

Safe Disposal of Medical Waste and Infection Control in Health Facilities

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Abstract

The aim of the current study is to know how to safely dispose of medical waste by combating infection in health facilities, the importance of knowing the waste to be disposed of, and the types and colors of medical waste bags in health facilities. A questionnaire was prepared via Google and distributed to a population aged 25-55 years, men. For women, where the questionnaire was distributed via the social networking program (WhatsApp), 700 questionnaires were distributed, to which 680 responses were obtained via email.

Keywords: Safe disposal, medical waste, infection control, health facilities.

Introduction

Medical waste, is rubbish that is potentially spoiling or biodegradable (1). Medical junk may contain trash produced from a medical facility or laboratory, and garbage generated from research centers and laboratories that include biomolecules or organic organisms that are not permitted to be freed into the environment. As shown below, severe materials are considered medical waste that must be disposed of, whether they are infected or not, due to the possibility of them being spoiled with blood and give rise to wounds when damaged incorrectly and incorrectly. Medical rubbish is a kind of biological waste. Standards: A report of expectation that determined the structures and process that must be in place significantly in the organization to improve the quality of care,” (2). - Medical rubbish department is: portion of the environmental administration system. A spoiling disallowed and control (IPC) program is: a set of organized activities Designed to block and control infectious illness and contamination linked with health care in the environment Healthcare, (3). The comprehensive operations that carries out the process of: monitoring, collecting, transmitting, curing, recycling or disposing of medical rubbish. (4). Medical junk, may be rigid or runny. Examples of contagious medical waste contain infection blood, sharps, unwanted microorganisms, careless body section, other human and animal tissues, used dressing and gloves, and other medical tools that may have been insecure to immediate connect with blood or body fluids. Laboratory rubbish that exhibits one of the above-mentioned characteristics, and acute waste, contain spoiled needles, scalpels, scalpels, whether used or unused that were discarded, and other tools eligible of penetrating the skin. Medical junk is produced from medical and biological reason and activities, such as diagnosis, prohibition, and curing. The most popular places for producing such waste are hospitals, health clinics, nursing homes, medical research laboratories, veterinarian clinics, dental clinics, home health care, and funeral homes. In medical institutions, waste is called medical waste or

clinical waste. Medical junk is special from other ordinary waste or general garbage and it is also various from kinds of danger waste such as chemical waste, radioactive waste, or industrial waste. Medical institutions produce hazardous waste, both chemical and radioactive. While some of this waste is usually not infectious, it requests proper action. Some waste is considered doubly serious, such as tissue samples protected in formalin. Disposing of this junk is an environmental issue, as many medical rubbish fall under the ranking of hazardous or infectious, which may lead to many infectious diseases. A 1990 US Agency for Toxic Substances and Disease Registry report concluded that the general public was unlikely to be adversely affected by medical waste generated in traditional health care. It was found, however, that medical waste from this field may lead to injuries and exposure to risks for doctors, nurses, and all workers in health care institutions through contact with medical waste resulting from professional activity. Furthermore, there is an opportunity for the general public to be exposed to hazardous waste such as exposure to illicitly used needles outside of healthcare settings or in-home healthcare situations (5). The process of managing and disposing of medical waste must be done properly in order to protect the environment, the general public, and the world, especially health care workers and health facilities who are most at risk of medical waste as an occupational hazard. The medical waste management process includes several steps: production, collection, management, storage, treatment, transportation, and finally disposal (6). Kinds of waste :rubbish and by-products cover a diverse range of tools, as the following list illustrates: contagious waste: waste spoiled with blood and other bodily fluids (e.g., from discarded diagnostic samples), cultures and stocks of infectious agents from laboratory work (e.g., waste from autopsies and infected animals from laboratories), or junk from patients in isolation wards and equipment (e.g., swabs, bandages, and disposable medical devices); Pathological waste: human tissues, organs or fluids, body parts, and contaminated animal carcasses; severe: syringes, needles, disposable scalpels and blades, etc.; Chemicals:

for example, solvents used for laboratory preparations, disinfectants, and heavy metals contained in medical materials (e.g., mercury in broken thermometers) and batteries; Pharmaceuticals: expired, unused, and infected drugs and vaccines; Genotoxic waste: highly hazardous, mutagenic, teratogenic, or carcinogenic, such as cytotoxic drugs used in cancer treatment and their metabolites; Radioactive waste: such as products contaminated by radionuclides including radioactive diagnostic material or radiotherapeutic materials; and Nonhazardous or general trash: waste that does not pose any particular biological, chemical, radioactive, or physical hazard. High-income countries generate on average up to 0.5 kg of hazardous waste per bed per day; while low-income countries generate on average 0.2 kg. However, health-care waste is often not separated into hazardous or nonhazardous wastes in low-income countries making the real quantity of hazardous waste much higher.

Material and Methods:

The study started in (the holy city of Mecca in Saudi Arabia), began writing the research and then recording the questionnaire in June 2023, and the study ended with data collection writing and end the study in October 2023. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (Safe disposal of medical waste and infection control in health facilities) The independent variable (how to safely dispose of medical waste in health facilities in the world), and the dependent variable (how to safely dispose of medical waste in health facilities in Mecca). This kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation (7), And use the Excel 2010 Office suite pie chart to arrange the results (8). A

questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to prevent infection between participants and researchers and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire consisted of ten questions, all of which were closed. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere (9)

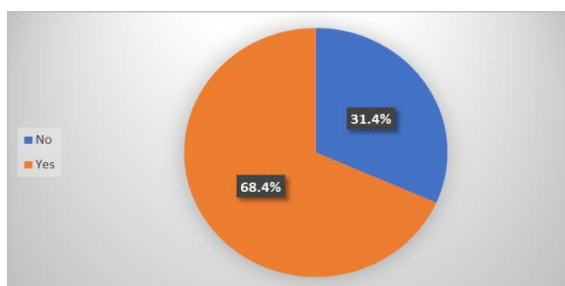
Results and discussion:

The percentage of those who agreed to participate in the research questionnaire was 100%, and their age, from 25-34 years old, was 10.5%, while the percentage of participants' ages was highest at 42.1%, while the largest percentage was from 45-55 years old, which was 47.4%, all The answers were from people who were aware of the importance of safe disposal of medical waste in combating infection in health facilities, from their point of view. As for determining their gender, the percentage of males was higher at 63.2%, while females were 36.8%. As for their nationalities, the percentage of Saudis was 94.7%, while non-Saudis were 5.3%. As for the educational status, it was as follows: illiterate (cannot read or write) 0%, primary 0%, middle school 0%, secondary school 36.8%, university 52.6%, postgraduate and doctoral studies 10.2%. As for their professions: not working 0%, government employee 100%, private sector employee 0%, retired 0%, self-employed 0%, student 0%. When moving on to their answers to the questionnaire questions, they were as follows: first question: Do you have a clear working guide on how to safely dispose of medical waste by controlling infection in health facilities? Yes 78.9% and no 21.1%. The second question: Do you have a clear, official program from the Ministry of Health on how to safely dispose of medical waste by combating infection in health facilities? Yes 68.4% and no 31.6%. The third question: Do you have

knowledge of the types and colors of infection control medical waste bags that are intended for disposal in health facilities? Yes 84.2% and no 15.8%. Question Four: Do you have complete knowledge of how to safely dispose of medical waste by controlling infection in health facilities? Yes 68.4% and No 31.6%. Question five: When dealing with medical waste through infection control, are you required to do what this requires? Yes 89.5% and no 10.5%.

Do you have the necessary tools used for safe disposal of medical waste (wearing a helmet, gloves, wearing pollution-free body gear)? Question Seven: Are all medical supplies available in the health facility when dealing with medical waste for infection control? Yes 84.2% and No 15.8%. Question Eight: Do you know the best way to dispose of medical waste by controlling infection in health facilities? Yes 68.4% and no 31.6%. Question 9: Do you have a place to store medical waste in the medical facility that meets all infection control requirements? Yes 78.9% and no 21.1%. (figure N0.1)

Figure No.1: Opinions and attitudes of participants regarding how to safely dispose of medical waste by combating infection in health facilities



Conclusion:

The method of safe disposal of medical waste in infection control in health facilities is very important, as it shows the extent to which workers adhere to a work guide from the Ministry of Health on how to safely dispose of medical waste, by more than half (68.4%) (according to the opinions and trends of citizens on how to safely dispose of medical waste in facilities). health). This study

concluded the following: More than half of the participants are familiar with how to safely dispose of medical waste. They have complete and complete knowledge of the bags and colors of medical waste due to continuous training on them, and the availability of all medical supplies on how to dispose of medical waste.(10) Ashfaq Ahmed Mir, , It was stated that medical waste must be stored in containers clearly marked with their respective categories and colors. A safety box is a vital piece of equipment for safe disposal of sharps. Finally, a sharps pit is needed for disposal. In order to guarantee Safety of people who will be responsible for collection, transportation and storage (Medical waste), they should be educated about and provided with appropriate procedures. Appropriate protective equipment, while we find that my study surpassed his in that the workers here took continuing education courses on the subject of how to dispose of medical waste and that they already have a place to store medical waste in their health facilities, so praise and gratitude be to God.

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