SHORT COMMUNICATION

HOSPITAL WASTE MANAGEMENT ---- TACKLING TRASH AS A TEAM

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ABSTRACT

Clinical waste is a major source of infection amongst patients, hospital workers and the community. The Hospital Waste Management committee established in Dr. Ziauddin Hospital has active involvement of Nursing, Housekeeping and Infection Control departments. This multifaceted approach has brought about changes in the form of educational campaigns, involving training sessions and informational posters to improve awareness among hospital workers. This not only decreases the number of injuries and accidents occurring in relation to clinical waste disposal, but proper disposal of hazardous waste is beneficial for the community and the environment we live in. The first step is to target the areas which need the most attention and then to develop a tailor-made plan focusing on the major problems. Effective communication and teamwork help control the issue from all different angles and provide a pro-active approach to improve the waste management facilities of the hospital and serve the community as a whole.

INTRODUCTION

Hospitals are a hub of infection and therefore waste generated from hospitals has the potential of spreading infectious diseases with detrimental consequences for the community as well as the environment. It is the responsibility of every hospital to ensure strict policies are in place and best practices are being followed to minimize the risks stemming from poor waste disposal.

In 2009, research was conducted by a government organization in Pakistan which showed that 2 to 4 tons of waste is generated daily by various health outlets out of which 10-25% is infectious and needs careful disposal. [1] Policies were put into place by regulatory authorities but due to lack of surveillance and monitoring, health care facilities often fail to implement the rules. In a study of eight teaching hospitals of Karachi, only two were segregating different types of waste at source and only one conducted regular training sessions for its staff. [2]

METHODS

Hospital Administration of Dr. Ziauddin Hospital, Clifton formed a six member Hospital Waste Management committee in May 2014, which was made responsible for developing policies for waste segregation, collection, transportation, storage and disposal ensuring minimal risk to the hospital staff, community and the environment as a whole. The committee is chaired by the hospital's Medical Superintendent and includes representatives from the Nursing, Housekeeping and Infection Control departments.By organizing regular meetings, issues pertaining to the current situation are analyzed and matters are dealt with according to priority. Items on the agenda include provision of adequate supplies for nursing and housekeeping staff, regular training sessions for all staff in contact with clinical waste and responding to complaints and suggestions regarding existing policies.

DISCUSSION

One of the biggest hurdles of Waste Management is the level of education and awareness amongst the personnel, which include the nursing and housekeeping department. In a study from Lahore, it was seen that 71% of sweepers did not wear gloves and only 14.5% of employees had official training in waste management. [3] This lack of education is a major problem as the workers at the highest risk are often the most ignorant about how to handle infectious material. Needle stick injuries are commonly encountered and often under-reported by hospital staff. The accident rate in hospital housekeepers was 26.5% in a Brazilian study, half of which occurred during waste collection. [4]Whereas 29.1% of housekeeping staff in a Turkish University Hospital were found to have been injured while on duty and only 26.6% had been administered the hepatitis B vaccination. [5]In 2013, Kumar et al evaluated the knowledge, attitude and practices of health staff in a study in Pakistan and concluded that doctors and nurses had clearer concepts but paramedics and sanitary staff were still unaware and needed more training[6]. This trend is seen worldwide as evidence was provided by Boetlho who stated that even in the European Union the level of compliance is low and more education and training is required for health care workers. [7]

In our setting, senior nursing staff and doctors had better concepts of the risks associated with poor handling of clinical waste whereas junior staff and sweepers were unaware of the importance of proper waste disposal. It was noted that despite having a very simple policy of two color coded bags, clinical staff were unaware of waste segregation techniques. This matter was given first priority and training sessions were held by Housekeeping Manager and Infection Control Nurse to educate the remaining staff. Pictorial posters, multimedia presentations and one on one sessions were organized to emphasize the importance of disposing clinical waste in red bags and separating the non clinical waste into green bags.

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Other topics of discussion included handling sharp injuries, choosing appropriate supplies for proper waste collection and confirming proper incineration practices.

It was suggested that these guidelines should be explained to all staff at the time of hiring so that they can implement these practices straight away.

Ignorance is the main reason why housekeeping staff do not abide by hospital regulations and along with themselves, put their co-workers and the community at risk. When infected material is mixed with regular garbage, scavengers are most likely to get infected. Rauf et al surveyed the prevalence of infectious diseases amongst the garbage scavengers of Karachi and concluded that prevalence of Hepatitis B, Hepatitis C and HIV was 18.8%, 8.5% and 0.85% respectively. The study also stated that 54% of the scavengers had been pricked while collecting garbage on more than one occasion. [8]

Along with the medical benefits of proper hospital waste management, controlling the spread of infection can also be analyzed in monetary terms. The National Health Services in Cornwall, UK developed a ten year strategy to improve waste management services and forecasted that those measures could reduce disposal quantities by 20-30% by weight and 25-35% in cost of waste disposal. [9] Another education and training intervention in Spain reduced the monthly waste collection by 6.2% and achieved a saving of €125,205. [10]

Another matter related to waste management which has been the subject of much discussion is the negative impact of incinerators on the environment. The air pollution caused by burning clinical waste releases dioxins which are potential carcinogens. In a review on disposal of Clinical Waste, Hossain et al advocated the use of supercritical fluid carbon dioxide (SF-CO2) sterilization technology which is used at the source of waste collection. This method eliminates the infectious potential of the waste material which can be recycled and reused, thereby reducing costs and providing a safe environment. [11] An alternative to incineration is an autoclave integrated with a shredder which could prove to be a better option for hospitals with lesser resources, but needs more evaluation before implementation. [12]

Proper education and training of hospital workers involved in collection and disposal of hospital waste is of utmost importance in minimizing the spread of infection amongst hospital workers, community and the environment.All stake holders should play an active role in Hospital Waste Management and implementation of rules should be strictly monitored. Refresher sessions, workshops and illustrated posters are important training tools and should be used continuously to monitor and improve level of awareness. Similar strategies have been used in the past and have had considerable success. [13]

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