

**KNOWLEDGE, ATTITUDE, AND PRACTICES AMONG CLEANERS TOWARDS  
HEALTH CARE WASTE IN OMDURMAN AND BAHRY TEACHING HOSPITALS**Miada Abdelhalim<sup>1</sup>, Abd Elbasit Elawad<sup>1</sup> and Mohammed A. Elawad\*<sup>2</sup><sup>1</sup>Faculty of Public and Environmental Health, University of Khartoum, Sudan.<sup>2</sup>Health Sciences College at Al-Leith, Umm Al-Qura University, Saudi Arabia.**\*Corresponding Author: Dr. Mohammed A. Elawad**

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**ABSTRACT**

A descriptive hospital based study was conducted in Khartoum, Omdurman, and Bahry Teaching Hospitals to evaluation of knowledge, attitude, and practices among cleaners towards health care waste in Omdurman and Bahry Teaching Hospitals. A total of 200 cleaners were included (90 Males, 119 Females). Data was collected using a prepared and pretested questionnaire addressing knowledge, attitude, and practices towards health care waste. Data was analyzed using Statistical Package for Social Science (SPSS) version 20. The association between different variables was checked using chi square test at 95% confidence level. The majority of the cleaners (95.5%) knew health care waste, 90% knew types and 93% the hazards of health care waste, and less than half of the cleaners (42.5%) mentioned that the sources of health care waste were hospitals. Twenty six percent of cleaners had a positive attitude towards health care waste. About 74% of cleaners had a negative attitude towards health care waste. The majority of the cleaners (68.5%) used personal protective equipment during work, and 81% washed their hands after completing the cleaning activities. There is a need for health education programs to sustain and promote knowledge and practices of cleaners.

**KEYWORDS:** Knowledge, attitudes, practices, cleaners, waste, hospitals.**INTRODUCTION**

Hospitals are very important place because a lot of people come to, frequently.<sup>[1]</sup> They become under risk of medical waste and nosocomial infections. Medical waste has increasing public concern due to its hazard.<sup>[2]</sup> Advances in medical care and the introduction of more sophisticated instruments lead to increasing the quantity of medical waste in healthcare-settings.<sup>[3]</sup> Medical wastes include waste contaminated with blood or other body fluids, cultures and stocks of infectious agents from laboratory work, and waste from infected patients in isolation wards.<sup>[4]</sup>

Hospital hazardous wastes include various pathogenic factors which considered as important source of diseases, thus, their disposal must be managed in a way that the health of patients, personnel (doctors, paramedics, nurses and non-medical workers such as cleaners) and the visitors of hospital not be threatened.<sup>[5]</sup> Health care workers should have correct knowledge, attitude and practices regarding waste segregation which facilitate successful disposal of medical waste.<sup>[6]</sup>

**MATERIAL AND METHODS**

The study was implemented in Omdurman and Bahry Hospitals in Khartoum, the capital of Sudan. All cleaners

in these hospitals were included in the study and interviewed using pretested questionnaire to collect the relevant data such as demographic data and their knowledge, attitude, and practices towards health-care waste.

**RESULTS**

Table 1 shows that 95.5% of the cleaners knew health care waste and 4.5% did not know. About 6.5% of the cleaners said that health care waste types are cotton, gauze, blood, 2.5% of cleaners said that sharp tools and 90% of cleaners said cotton, gauze, blood, sharp tools, chemicals and pharmaceutical waste as shown in table 2. Table 3 revealed that 42.5% of the cleaners mentioned that the sources of health care wastes are: hospitals, health and therapeutic centers, medical laboratories, medical research centers, and 42.5% said hospitals. Table 4 showed that 26% of cleaners had a positive attitude towards health care wastes. About 65.5% of cleaners used PPE during work and 31.5% of cleaners not used PPE during work (table 5). Majority (81%) of cleaners washed hand after completion cleaning, 19% of cleaners not wash hand after completion cleaning.

**Table. (1): Knowledge about health care wastes among cleaners at Khartoum, Omdurman and Bahry Hospitals, Sudan.**

Knowledge	No	%
Know	191	95.5
Do not know	9	4.5
Total	200	100

**Table. (2): Types of health care wastes as mentioned by cleaners at Khartoum, Omdurman and Bahry Hospitals, Sudan.**

Type of waste	No	%
Cotton, gauze, blood	13	6.5
Sharp tools	5	2.5
Chemicals and pharmaceutical waste	2	1
All of the above	180	90
Total	200	100

**Table. (3): Sources of health care waste as mentioned by cleaners at Khartoum, Omdurman and Bahry Hospitals, Sudan.**

Source	No	%
Hospitals	85	42.5
Health and therapeutic centers	16	8
Medical laboratories	12	6
Medical research centers	2	1
All of the above are sources	85	42.5
Total	200	100

**Table. (4): Attitude towards health care wastes among cleaners at Khartoum, Omdurman and Bahry Hospitals, Sudan.**

Attitude	No	%
Positive	52	26
Negative	148	74
Total	200	200

**Table. (5): Use of personal protective equipment during work among cleaners at Khartoum, Omdurman and Bahry Hospitals, Sudan.**

Usage	No	%
Use	137	68.5
Do not use	63	31.5
Total	200	100

**Table. (6): Washing hands after completion of the cleaning process among cleaners at Khartoum, Omdurman and Bahry Hospitals, Sudan.**

Hand washing	No	%
Wash	162	81
Do not wash	38	19
Total	200	100

## DISCUSSION

Medical waste in hospital creates a potential risk for patients, visitors and workers particularly those who are being in contact with medical waste such as cleaners. The present study aimed at investigating the knowledge,

attitude and practices of cleaners regarding medical waste. According to the study, a considerable awareness was found among cleaners, however additional health education is needed. Most of cleaners knew health care waste and waste types as well as the sources of health care wastes which are hospitals, health and therapeutic centers, medical laboratories, medical research centers. Amouei et al, found in their study, among hospital personnel, a high knowledge toward hospital waste management.<sup>[5]</sup> The data obtained by Anna et al, most of cleaners had low knowledge about waste compared with doctors and other educated hospital workers in Namibia.<sup>[6]</sup> In a study carried out in White Nile State main hospitals, Sudan, the majority of nursing and sanitation staff had fair knowledge regarding healthcare waste management.<sup>[7]</sup>

In this study few cleaners had a positive attitude towards health care wastes. Amouei et al, mentioned that most of hospital personnel had high attitude toward hospital waste management.<sup>[5]</sup>

Majority of cleaners in the present study used PPE during work and washed their hands after completion cleaning which are positive practices might lead to minimize the hazard of medical waste. Ramesh et al, found that participants had statistically significantly ( $P < 0.05$ ) better knowledge, attitude and practices after training.<sup>[8]</sup>

## CONCLUSION

The study concluded that a high level of knowledge, attitudes and practices was found among healthcare waste cleaners. Nevertheless additional training and health education are needed to improve the safety and precautions as regards to medical wastes.

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