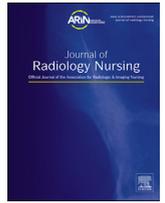




Contents lists available at ScienceDirect

Journal of Radiology Nursing

journal homepage: www.sciencedirect.com/journal/journal-of-radiology-nursing

Workplace Abuse: A Survey of Radiographers in Public Hospitals in Tshwane, South Africa



Khethiwe M. Sethole, MRad (Diagnostic) ^{*},
Simone van Deventer, BRad Hons (Diagnostic),
Edgar Chikontwe, BRad Hons (Diagnostic)

Department of Radiography, University of Pretoria, Gauteng Province, South Africa

A B S T R A C T

Keywords:
Radiographers
Public hospitals
Workplace abuse

The scope of practice of a radiographer involves interactions with patients and hospital personnel before and after medical imaging services. It has been observed that radiographers experienced loss of enthusiasm and involvement toward their work leading to absenteeism, poor morale, and stress. The aim of this study is to determine the prevalence of work-related abuse against radiographers in public hospitals in Tshwane, South Africa (SA). A quantitative method, nonexperimental cross-sectional design, was used, and data collection tools were questionnaires that were hand-delivered to the participants. The collected data were analyzed using descriptive statistics. Results are presented in figures. In a population of 65 radiographers, only 57% ($n = 37$) participated in the study. Results are for participants who were involved in one or more form of abuse. Three forms of abuse were investigated, verbal abuse at 73%, emotional abuse at 46%, and physical abuse at 27%. The perpetrators of physical abuse (14%) were hospital patients, whereas coworkers were the main perpetrators of verbal abuse (12%) and emotional abuse (10%) was perpetrated by coworkers. In conclusion, workplace abuse of a radiographer is prevalent, in the x-ray departments of tertiary public hospitals in Tshwane, SA. Verbal abuse was ranked the highest form of abuse, followed after by emotional and physical abuse. Perpetrators of physical abuse were hospital patients, while coworkers were the main perpetrators of verbal and emotional abuse. The study will benefit the health care institutions and the general profession of radiography; it provided empirical evidence on the prevalence of abusive incidences and the perpetrators thereof. Findings were presented to raise awareness of work place abuse of radiographers and may be used to formulate protocols regarding management of such problems.

© 2019 Association for Radiologic & Imaging Nursing. Published by Elsevier Inc. All rights reserved.

Introduction

The duties and responsibilities of a radiographer involves constant and continuous interactions with the patient, general public, as well as other health care professionals such as nurses and doctors, before, during, and after offering medical imaging services. It has been reported that professional medical staff serving the public is likely to be exposed to workplace abuse (WPA) (Ng et al., 2009).

The phenomenon of WPA in a health care setup is attributed to several environmental factors which includes overcrowding in hospitals, inadequate staff, and infrastructure (Abbas & Selim, 2011; Ng et al., 2009; Tung et al., 2015). This consequently led to increased patient waiting times, which resulted in the doubling of anxiety levels in both the patients and their companions. Studies conducted on radiographers in Hong Kong (Ng et al., 2009) and in Taiwan (Tung et al., 2015) showed that in addition to long waiting times and understaffing, communication problems added factors which triggered WPA. Defects in the work design, poor work organization, and insufficient security measures were listed as potential factors contributing to WPA in other research settings (Abbas & Selim, 2011).

The prevalence of WPA recently increased significantly in the health care environment than in other industries, and therefore, the health care settings are becoming a risky work environment (Ferri

There is no conflicting interest.

No funding was provided for this study.

^{*} Corresponding author: Khethiwe M. Sethole, University of Pretoria, Room 4-37, Level 4, HW Snyman Building, North University of Pretoria, Private Bag X20, Gauteng Province, South Africa. Tel: 012 356 3239.

E-mail address: margaret.sethole@up.ac.za (K.M. Sethole).

<https://doi.org/10.1016/j.jradnu.2019.09.005>

1546-0843/\$36.00/© 2019 Association for Radiologic & Imaging Nursing. Published by Elsevier Inc. All rights reserved.

et al., 2016; Ng et al., 2009; Tung et al., 2015). A study carried out in Spain on prevalence aggression against health care workers (HCW) revealed that there were higher incidences of abuse occurring in bigger hospitals and hospitals with a high patient workflow (Gascon et al., 2013). In Italy, the prevalence of WPA against radiographers demonstrated significant evidence of physical abuse against young radiographers, in the public health care facilities while nonphysical abuse was found to be common in both the private and the public health sectors (Ferri et al., 2016). In Egypt, the prevalence of WPA on radiographers showed a stepwise increase in the scourge and also posed a huge risk (Abbas & Selim, 2011).

Regarding the perpetrators of WPA, patients and their relatives were the most common perpetrators for verbal and physical abuse in the health care facilities (Ferri et al., 2016; Gascon et al., 2013). Most of the incidences were occurring in the emergency department (Ng et al., 2009). In Ghana, Boafo et al., 2016 reported that verbal abuse to nurses was due to lack of attendance and long waiting times of patients and their relatives coupled with service dissatisfaction (Boafo et al., 2016).

In Hong Kong (Ng et al., 2009), radiographers suffered abuse by coworkers; the highest incidence was by nurses, followed by physicians and by other radiographers. With regard to gender, the perpetrators of WPA were male patients or their companions (Munyewende et al., 2014). Workplace violence is a serious problem in the health care services worldwide.

In South Africa (SA), workplace violence in the health care industry was experienced in different forms. Verbal abuse and threats of physical assault were reported within health facilities; emergency departments and psychiatric settings constituted areas with more incidents of violence (Malangu, 2012). Given the lack of published data on the extent of workplace violence among radiographers in SA, the researchers observed that radiographers who are working in government hospitals experienced loss of enthusiasm and involvement toward their work leading to absenteeism, poor morale, and stress. On a daily basis, they were faced with challenges of overcrowding in hospitals, lack of staff members, and increased working hours. They complained about incidences of verbal and nonverbal intimidating language used against them by individuals within the hospital.

The aim of this study was to determine the prevalence of WPA among radiographers and to identify the perpetrators of abuse in the x-ray department. Two tertiary government hospitals in Tshwane, SA, were identified and selected as suitable research settings for this study, because of the high number of radiographers used.

The significance of study to the health care institutions and to the profession of radiography is that it provided the empirical evidence about the prevalence of intimidation, types of abusive incidences toward radiographers, and the perpetrators thereof. Results of the study were used to raising awareness about the occurrences of WPA to radiographers and to provide data that could be used for planning appropriate interventions.

Research methods and design

The study design was quantitative, nonexperimental, and cross-sectional. The setting was in two tertiary public hospitals that provided a larger spectrum of x-ray services in Tshwane, SA. The study population of 65 included all qualified radiographers registered with the Health Professional Council of South Africa, including those doing community service. Student radiographers were excluded for this study. A sample size of 37 radiographers participated in the study. The sample size justification was attributed to the fact that some radiographers were on vacation leave and others on night shift during the time of the data collection. The sampling strategy was convenient sampling due to convenient

accessibility of the participants and their proximity to the researcher (Brink et al., 2015).

The data collection tool was the survey type questionnaire and one open-ended question. Reliability and validity was ensured in this study by developing and modifying a questionnaire adopted from the World Health Organization joint program used in previous studies and was adapted to suit this study (The World Health Report, 2006). The content validity of the data collection instrument was further approved by the biostatistician from the University of Pretoria (UP). Bias was eliminated by keeping the answer sheets of the questionnaires totally anonymous.

Data were collected using a survey type questionnaire after informed consent was obtained from the participants. All questions were answered on a nominal scale for more accurate data collection purposes. The open-ended question was for obtaining participants' reaction to the actions that were listed in the questionnaire.

Questionnaires were divided into three sections: section A focused on capturing demographic data on age and gender. In section B, participants were allowed to indicate more than one action by ticking the appropriate block, the department where the actions occurred and who the perpetrators of the actions were. Section C, an open-ended question, captured the reactions to the actions mentioned in section B. The actions were arranged into physical, verbal, and emotional abuse.

The descriptive statistics mean and median, standard deviation, and interquartile range were used to describe continuous variables such as age, and gender. Frequencies and proportions were used to test for associations between categorical variables. Tests were evaluated at 5% level of significance. All analysis was performed using STATA 14 (<https://www.stata.com>). The data were represented using relevant bar graphs.

Ethical approval was obtained from the Faculty of Health Sciences research ethics committee at the UP, with ethical reference number: 63/2018. The fundamental ethical principles were observed. The obligation to respect the autonomy of the participants is the participants freely chose to participate in the study and they could withdraw from the study at any point without any negative consequences. An informed consent was completed after the researchers have explained the aim and purpose of the study. The participants' right to privacy was applied through the anonymous completion of the questionnaire. All the information given remained confidential. The principle of nonmaleficence was put into consideration by providing counseling through Hospivision (hospivision.org.za), to any sensitive participant. The principle of justice was observed by ensuring that all the participants in the study were treated equally, fairly, and impartially.

Results

Figures 1–3 show a graphic summary of the data.

Discussion

It is well known that failure to respond to the questionnaire by the potential respondents may result in nonresponse bias, which may consequently affect the validity and reliability of the research findings. A study by Baruch & Holtom, 2008 pointed out that the response rate of between 37% and 51% or (more) is considered as an average for the questionnaire (Baruch & Holtom, 2008). A good response rate was described as being 40%; the lower response rates may result in nonresponse bias and may jeopardize any attempt to generalize findings. Of a population of 65 radiographers, a response rate of 56.92% ($n = 37$) was obtained during data collection in line with the supporting literature on studies carried out in Hong Kong (Ng et al., 2009) and in Italy (Malangu, 2012) on the prevalence of

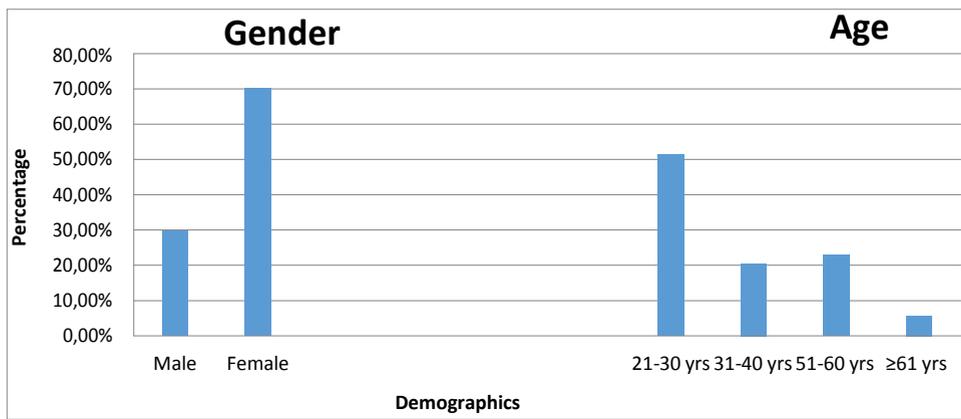


Figure 1. Column graph demonstrating gender and age demographics for the study.

WPA with a response rate of 53.34% (Ng et al., 2009) and 56% (Malangu, 2012), respectively.

Demographic data (see Figure 1) indicated that 51.43% (n = 18) radiographers were within the 21- to 30-year age group. The age range was similar to the study by Ferri et al., 2016 where 24.7% of participants fell into the age range of 25-29 years. With regard to gender, females were 70.27% (n = 26), whereas 29.73% were (n = 11) males. This indicated a predominance of females in the occupation of radiography locally, which is contrary to most of the findings in literature. According to Tung et al., 2015, the occupation of radiography in Taiwan is predominant in males (57.20%) as opposed to females (42.80%) (Tung et al., 2015). In studies involving other HCW, male participants were 60%, 51.31%, and 57.20%, respectively (Ferri et al., 2016; Ng et al., 2009; Tung et al., 2015).

The study settings were tertiary public hospitals in Tshwane, SA. Participants from the two large hospitals were n = 21 and n = 16, respectively. According to studies carried out in Spain (Gascon et al., 2013), Italy (Ferri et al., 2016), and Hong Kong (Cheung & Yip, 2017), incidences of abuse were more prevalent in larger hospitals that provided a larger spectrum of services.

Abusive Actions

Physical abuse is the intentional behavior, aiming to harm another person physically. In this study (see Figure 2), physical abuse was the least occurrence form of WPA that existed in the

study population as it stood at 12.1%. According to Ng et al., 2009, physical abuse was the third most common type of abuse (20.88%) after verbal abuse (96.70%) and emotional abuse (34.07%) among radiographers in Hong Kong (Ng et al., 2009). A study by Cheung Ton (Cheung & Yip, 2017), in Hong Kong, had similar results with physical abuse being the most common type of abuse (22.7%) after verbal abuse. The following actions were sorted under physical abuse according to the actions found in literature: kicking, slapping, pushing, beating, punching, biting, scratching, and spitting (Abbas & Selim, 2011). The results showed the most common actions of physical abuse in the workplace were kicking (27.03%) (n = 10), followed by scratching (26.62%) (n = 8). These findings were similar to the results of other studies which were carried out in Turkey, Iran, and Taiwan (Abbas & Selim, 2011; Celik et al., 2007; Shoghi et al., 2008).

In response to the open-ended question with regard to the radiographer's reactions to some of the physical abusive actions experienced, some participants commented

These (actions) have been perpetrated by confused patients, so no extensive reactions were taken except for trying to calm the patient down.

... Where patients were involved: they were confused or had pain, understood and worked around it.

The comment that some staff members had experienced a form of abuse that they did nothing about or kept silent indicated that

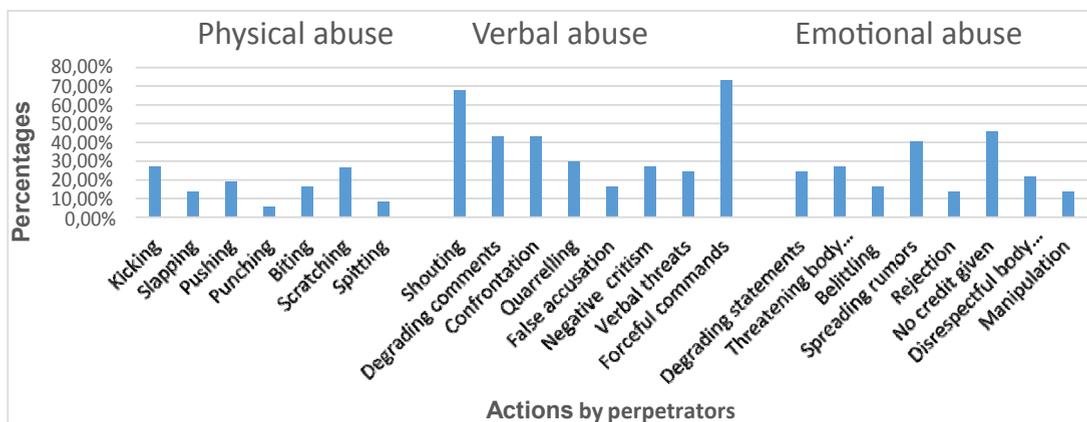


Figure 2. The abusive actions are classified into physical, verbal, and emotional abuse.

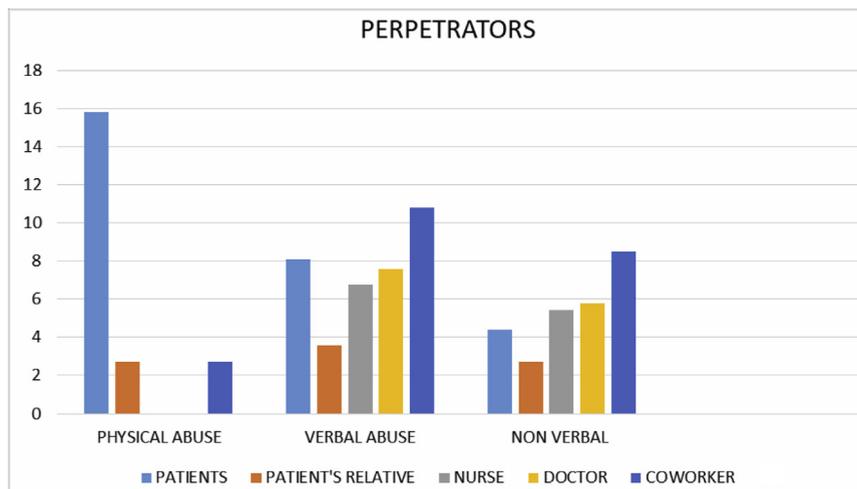


Figure 3. Perpetrators of different types of WPA. WPA, workplace abuse.

there are more incidences of abuse that remained unreported, as also evidenced in other similar studies (Abbas & Selim, 2011).

Verbal abuse is the intentional use of language that humiliates, degrades, or indicates a lack of respect for dignity and worth of an individual who creates fear, intimidation, and anger in that individual (Shoghi et al., 2008). The following actions were sorted under verbal abuse: shouting, degrading comments, confrontation, quarreling, false accusations, negative criticism, verbal threats, and forceful commands. Verbal abuse was the most common type of abuse occurring in the workplace seen to have occurred at 35.12%, with shouting (67.57%) and forceful commands (72.97%) being the most common actions in this type of abuse. The highest incidences reported on verbal abuse of radiographers was 96.70% in Hong Kong (Ng et al., 2009), then on nurses results showed 65.64% and 39.2%, respectively, in Taiwan (Tung et al., 2015) and in Hong Kong (Cheung & Yip, 2017).

Some responses from the open-ended questions included

Felt belittled and unappreciated, unimportant and useless. Feel unappreciated, degrading, and useful.

A decrease in confidence to do job.

Therefore, from such responses, it can be deduced that abuse in the workplace had a significant negative effect on the participant's self-esteem and emotional well-being and is a noteworthy finding for future studies on effects of WPA on radiographers. In line with this, Banda et al., 2016 indicated that WPA had the potential to affect the victims both psychologically and physically (Banda et al., 2016).

Emotional abuse is defined as a kind of abuse that is emotional rather than physical in nature. It can range from constant criticism to intimidation and manipulation and is also referred to as psychological stress (Cheung and Yip, 2017). The following actions were sorted under emotional abuse: degrading statements, threatening body language, belittling gestures, rumor spread, rejection, no credit given, disrespectful body language, and manipulations. With regard to abuse that was psychological in nature, this study revealed the existence of this form of WPA against the radiographer at the rate of 25.33%, was at least lower than findings of studies carried out in Turkey (Celik et al., 2007) at 55.5% and in Hong Kong at 70% (Ng et al., 2009).

With regard to participant's responses in the open-ended question of the study, one participant commented "... Gossip should not be tolerated. It is difficult to intervene when people gossip.

Best is then to seal your own lips and not get involved in the conversation".

Perpetrators of Abuse

Verbal abuse was the type with the highest occurrence in which patients and their relatives were responsible for high incidences among HCW followed by staff members and external colleagues (Ferri et al., 2016; Shoghi et al., 2008). With regard to the perpetrators of abuse (see Figure 3), the study revealed that the most common perpetrator of physical abuse were patients (15.81%), and this finding concurs with reports from many other countries such as Hong Kong and Taiwan (Ng et al., 2009; Tung et al., 2015).

With regard to verbal abuse, a noteworthy finding was made in this study that coworkers were also perpetrators (10.81%) in the workplace. Other forms of abuse perpetrated by coworkers were emotional abuse by doctors and nurses. In Hong Kong, nurses and radiographers were coworkers perpetrating verbal abuse in the workplace (Ng et al., 2009).

The most common responses to the open-ended question were that some participants felt belittled, unappreciated, and useless and found the negative comments degrading. Others reported it to their head of department, and only one case mentioned where action was taken. Other participants stayed calm and professional at all times during WPA; they emphasized that personal emotions were kept under control. Some participants experienced strong emotions such as shock, disgust, anger, and temptation to retaliate; however, there was one participant who never experienced WPA within the 5-year period indicated in the questionnaire by the researchers.

Limitations

The limitation of the study is that reports on the occurrence of WPA in the province of Gauteng, in SA, was limited to the two government hospitals of Tshwane and therefore restricting the study only to these institutions rendered it difficult to generalize the research findings.

Future studies

Recommendations made was that a further study can be performed to determine how WPA affects the radiographers, and comparison studies can also be performed to determine if private hospitals have incidences of WPA and how it compares to

government hospitals in terms of the type of abuse and the perpetrators. There might also be a need to carry out this research using a large sample size that would incorporate many more health facilities so as to evaluate the predisposing factors associated with WPA.

Conclusion

WPA of a radiographer is prevalent in the x-ray departments of tertiary public hospitals in Tshwane, SA. Verbal abuse was ranked the highest form of abuse, followed by emotional and physical abuse. Perpetrators of physical abuse were hospital patients, while coworkers were the main perpetrators of verbal and emotional abuse.

Acknowledgments

Thanks to the participants from the two tertiary hospitals. The researchers are grateful for the assistance from the biostatistician for his contribution toward formulation of the questionnaire and data analysis.

References

- Abbas, A.R., & Selim, F.S. (2011). Workplace violence: a survey of diagnostic radiographers in Ismailia Government Hospitals, Egypt. *Journal of American Science*, 7(6), 1049–1058.
- Banda, C.K., Mayers, P., & Duma, S. (2016). Violence against nurses in the southern region of Malawi. *Health SA Gesondheid*, 21(1), 415–421.
- Baruch, Y., & Holtom, C.B. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61(8), 1139–1160.
- Boafo, I.M., Hancock, P., & Gringart, E. (2016). Sources, incidence and effects of non-physical workplace violence against nurses in Ghana. *Nursing Open*, 3(2), 99–109.
- Brink, H., Van der Walt, C., & Van Rensburg, G. (2015). *Fundamentals of Research Methodology for Health Care Professionals* (3rd ed.). Cape Town: JUTA and Company.
- Celik, S.S., Celik, Y., Ağırbaş, I., & Ugurluoğlu, O. (2007). Verbal and physical abuse against nurses in Turkey. *International Nursing Review*, 54(4), 359–366.
- Cheung, T., & Yip, P.S. (2017). Workplace violence towards nurses in Hong Kong: prevalence and correlates. *BMC Public Health*, 17(1), 196.
- Ferri, P., Silvestri, M., Artoni, C., & Di Lorenzo, R. (2016). Workplace violence in different settings and among various health professionals in an Italian general hospital: a cross-sectional study. *Psychology Research and Behavior Management*, 9, 263–275.
- Gascon, S., Leiter, M.P., Andres, E., Santed, M.A., Pereira, J.P., Cunha, M.J., et al. (2013). The role of aggressions suffered by healthcare workers as predictors of burnout. *Journal of Clinical Nursing*, 22(21–22), 3120–3129.
- Malangu, N. (2012). Analysis of cases of assaults by patients on healthcare service workers in Limpopo Province of SA. *Occupational Health Southern Africa*, 18(2), 14–19.
- Munyewende, P.O., Rispel, L.C., & Chirwa, T. (2014). Positive practice environments influence job satisfaction of primary health care clinic nursing managers in two South African provinces. *Human Resources for Health*, 12, 27.
- Ng, K., Yeung, J., Cheung, I., Chung, A., & White, P. (2009). Workplace violence—a survey of diagnostic radiographers working in public hospitals in Hong Kong. *Journal of Occupational Health*, 51(4), 355–363.
- Shoghi, M., Sanjari, M., Shirazi, F., Heidari, S., Salemi, S., & Mirzabeig, I. (2008). Workplace violence and abuse against nurses in hospitals in Iran. *Asian Nursing Research*, 2(3), 184–193.
- The World Health Report 2006. Retrieved from http://www.who.int/whr/2006/06_chap1_en.pdf, (2006). Accessed April 19, 2018.
- Tung, Y., Lin, S., & Huang, T. (2015). Workplace violence involving radiographers and relevant factors in Taiwan. *Journal of Radiological Science*, 40, 81–87.