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* **Corresponding author**.

lakshmi_vijaya_venkatesh@yahoo.co.in

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Effectiveness of Teaching Programme on Knowledge Regarding Hospital Waste Management a mong House Keeping Employees

Japamani Hepsiba[1], Vijayalakshmi G[2]*

1 Tutor, Sri Devaraj Urs College of Nursing, Tamaka, Kolar, 563103, Karnataka, India
2 Principal, Sri DevarajUrs College of Nursing, Tamaka, Kolar, 563103, Karnataka, India

Abstract

Waste generated during medical procedures has a higher risk of infection when compared to other types of waste.Therefore, having a reliable and secure method of handling is very essential. Hospital waste has the potential to harm the environment and the general public's health. Hospital Waste management needs to be integrated into all healthcare services since it is crucial to preserving the health of the environment. Therefore, a study was done to find out the impact of Structured teaching programme on Housekeeping employees on hospital waste management at R.L.J. Hospital and Research Centre, Kolar, Karnataka. "A one-group, Quasi-experimental pre-test and post-test design" was used for the investigation. Eighty housekeeping employees were chosen using a simple random sampling technique with lottery method. Data was gathered using a structured knowledge questionnaire by conducting interview. Followed by that teaching programme was implemented. A post-test was carried out using the same instrument one week later. The study findings revealed that, majority (81.25%) of the housekeeping employees had inadequate knowledge, and only 17.5% of them had moderately adequate knowledge. "The pre-test mean knowledge score was 13.15 with a SD of 3.63, and the post-test mean knowledge score was 21.15 with a SD of 3.46, which was statistically significant at the 0.001 level". The study result found that a "structured teaching programme" had improved the knowledge level among housekeeping employees, which benefited them in handling healthcare-related waste safely.

Keywords: Effectiveness; Teaching Programme; Knowledge; Hospital Waste Management; Housekeeping employees

Introduction

According to the Hospital Waste Management Rules (1998), "Hospital waste" is any kind of waste items that are generated during the diagnosis, treatment, or immunization process among human begins or animals, or any research-based activities. Approximately seventy-five percent to ninety percent of hospital waste created by healthcare team members is "general" or "non-risk" wastes. The ten percent to 25 percent of the Hospital -based waste items that are left behind are dangerous and are thought to constitute a risk to human health, risk of infection and harm from waste generated during medical procedures is higher than that from any other sort of waste. [1]

Hazardous hospital waste exposure can cause illness or harm. Everyone who comes into contact with hazardous hospital waste, whether they produce it, handle it, or come into contact with it as a result of negligence management, is potentially harmful. The foremost risky health group people under health care workers are comprised of physicians, nursing staff, health-care auxiliaries, and hospital maintenance personnel. [2]

Therefore, it is imperative, to have a safe way of disposing of hospital waste because it could lead to negative effects on the general public's health and the surrounding environment. [3]

A Cross-Sectional research study was done on occupational exposures to blood and bodily fluids & the risk of blood-borne infections in rural north India. The results showed that, out of 266 healthcare workers, sixty-three per cent of Health Care Workers had at least one percutaneous injury (PI) within one year (mean score = 2.3), and the highest level of occupational exposure to blood stains was seen among the Health Care Workers. This indicates, it's crucial to have a trustworthy and safe way to handle Hospital waste because it can also have a negative impact on the environment and general health. [4]

Thus, the current research study was conducted with the objective of evaluating the effectiveness of a structured teaching programme on knowledge regarding hospital waste management among housekeeping employees at R. L. Jalappa Hospital and Research Centre, Karnataka".

Material and Methods

For the current research study, a Quasi-experimental, one-group pre-test and post-test design was adopted. The study was conducted at R. L. Jalappa Hospital and Research Centre in Kolar, Karnataka, after taking written consent from the Medical Superintendent and ethical clearance from an institutional ethics committee. The researchers developed the tool which had two sections, the first section had socio-demographic data and the second section included items on knowledge regarding hospital waste management. The tool was validated by seven subject experts. Pilot study was conducted to assess the feasibility of the study. Using simple random sampling technique, a lottery method, 80 participants who fulfilled inclusion criteria like who had greater than 1 year of working experience in the same organization and were willing to participate in the study were included. Then an informed written consent was obtained from all study participants. Using structured knowledge questionnaire by interview method, data was gathered individually from all the study participants. Followed by a structured teaching programme on hospital waste management was administered in groups to all housekeeping employees using a PowerPoint presentation and also demonstrating how to collect, handle, and dispose the hospital waste as well as how to prevent infection. To collect the data from each participant, it took a minimum of 15 minutes to a maximum of 20 minutes, and for teaching, it took 45 minutes to an hour. The data was collected from 08/01/2018 to 16/02/2018.

Results

The collected data were analysed using descriptive and inferential statistics and the results are presented as follows;

Socio-demographic variables

With regard to socio-demographic variables, majority (47.5%) of housekeeping employees were between the age group of 41–50 years, most (52.5%) of them were females, majority (57.5%) of them completed their higher primary education, 81.25% of the housekeeping employees' monthly income was Rs. 10,000/-, 76.25% of them were working in the general ward, 6.25% of them were working in the operation theater, and 17.5% of them were working in the intensive care unit. With regard to work experience, they had a minimum of 5 years (17.50%) to a maximum of 25 years (3.75%) of experience in the same organization, 2.5% of them were exposed to needle stick injuries and all of them were vaccinated against Hepatitis B.

Knowledge on Hospital waste management among housekeeping employees

The knowledge scores of housekeeping employees were categorized as adequate knowledge (who scored above 75%), moderately adequate knowledge (who scored 50 to 75%), and inadequate knowledge (who scored less than 50%). In view of pre-test knowledge score, "majority (81.25%) of housekeeping employees had inadequate knowledge" 17.50 % of them had moderately adequate knowledge" and "only 1.25% of them had adequate knowledge" as depicted in Figure 1.

With regard to the effectiveness of the structured teaching programme on knowledge among housekeeping employees regarding Hospital Waste Management (HWM). The mean pre-test knowledge score was 13.15 with the SD of 3.63, and the mean post-test knowledge score was 21.15 with a Standard

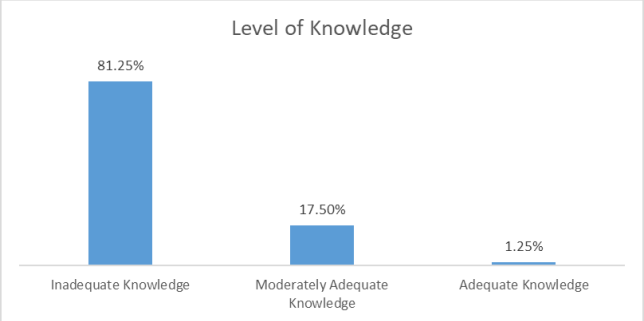

Fig 1. Distribution of the pre-test knowledge score of Housekeeping employees

Deviation of 3.46. The paired t test value was 14.25, which was higher than the table value, indicating that a structured teaching programme was effective in increasing the mean knowledge score to 8, which was statistically significant at the 0.001 level, and it is depicted in Table 1.

Effectiveness of teaching programme on knowledge score among housekeeping employees

After the teaching programme, housekeeping employees' knowledge were assessed and findings are as follows:

Table 1. Comparison of mean knowledge scores between pre and post-test (N =80)

Variables	Mean	SD	Paired t-value	P value	table Value
Pre-test	13.15	3.63	14.25	0.001 SS**	1.304
Post-test	21.15	3.46			

SS**: Statistically significant

With regard to the association of knowledge levels with the selected socio-demographic variables after the implementation of structured teaching program, it was found that there was a statistical significance at the 0.001 level between age (X2=6.30), educational status (X^2 =5.37), income (X^2 =24.69), years of experience (X^2 = 4.54), and area of experience (X^2 = 14.6), except for gender (X^2 =0.09) and exposure to occupational hazards (fisher exact test = 0.03).

Discussion

With regard to overall knowledge scores on Hospital Waste Management, majority (81.25%) of "housekeeping employees had inadequate knowledge and this was supported by the study on the knowledge and awareness regarding the Hospital waste management among the employees of a tertiary care hospital.[5]

With regard to the "effectiveness of the structured teaching program, the mean post-test knowledge score" was 21.15, which was greater than the pre-test knowledge score (13.15), and it was statistically significant at the 0.001 level. This was supported by the study on the development of waste management protocols based on the knowledge and practice of health personnel in surgical departments.[6]

With regard to the association between level of knowledge with selected socio-demographic variables, there was a statistically significant association between age, educational status, income, years of experience, and area of experience, except for gender and exposure to occupational hazards. This finding was contradicting with the study on knowledge regarding hospital waste management among hospital attendants.[7]

Implications

Based on the study findings, Researchers brought out following implications:

- Nurse administrators should see that, a policy is implemented in each healthcare setting to use personal protective equipment in collecting, handling and disposing of hospital waste management.
- Regular health awareness programs to be conducted to all health care workers on proper disposal of hospital waste, prevention of infection and injury in all units/wards/departments/ hospitals/PHCs.
- All healthcare workers need to be screened annually, vaccinated against Hepatitis B and provision to be made for post-exposure prophylaxis within the institution.

Conclusion

In the current study, the structured teaching program improved housekeeping employees' knowledge scores. In order to ensure the proper management and disposal of hospital waste, such as awareness programs must be frequently undertaken in the hospitals.

Acknowledgment

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References

1) Sharma AK. Bio-Medical Waste (Management and Handling) Rules. Bhopal, India. Suvidha Law House. 1998.
2) Safe Management of Wastes from Health Care Activities. 1st ed. Geneva. WHO. 1999.
3) Pandit NB, Mehta HK, Kartha GP, Choudhary SK. Management of bio-medical waste: Awareness and practices in a district of Gujarat. *Indian Journal of Public Health*. 2005;49(4):245–247. Available from: https://pubmed.ncbi.nlm.nih.gov/16479910/.
4) Kermode M, Jolley D, Langkham B, Thomas MS, Crofts N. Occupational exposure to blood and risk of bloodborne virus infection among health care workers in rural north Indian health care settings. *American Journal of Infection Control*. 2005;33(1):34–41. Available from: https://doi.org/10.1016/j.ajic.2004.07.015.
5) Bansal M, Mishra A, Gautam P, Changulani R, Srivastava DK, Gaur NS. Knowledge and awareness regarding biomedical waste management among employees of a tertiary care hospital. *Indian Journal of Community Health*. 2013;25(1):86–88. Available from: https://www.iapsmupuk.org/journal/index.php/IJCH/article/view/294.
6) Mostafa GMA, Shazly MM, Sherief WI. Development of a waste management protocol based on assessment of knowledge and practice of healthcare personnel in surgical departments. *Waste Management*. 2009;29(1):430–439. Available from: https://doi.org/10.1016/j.wasman.2007.12.009.
7) Visanth VS, Akham S, Sharma A, Namdev L, Kumari S, Rathor P. Descriptive Study of Knowledge Regarding Bio-Medical Waste Management among Hospital Attendants. *International Journal of Practical Nursing*. 2021;6(1):13–21.