

A Study to Evaluate the Effectiveness of Planned Teaching Programme on Knowledge Regarding Biomedical Waste Management Among B.Sc. 3rd year Nursing students of K.L.E. University Institute of Nursing Science, Belgaum, Karnataka

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Abstract

A study was conducted on 60 B.Sc. 3rd year nursing students in selected KLEU Institute of nursing sciences, Belgaum to assess the knowledge regarding biomedical waste management and objectives of the study. The objectives of the study were to assess the knowledge regarding biomedical waste management among B.Sc. 3rd year nursing students of KLEU Institute of Nursing Science, Belgaum, Karnataka. To assess the effectiveness of planned teaching programme on knowledge regarding bio-medical waste management among B.Sc. 3rd year Nursing students. To find out the association between pre-test and post-test knowledge score of B.Sc. 3rd year nursing students with selected demographic variables. Materials and Methods: Simple random sampling technique was used to select the sample for the study. Data were collected and analyzed by "structured interview schedule" and "descriptive/inferential statistics," respectively. The statistics used were based on mean, standard deviation, mean percentage, median, t-test, and Chi-square test. Result: Knowledge regarding biomedical waste management average knowledge found to be a satisfactory. The mean knowledge score was 25.32 with standard deviation 1.43 gain the knowledge.

Keywords: bio-medical waste, knowledge, management

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INTRODUCTION

Biomedical waste management has recently emerged as a major concern in hospitals and nursing home authorities. Biomedical waste generated from health care units depend on several factors like specialization of health care units, ratio of reusable item in use, availability of infrastructure and resources.

Now-a-days, biomedical waste management has become a humanitarian topic worldwide. Poor management of biomedical waste has aroused concerns across the world, particularly due to its

hazardous impact on human, health, and unit.^[1]

Now it is a, well established fact that there are many adverse and harmful effects to the environment including human beings which are caused by the hospital waste generated during the patient care.

Hospital waste is a potential health hazard to the health care workers, general public and flora/fauna. Problems related to waste disposal in hospitals and other health-care institutions have now become a serious issue.^[2]

According to WHO, the element is more important than the technology alone. Almost any system required treatment and disposal that is operated by the well trained and well-motivated staff provides more protection for staff, patient and community, that an expensive or sophisticated system that is managed by the staff who do not understand the risk and importance of their contribution.^[3]

A pre-experimental study was conducted on effectiveness of PTP on Biomedical waste management among 120 4th year B.Sc. nursing students of 3 nursing colleges in Mangalore. The pre-test questionnaire was given to asses' knowledge. The pre-test mean score was only 49.5% whereas the post-test means score was 86.6% and was highly significant. The study concluded that PTP was effective in improving the knowledge of the nursing students.^[4]

A cross-sectional study was conducted on awareness and practices about health care waste management among hospital staff in a medical college rural hospital Bangalore. A total of 383 health personnel were included in the study with their consent. The study subjects included doctor (56), interns (65), nurses (83), laboratory technicians (44), attenders (78), and housekeeping staff (57). The study period was during January–June, 2011. They were interviewed and observed for health-care waste management practices. Pre-designed and pre-tested questionnaires as well as check list were made to conduct the interviews. Training regarding the same result was also given at the end of the study. It was observed in the present study that the knowledge and practices in doctors and the nursing staff was good. Among the other study subjects the knowledge of intern, attenders and lab technician was satisfactory. There is a dying need to change this picture, by careful planning n implementation of health care waste management programme

in all the aspects as well as to create awareness about health hazards in public, patients, and hospital workers.^[5]

In 2004, a study was carried out to evaluate the knowledge of biomedical waste management among nursing personnel at GTP hospital of Delhi. Thirty samples were selected randomly and collection of data was done using a structural questionnaire. It was observed that among the staff nurses – 66.6% were aware about the generation of biomedical waste, 77.5% about the categorization and segregation, 92.22% about transport, another 66.6% were aware about treatment plus final disposal of biomedical waste, and 70% aware about the needle disposal. Nearly, 99.66% nursing personnel wanted the hospital authority to put more efforts regarding the awareness of biomedical waste management.^[6]

A study was conducted to study the awareness amongst the nurses and paramedical staff about biomedical waste management at Military hospital Khadki. Survey method was used for this study. The study was based on knowledge of staff about biomedical waste management. Staff of paramedical and housekeeping staff was selected for the study. The research instrument used for the study was a structured interview schedule. It consisted of 20 objective-type questions. Stratified sampling method was used with a sample size of 20 staff members. The study was conducted for a period of 15 days starting from 16th upto 31st, March 2009. Results of this study showed that all nursing and housekeeping staff had tremendous knowledge regarding color coding of waste carry bags and categories of hospital waste. Approximately, 80% of housekeeping staff members were aware about the routes of disease transmission. About 70% of nursing staff had knowledge while the housekeeping members had poor knowledge about the methods to be used for disinfection of non-incinerable waste.

About 80% of nursing staff and all paramedical and housekeeping staff had very poor awareness about bio-hazard symbols. Nearly, 70% of the nursing staff and only 23.5% of housekeeping staff were familiar about the specified time period within which the waste had to be treated.^[7]

A descriptive study was conducted to assess the pattern of medical waste management in 60 health care establishments in Dhaka city. The sample was collected through questionnaire survey, formal/informal interviews, and field observation. The study revealed that there is no proper or systematic medical waste management except in a few private HCE that segregate their infectious wastes. Few cleaners were found to retrieve the used sharps, saline bags, blood bags and test-tubes for resale/reuse. Lack of awareness, appropriate policy and laws, and willingness were responsible for the improper management of medical waste.^[8]

A study was conducted on knowledge, attitude, and practices of biomedical waste management amongst staff of tertiary level hospitals New Delhi in India. The KAP in rolled 156 respondents representing doctors and nurses from selected patient care areas. The tool used for collection data was questionnaire which had semi-structured format with the set of 12 items concerning the knowledge understanding and their behavior on the subjects. This was further categorized in three sets with one question each on knowledge attitude and practice. The questionnaire was given to the 7b category of the staff, consultants, residents, scientist, nurses, O.T. staff, sanitary staff, and laboratory staff and was grouped I–VII accordingly. Two hundred questions were distributed; out of which 156 (78%) were received back. Those that were received back were 13% from consultants, 16% from residents, 14%

from scientists, 13% from nurses, 14% from O.T., 14% from sanitary staff, and 16% from lab. The result of questionnaire analyzed showed that people with high education such as consultants, residents and sanitary staff have very good knowledge but relatively low % of people having the same kind of attitude and practice habits. Study has shown a definite apathy of intellectual toward operational aspect of system medical professionals have tabular vision.^[9]

A comparative study was done to assess the practices of medical waste disposal of some hospitals of Alexandria. A pre-designed questionnaire was used to collect data on medical waste generation, collection, sorting, storage, transportation and way of final disposal. The result revealed that the most common problem associated with health care wastes were that absence of waste management, lack of awareness about their health hazards, insufficient and financial and human resources for proper management and poor control of waste disposal.^[10]

MATERIALS AND METHODS

The effectiveness of planned teaching programme on knowledge regarding biomedical waste management among B.Sc. 3rd year nursing students of KLEU Institute of Nursing Science, Belgaum was conducted using a one group pretest and post-test and post-research design.

A study was conducted on 60 B.Sc. nursing students in selected KLEU Institute of Nursing Science, Belgaum, by using simple randomized sampling technique for selection of samples. The structured knowledge questionnaire schedule is used the study consists of two sections. The data collected were organized, tabulated, analyzed, and interpreted by using descriptive and inferential statistics.

RESULTS

Findings Related To the Socio-Demographic Variables of B.Sc. 3rd Year Nursing Students

In the present study, it was found that out of 60 students majority (88.33%) of the subjects belong to females, while minimum (11.66%) belongs to male. Majority of the subjects (88.33%) belongs to Christians, (10%) belongs to Hindu, and (1.60%) belongs to Muslim. Majority of the subjects (75%) are having previous knowledge as source of information, (16.66%) through internet and (8.33%) through TV.

Findings Related to the Pre-test Knowledge Score and Post-test Knowledge of B.Sc. 3rd Year Nursing Students

In pre-test majority 34 (56.66%) of subjects had an average knowledge, 12 (20%) had poor knowledge, and 14 (23.33%) had good knowledge and whereas in post-test all of subjects had good knowledge. Hence, there gain in knowledge.

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