsina State. Thus, these observations prompted the researchers to assess the impact of motivation of public health workers on healthcare waste management practices in General Hospitals of Katsina State, Nigeria.

The objective of this study determined how healthcare waste management practice affect public health workers' motivation in Katsina State General Hospitals.

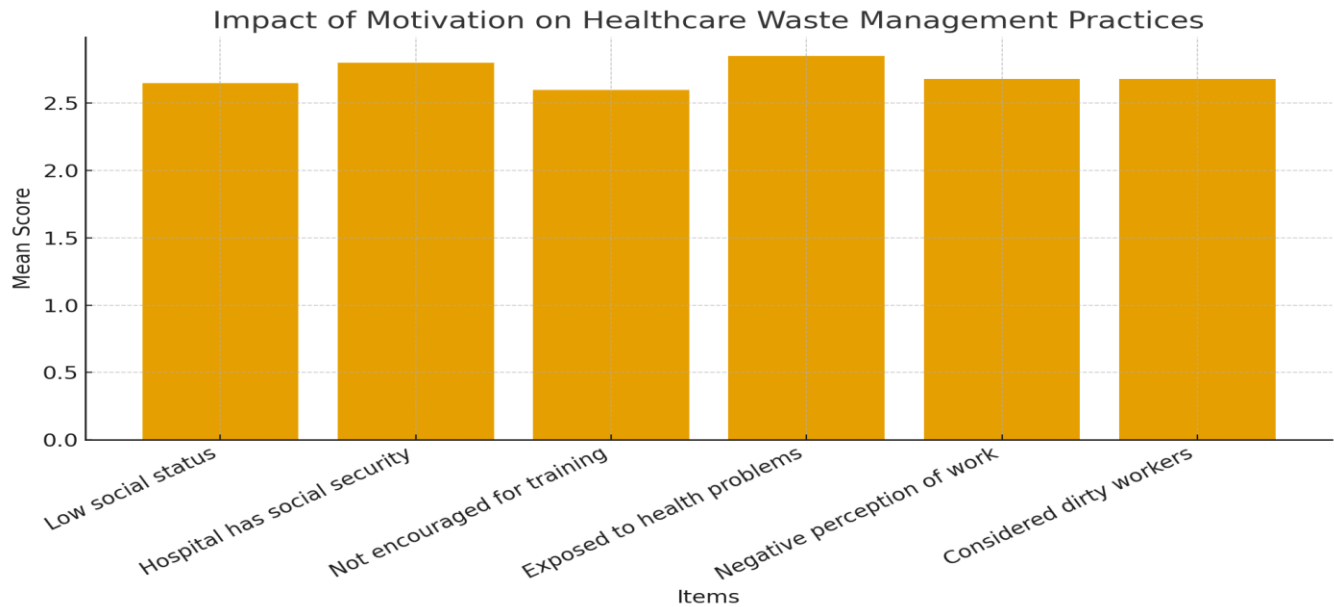
The research question for this work, stated to find out the impact of healthcare waste management practice have on the gender-based motivation of public health workers in Katsina State's general hospitals. The hypothesis for this study stated that gender does not significantly affect how healthcare waste management practice affect public health personnel' motivation in Katsina State's general hospitals.

Materials and Methods

The population for the study comprised of all public health workers who are working with General Hospitals in Katsina State of Nigeria. These categories of healthcare workers involved in waste management practice were used for this study. The design for this study was cross- sectional survey, in which the researcher studied the dependent variables and then examine the data in order to establish its relationships

(Cohenet al., 2007). The General hospitals were stratified into the three existing senatorial zones in Katsina State. The zones are; Funtua zone, Katsina zone and Daura zone. Purposive sampling method was used to select two General Hospitals in each of the three senatorial zones of Katsina State. The General Hospitals purposively selected were; Funtua Zone (Malumfashi General Hospital with 302 Healthcare workers and Funtua General Hospital with 310, Katsina Zone (Dutsin-Ma had 270 and Jibia General Hospitals with 315 healthcare workers and Daura Zone (Daura General Hospital have 269 healthcare workers and Baure General Hospitals with 183 workers). About 20% of the population were selected for this project in each of the hospitals chosen for this study. Thus, in Funtua General Hospital, samples of 62 was chosen using simple random sampling of fish-bow methods. Same method was used to select 60 respondents in Malumfashi General Hospital, 54 at Dutsinma General Hospital, 63 at Jibia General Hospital, 54 at Daura General Hospital and 37 respondents at Baure General Hospital respectively. Researcher's designed questionnaire was used for this study which was subjected to pilot test using Cronbach's Alpha with internal consistencies of 0.719. In this study, 330 copies of questionnaire were distributed to the respondents by the researcher and two research assistants recruited in each General hospitals for the study. The research question posed by this study was described using mean and standard deviation, and the respondents' motivation variables were analyzed using t-test independence. The hypothesis was tested at margin error of 0.05 level of significance.

Ethical considerations: The approval of ethical consideration was gotten from Katsina State Health Research Ethical Review Committee with reference number: MOH/ADM/SUB/1152/1/759 (Katsina State Ministry of Health, 2023). Likewise, letter of approval to administer the instrument in each of the General Hospitals was issued by the Katsina State Hospital Service Management Board. Consent letter was given to each respondent after an adequate explanation of the objective of the study to them. Confidentiality was assured and participation in the study was made voluntary.



Results

Table I: Impact of motivation on healthcare waste management practices on health workers

Items	N	Mean	SD
My social status in the community is generally low compare to other health workers as a sanitary health worker	330	2.65	0.981
My hospital has a social security for public health workers that provides social insurance program.	330	2.80	0.985
Public health workers in my hospital were not encourage to go for training, seminars and workshops	330	2.60	1.021
I am expose to certain health problems by virtue of my occupation to lack of protective materials	330	2.85	0.947
My negative perception of my work makes me not to have respect for the profession.	330	2.68	1.033
The public healthcare workers in my hospital are being considered as dirty workers by the public.	330	2.68	1.099

Table I revealed the mean scores of the respondents to be above 2.50 mean benchmark of decision making. This means all the respondents were in agreement with the items in subsequent Table. It therefore shows that the public health workers were not adequately motivated which had serious impact their work.

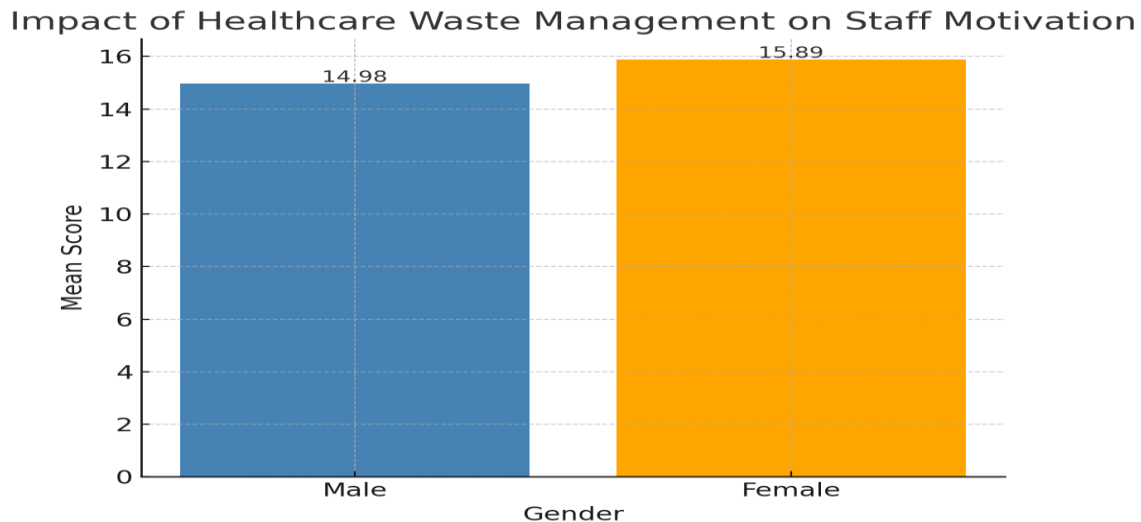


Table II: Summary of t-test analysis of impact of healthcare waste management on staff motivation

Group	No	Mean	Standard Deviation	df	t-cal	Sig. Level	decision
Male	206	14.9757	3.61088	328	-2.269	0.024	Not Significant
Female	124	15.8871	3.40064				
Total	330						

Table II revealed that the t-value computed was -2.269 and the p-value was 0.024 that was observed in this study. The investigation additionally demonstrates that the p-value exceeds the 0.05 alpha value. Thus, it is implying that the hypothesis that states that healthcare waste management techniques have no appreciable effect on the motivation of public health personnel in Katsina State general hospitals according to gender was accepted. This finding shows that the view of respondents' male and female on the impact of healthcare waste management practices on motivation does not differ.

Discussion of Findings

The study showed that there is no significant difference between the motivation of male and the female respondents on healthcare waste management practice in Katsina State's general hospitals. The hypothesis was not significant because the opinion of both male and female public healthcare workers on motivation in their waste management practice does not differ from each other on the variable considered for this study. Ezeudu, Ezeudu, Uzochukwu, Tenebe, Ajogu, Nwadi, and Ajaero (2022) corroborated that healthcare waste management practice requires adequate training, and education of the healthcare professionals and other stakeholders. Data on healthcare waste management on awareness and training among the waste handlers and healthcare personnel at the national level is not available in Nigeria. Nonetheless, a considerable amount of case studies document shows lack of knowledge and awareness in primary, secondary, and tertiary hospitals across the Nigeria; as a result, health professionals' morale is affected as they manage the waste. The study agreed with WHO (2020) that there are gaps in sub-Saharan Africa's

Health Care Waste management (HCWM) practices, necessitating hospital staff to have a thorough awareness of these policies given the unique risks connected with hospital waste. But in order to implement HCWM effectively, Health Workers must receive the necessary training and be made aware of the hazards involved. Mandaa, Silumbwea, Kombea and Hangoma (2023) posit that co-worker recognition and supportive relationships were important factors in motivating and retaining public healthcare workers. This indicated that public healthcare workers were shown to mitigate stressful tasks leading to a more positive work environment. Good co-worker relationships and recognition enable task-sharing and team building which motivates healthcare staff and increases their job. WHO (2010) agreed with this study that an employee's motivation in the workplace can be described as their level of willingness to put forth and sustain efforts toward achieving organizational goal. Motivation entails job satisfaction, which retains workers at their jobs over time. Amadi, (2009) asserted that motivation of waste management practices talks about inducement that enhances the productivity of an employee.

Motivation can be positively or negatively and its absence hinders productivity. Positive motivation among the hospital environment induces the healthcare worker's productivity. Similarly, negative motivation marred the productivity in an organization to dispose hospital waste effectively and reduce the hazards caused to the hospital community and the public in general. Likewise, Rajnnarayan, (2008) affirmed that the condition of working and living for environmental health workers is so appalling in general that voluntary group assist them with emergency aid and the development of organizational skills to press for land right. Manda, Silumbwea, Kombea and Hangoma (2023) concurred that the social status of public health workers, most especially the environmental health workers in areas of income-earning was not adequate, but cleaners are usually inhibited by social barriers. Environmental health workers such as environmental health technician, assistants and technology were usually subjected to other forms of discriminations, such as the cultural values of impurity and defilement associated with wastes which are deep-seated and cannot readily be changed. The continued association of particular socio-ethnic groups with dirty work severely restricts the ability of the environmental health workers to improve their status, to take alternative work, and even to advance their children through education. The environmental health workers' perception is very low in the social order and are ashamed of themselves and see their work as valueless by the society. These acts do affect their motivation to perfectly concentrate and committed to waste management practice. While Ahmed, Terry and Mentore, (2018) revealed that Cleaners who have responsibility of removing generated healthcare wastes from the wards will also need to know and be trained in waste segregation that would empower and motivate them to do the work diligently.

Conflict of Interests: The Authors declare that they have no conflict of interests. This manuscript is an original work by us which are unpublished anywhere else and we have obtained necessary permission to carry out the study.

Conclusion

The study concluded that, the motivation of both the male and female public healthcare workers were not significant. Their opinions on motivation does not differ from each other's on healthcare waste management practice.

Recommendation

There is the need for the Katsina State Ministry of Health to adequately motivate the public healthcare workers by providing sufficient working materials, protective gloves, training and given necessary incentives to encourage them.

References

- Abah, S.O. & Ohimain, E.I. (2010). "Assessment of Dumpsite Rehabilitation potential using the integrated risk-based approach. A Case study of Eneka, Nigeria.' *World Applied Science Journal*. 8(4):436-442.
- Ahmed, A.H., Terry, T. & Mentore, V. (2018). Healthcare Waste Management: A Case Study from Sudan. Faculty of Arts, Science and Technology, University of Northampton, NorthamptonNN27JD,UK;aa801181@gmail.com.
- Alagoz, B.A.Z. & Kocasoy, G. (2007). Treatment and Disposal alternatives for healthcare wastes in developing countries- A case study in Istanbul, Turkey, *Waste Manag. Res.*, 25:83-89.
- Amadi, A.N. (2009) *Modern Environmental Sanitation* : Owerri, Ugooma Printing and Publishing Company, Nigeria.
- Cohen, L., Manion, L. & Morrison, K. (2007). *Research Methods in Education* (6th ed). London and New York, NY: Routledge Falmer.
- Environmental Protection Agency (EPA) (2017). <https://www.onsitewaste.com/medicacal-waste-101>. Retrieved on 13 June.
- Etim, M.A.; Academe, S.; Emenike, P.; & Omole, D. (2021). Applications of multi-criteria decision approach in the assessment of medical waste management systems in Nigeria. *Sustainability* 13: 10914. [CrossRef]
- Ezeudu, O.B Ezeudu, T.S Uzochukwu C.U, Tenebe, I.T, Ajogu A. P, Nwadi U.V & Ajaero C.C.(2022). Healthcare Waste Management in Nigeria: A Review. *Recycling. ResearchGate*. 7(6):87.
- Kitsios, F. & Kamariotou, M. (2021). Job satisfaction behind motivation: An empirical study in public health workers. *Heliyon*, 7(4), e06857. <https://doi.org/10.1016/j.heliyon.2021.e06857>
- Manda K., Silumbwea A., Kombea M.M & Hangoma, P. (2023). Motivation and retention of primary healthcare workers in rural health facilities: An exploratory qualitative study of Chipata and Chadiza Districts, Zambia. *Global Public Health*. 18(1):9-10
- Millanzi W. C, Herman P.Z, & Mtangi, S. A. (2023). Knowledge, attitude, and perceived practice of sanitary workers on healthcare waste management: A descriptive cross-sectional study in Dodoma region, Tanzania. *Sage Journal*.
- Muthoni, M.S., Nyerere, A. K., & Nguji, C.W. (2016). Assessment of Level of Knowledge in Medical Waste Management in Selected Hospitals in Kenya. Department of Agriculture. Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya.
- Rajnnarayan, R.T. (2008). Occupational health hazards in sewage and sanitarily workers. *Indian Journal*

- of *Occupational and Environmental Medicine*. December. 12(3):112-115.
- Sapkota, B., Gupta, G.K., & Mainali, D. (2015), Impact of intervention on healthcare waste management practices in a tertiary care governmental hospital of Nepal. 2014. <https://dot.org/10.1186/1471-2458-14-1005>.retrieved on 25th October.
- Shahida, R, Saira I. Lubna A. B, & Kehkashan, M. (2005). Hospital waste management in the teaching hospitals of Karachi. pub med, J Pak Med Assoc 2005 May;55(5):192-5.
- Wachukwu, K.C. & Leanva, E.U. (2014). Health Impact Assessment of Solid Waste disposal workers in Port Harcourt, Nigeria. <http://www.scialert.net/abstract/?doi=jas.2007.3562.3566>. 2007. Accessed on 24 May.
- World Health Organisation, WHO (2020). Health-care Waste. <https://www.who.int/news-room/factsheets/detail/health-care-waste>, retrieved 05-07-2020.
- World Health Organisation, (2021). Healthcare Waste Management.to reduce the Burden of disease, healthcare waste Needs, sound management, including alternatives to incineration. Factsheet No.281.
- World Health Organization, (2010). "Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations."
- wankwo, C. (2018). Knowledge and practice of waste management among hospital cleaners. *Occup. Med.* 68, 360–363. [Google Scholar] [CrossRef][Green Version]