

The Reality Of Medical Waste Management In Public Hospitals of Benghazi

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Abstract

The study **aimed** to identify the reality of medical waste management in public hospitals in the city of Benghazi. **Objectives:** - Assessing the reality of medical waste management, Identify the methods of collection, sorting, transportation and handling of medical waste, Identify the awareness of health care staff. **Research methodology:** the statistical package (SPSS) was used to analysis data collected a questionnaire from 300 health care staff. **Results** The most important results shown by this study are that there were no signs of distinguishing the type of medical waste collected and the medical waste method was not controlled. also the level of awareness of health care staff in most departments in public hospitals in Benghazi is not good enough and is not very bad. **Recommendations:** 1- There should be a special management of medical waste in every hospital. 2- Workers must be educated and trained on how to properly handle medical waste. 3- Medical waste must be collected and stored in designated places.

Keywords: Medical waste, Management, Public hospitals.

الملخص العربي

سعت هذه الدراسة إلى التعرف على واقع إدارة النفايات الطبية بالمستشفيات العامة في مدينة بنغازي. **الأهداف:** تقييم واقع إدارة النفايات الطبية، ومعرفة طرق جمع وفرز ونقل ومعالجة النفايات الطبية، وأيضاً مدى وعي موظفي الرعاية الصحية بالنفايات الطبية. استخدمت الحزمة الإحصائية (SPSS) لتحليل البيانات التي جمعت من خلال استبيان من 300 من موظفي الرعاية الصحية. ومن أهم **النتائج** التي أظهرتها هذه الدراسة عدم وجود أي علامات لتمييز نوع النفايات الطبية أثناء جمعها مع عدم التحكم في طريقة النفايات الطبية وأيضاً مستوى وعي العاملين في مجال الرعاية الصحية في معظم الأقسام والتخصصات بالمستشفيات العامة في بنغازي ليس جيد بما يكفي ولا سيئاً.

الكلمات المفتاحية: النفايات الطبية، الإدارة، المستشفيات العامة.

Introduction

Environmental studies are among the topics of interest to researchers because of their importance in the life of community health and the degree of progress and health awareness and with the significant expansion of health services of all kinds, preventive, curative, diagnostic, and related. With the advancement of the level of modern technologies used in all health treatments, medical waste resulting from hospitals, health centers, clinics, pharmacies, research centers and laboratories has become the focus of great attention on how to treat and dispose of it because it may pollute the environment and affect the health of the individual and society. Care waste is considered one of the most important environmental and health problems that pose a threat to the environment and public health, because it is considered of a special

nature for the possibility of infection with infectious diseases from rapidly spreading microbes and sharp materials contaminated with patients' fluids, and therefore health care waste management is an important part of maintaining public health ⁽¹⁾

If healthcare waste is estimate:

(90_75%) general waste (similar to household waste).

(10_25%) of hazardous waste (infectious, toxic, etc)⁽²⁾

Health risks related to healthcare waste include:

1. burns caused by exposure to radiation.

2. Injuries caused by pricking sharp object

3. Poisoning and contamination by the effect of pharmaceutical preparations, especially antibiotics and cytotoxic drugs.

4. Poisoning and pollution by waste water; and with elements or compounds such as mercury or dioxins that are released during the incineration of tailings⁽³⁾.

In order to reduce the problems that medical waste may cause, it is necessary to have a medical waste management system applied as a prerequisite in all health sector centers (so that it takes care of the processes of separation, collection, transportation, storage and disposal of medical waste in safe scientific and health methods.

The administration should also pay attention to raising awareness and training working human cadres on how to deal with medical waste and the serious diseases it causes, due to the lack of administrative and legal policies, strategies and procedures. With regard to the handling and disposal of medical waste in many developing countries, this has resulted in poor management of this waste, and as a consequence in many countries where patients and workers are increasingly exposed to health risks that could have been avoided.

This study sheds light on the extent to which government hospitals adhere to international standards in managing violations Health Care ⁽¹⁾.

Many hospitals have a problem with how to safely dispose of medical waste resulting from the daily activity of health care for patients, and this is what causes many serious diseases for health care workers, and this is due to the lack of commitment of hospital administrations to implement a sound environmental management system To dispose of medical waste instead of randomly dispose of it in places not designated for medical waste.

Medical Waste Management: It is the department that is concerned with the processes of separating, collecting, transporting, storing and disposing of medical waste using scientific and sanitary safe methods, as well as reducing its volume and recycling what can be recycled⁽⁴⁾.

Hasan and Tudor (2018) study which entitled as “ Healthcare Waste Management: A Case Study from (Sudan) ,The key objectives were to Examine how used needles are managed including handling, storage, transportation, treatment and disposal , critical steps for an improved and safer system of needles’ management in Khartoum. The study found that there was no plan to reduce and separate waste.⁽⁵⁾

Abu Mohsen (2015) discuss the topic of “ Evaluation of Medical Waste Management in Governmental Hospitals in Gaza Governorates . this study aimed to evaluate the management of medical waste in the government hospitals in the governorates of Gaza in terms of the process of sorting ,collecting ,storing ,and final disposal , in addition to knowing the amount of medical waste produced by the hospitals . The study showed the hospitals lack of application of the World Health Organization’s instructions for the concept of medical waste management, and the lack of awareness among workers in the field of medical waste. ⁽¹⁾

Sharma et al (2013) conducted a study about Awareness of Biomedical Waste Management Among Health Care Personnel in Jaipur, India ,The study aimed to determine the following among the workforce of the Jaipur Dental College, India: their awareness regarding biomedical (BM) waste management policy and practices, The study results were there was a poor level of knowledge and awareness of biomedical waste generation hazards, legislation and management among health care personnel.⁽⁶⁾

Sawalem et al (2009) study which entitled as” Hospital waste management in Libya: A case study, The aimed to derive an accurate description of actual hospital waste management as the basis for an appropriate waste management strategy. The specific objectives of this study include conducting a survey of present practices, the study revealed that no regulations regarding the disposal of hospital waste exist in any of the hospitals surveyed.⁽⁷⁾

Abu Al-Huda (2018) discuss the topic of “ Route Educational & Social Science Journal”, aimed to assess the management of medical waste in hospitals in the Palestinian city of Nablus in the governmental and private West Bank, the study showed improper management practices in dealing with hazardous medical waste .⁽⁸⁾

Aim of study:

What is the reality of medical waste management in public hospitals in Benghazi?

Material and methods :

Study design: Descriptive Analytical Design Study

The study period : The study started from July 8, 2021 to July 8, 2022

Data collection period: From December 24, 2021 to February 20, 2022

Place of study : All public hospitals in Benghazi (Al-Jalaa, Al-Atfal, Al-Sadrya, Al-Hawari, Psychiatry, Benghazi Medical Center, Al-Jumhuriya, October 7th)

Study community: All workers in public hospitals in Benghazi Sample volume, The research sample size consists of 300 respondents. The researchers used the systematic random sampling method to determine the sample size.

Data collection method: The questionnaire was used as a data collection tool statistical analysis, The Statistical Package for Social Sciences (SPSS) program was used, where percentages, tables of frequency distributions, arithmetic mean and standard deviation were calculated.

Results :

Table (1): indicators related to evaluating the reality of health care waste management in public hospitals

T	Questionnaire items	Mean	Std. deviation	Arrangement
1.	Does the hospital provide proper medical waste management?	1.95	.735	3
2.	Does the hospital administration set clear and binding rules for the management of medical waste?	1.90	.718	5
3.	Does the hospital and it's staff deal with medical waste according to guideline?	1.82	.728	7
4.	Does the hospital have an effective control system to follow up the management of medical waste?	1.85	.750	6
5.	Does the hospital ensure that waste storage places are tightly closed?	1.92	.706	4
6.	Does the hospital provide sterile hygiene materials for work practice?	2.12	.729	1
7.	Does the hospital provide protective clothing (gloves and shoes) while working?	1.98	.780	2

8.	Does the hospital realize the legal responsibility for the risks of medical waste?	1.98	.799	2
	Total	1.94		

the overall average (1.94), which clearly shows that our assessment of the reality of health care waste management in public hospitals in the city of Benghazi is neither good enough nor very bad, but it takes an average curve, in terms of the extent to which the hospital provides protective clothing for workers and the extent to which the hospital is aware of the legal responsibilities that it has for The dangers of medical waste compared to the hospital and its staff not handling medical waste in a proper manner according to the correct directions.

Table(2): Indicators related to the methods used for sorting, collection and safe disposal of medical waste

T	Questionnaire items	Mean	Std. deviation	Arrangement
1.	Is health care waste sorted in your institution?	1.95	.774	5
2.	Are there different color codes for waste collection?	1.89	.772	8
3.	Are there special vehicles for transporting dangerous unions?	1.92	.761	6
4.	Does the hospital separate chemical medical waste?	1.91	.783	7
5.	Dose the hospital provide safe medical waste sorting requirements (boxes, containers, internal transport carts)?	1.89	.751	4
6.	Is medical waste collected daily at the end of the working day ?	2.32	.710	1
7.	Are signs placed to distinguish the type of medical waste (storage inside the hospital)?	1.83	.762	9
8.	Is there a medical waste collection site inside the hospital building?	2.05	.752	2

9.	Is the assembly site in the hospital within the environmental specifications (ventilation, children, tightly, closed)?	2.00	.722	3
10.	Are workers provided with appropriate personal protective equipment?	1.92	.766	6
Total		1.977		

the total average (1,977) from which we infer that workers in public hospitals In the city of Benghazi they have good knowledge and realization, not very bad in terms of their knowledge of the methods of collecting, sorting, transporting, and storing medical waste.

Table (3): Indicators related to the level of awareness of health care staff

Questionnaire items	Mean	Std. deviation	Arrangement
Does the hospital educate staff about the importance of medical waste management?	1.79	.712	4
Dose the hospital provide guidance campaigns for workers in the safe handling of medical waste?	1.71	.704	6
Dose the hospital contribute to developing advanced programs to raise health awareness?	1.73	.717	5
Dose the hospital give preventive doses to workers against common viral infection?	2.16	.796	2
Dose the hospital set guidelines that contribute to educating workers about the dangers of medical waste?	1.88	.726	3
Dose the person responsible of the medical waste workers in the hospital reassure you in terms of your safety, health and comfort?	1.62	.733	7

Do you wear special protective clothing and gloves that protect you from the dangers of medical waste?	2.20	.697	1
Total	1.78		

the overall average is (1.87) and this shows us that the level of awareness of health care staff in most departments and specialties in public hospitals in the city of Benghazi is not good enough and not too bad, but it takes an average curve in terms of wearing most of the workers in public hospitals for their protective clothing and gloves Which protects them from the dangers of medical waste, as well as the provision of preventive doses against viral infection for workers in public hospitals, compared to the lack of interest of the responsible person for the health and safety of his workers in the medical waste department in a proper manner.

Discussion:

The results of the current study revealed that the hospital provides Enough sterile hygiene materials for work practice and protective clothing for its workers . And clearly shows that our assessment of the reality of health care waste management in public hospitals in the city of Benghazi is neither good nor bad . Furthermore medical waste is actually collected daily at the end of the working day in a proper manner. however there is no signs are placed clearly and properly to distinguish the type of medical waste during its collection and storage inside the hospital. The study of Abu Al-Huda (2018) indicated similar finding about assess the management of medical waste in hospitals , where it revealed that improper management practices in dealing with hazardous medical waste .

The study also showed that most workers in public hospitals wear special protective clothing and gloves that protect them from the dangers of medical waste .

In addition, the level of awareness of health care staff in most departments and specialties in public hospitals in the city of Benghazi is not good enough and not too bad .

Conclusion:

It was moderately satisfactory and not completely bad in terms of the extent to which hospitals provide sufficient sterile hygiene materials and protective clothing for their workers, and the hospital management's awareness of the legal responsibilities that it has on the risks of medical waste, compared to the hospital and its staff not handling medical waste in a proper manner according to the correct directions. in addition It turns out that the methods used in collecting, sorting, transporting and handling medical waste are neither very good nor completely bad, but rather take a median curve due to the lack of knowledge of the workers in the proper ways and procedures while dealing with medical waste . furthermore This study also shows us that the level of awareness of health care staff in most departments and specializations in public hospitals in the city of Benghazi is somewhat satisfactory and not bad .

Recommendations:

1. There should be a special management of medical waste in every hospital.
2. Workers must be educated and trained on how to properly handle medical waste.
3. Medical waste must be collected and stored in designated places.

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