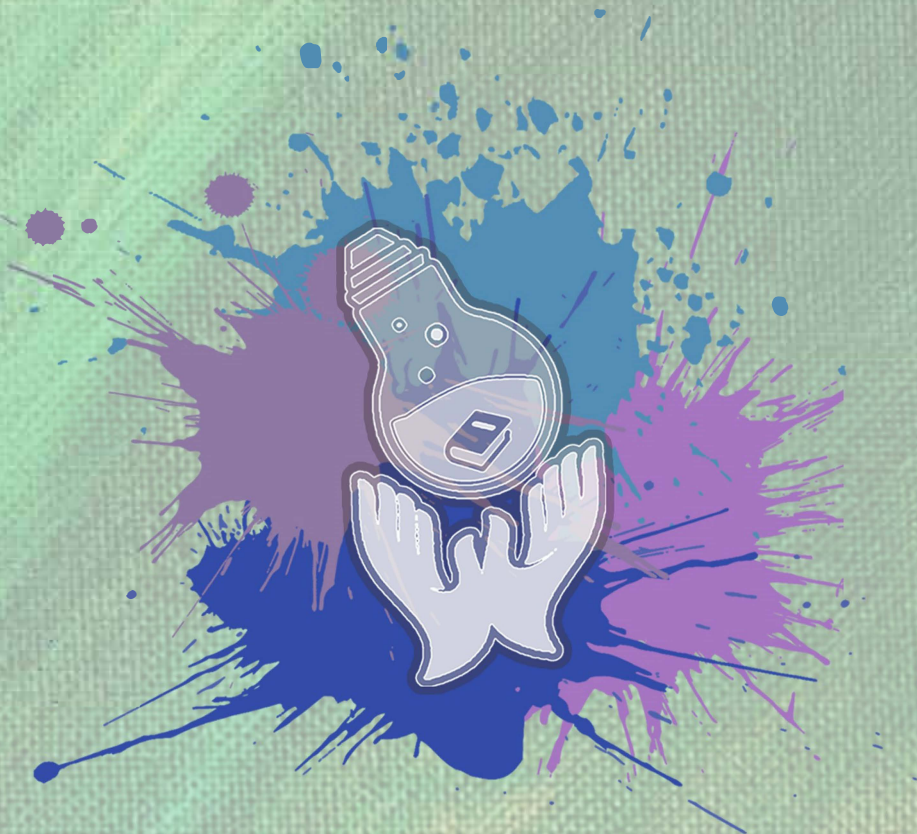




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A STUDY ON THE ISSUES OF CLINICAL WASTE MANAGEMENT (CASE STUDY: GENERAL HOSPITAL IN DISTRICT OF PERAK)

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Abstract:

Clinical Waste Management (CWM) became a debate in worldwide especially in developed countries as well as low-income countries due to the rapid urbanization and population growth. Malaysia is no exception from facing the issues as the amount of clinical waste continues increasing by 31% with 22 thousand tons in 2014 and the following years. This country ranked the second highest country in Asia that generates the most of clinical waste as the effect of not uniform in managing the waste. Consequently, unmanageable clinical waste is hazardous towards human health and environmental due to the contagious nature of waste that has the potential to produce disease through the dissemination of pathogens. Therefore, the objectives of this paper are to identify and determine the issues arise of clinical waste management at general hospitals in districts of Perak. The primary data is collected by using questionnaire which is the result of the questionnaire will be evaluate with SPSS and interview to verify the result. The findings resulted in lack of awareness and knowledge of the management employees the main issues faced by general hospital in district of Perak followed by the issues on the policies of CWM.

Keywords:

Issues of Clinical waste; Clinical Waste Management; General hospital

1.0 INTRODUCTION

Waste can be categorizes into municipal or community waste (i.e. household or domestic waste, commercial waste and destruction or demolition waste), industrial waste, biomedical waste or clinical waste and special hazardous waste (i.e. electronic or e-waste, explosive waste, radioactive). In Malaysia, municipal waste ranked first as this waste endlessly increased with 91% from 2003 to 2013 (Clean Malaysia, 2015). However, recently biomedical waste or clinical waste has become a great concern globally due to the growth of population that affects the needs of healthcare by human societies. Previous study by Kafle HP (2015) mentioned that Malaysia is the second highest country in Asia generates the most of clinical waste with 1.9 kg per bed daily.

These was due to the not uniform of waste management that lead to the uncontrollable increase of clinical waste. Improper manage of waste during separation at source stated as the common issues faced by the management of clinical waste in Malaysia (MOH, 2009). In addition, the environmental issues caused by the unmanageable disposal of clinical waste also found (Laws of Malaysia, 2006). Despite that, the actual issues of CWM were unidentified as it is not widely studied. Therefore, the study on the issues of clinical waste is needed to be conduct as to identify the issues arise of CWM at general hospital in state of Perak and to determine the main issues.

2.0 LITERATURE REVIEW

Clinical waste can be categorized into hazardous and non-hazardous substances (Jayawardena DBAS, 2018). Omar D et al., (2012) defined clinical as human products or body parts of animal, infectious agents' stocks, contaminated sharps, waste from laboratory and patient, discarded or unwanted biological, beddings, and various infectious wastes. Recently, the clinical waste has become a great concern as it found contribute various issues as been explained below:

2.1 Collection and Transported of Clinical Waste

Through study conduct by Razali and Ishak (2010) on one of government hospital in this country found that, during collection and transported, the waste workers are often use elevators that have directly contact with the public as there is no allocation or separate route only for transport the waste. The probability for the infectious disease to spread to publics becomes higher.

2.2 The Management Team of Clinical Waste

A study by Jayawardena DBAS (2018) proved that the management itself failed in giving proper instruction to the staff regarding the waste. There is also no daily inspection or reporting for the clinical wastes by the management or government (Ambali et al., 2013). Razali and Ishak (2010) mentioned in late 80s, Malaysia still has no proper system for clinical waste management shows that during that period clinical waste being manage ineffectively and unorganized.

2.3 Lack of Awareness and Knowledge of Management Employees

In addition; Razali and Ishak (2010) mention that lack of awareness also appeared as the main factor causing clinical waste negligence based on study conduct in Selangor's general hospital. Several medical staffs such as doctor are carelessly dumped used needles or any clinical waste everywhere and sometimes throw it not in the designed specific bag. They also often mix the clinical waste and general waste in similar bins.

2.4 Clinical Waste Management Policies

The guidelines imposed by the Ministry of Health Malaysia (MOH) to control all the flow process of clinical waste are deem as not efficient as the problems still continue reported. But yet, Malaysia government took other initiatives by organized training plan for the waste workers on the right ways to handle the waste from the point it separate to the final process is disposal (Hamadan et al., 2012)

2.5 Financial and Human Resources

In general, financial limitations and lack of practical expertise on handling and manage the waste are limits the effectiveness of waste management (Ambali et al., 2013). In addition, the combination of clinical waste and general waste in one bin will affect the financial budgetary due to higher cost for separating both wastes.

2.6 Clinical Waste Management Process

In Malaysia, the MOH Malaysia (2009) reported that the improper management of clinical waste at source is the common issues faced by the clinical waste management which are during the identification, separation, collection, storing and transported. According to Razali and Ishak (2010) mentioned that the government hospital in Selangor itself have inadequate storage room to keep the waste during storing process.

2.7 Disposal Method of Waste

Using incinerator as disposal method is incapable to alleviate the problems of contamination that often occurs during the pre-incineration process (WHO, 2008). Recently, incineration has no longer become an option as disposal systems in worldwide due to the huge impact towards the environment and human health.

3.0 METHODOLOGY

In this research, Quantitative Method is selected with questionnaire as the research instruments. A simple random sampling method will be applied where each individual have a chance to be selected as the respondents. The case study involves general hospital in three districts of Perak which are Hilir Perak, Kinta and Seri Manjung. The populations of the respondents will be based on the number of employees of outsourced company named UEM Edgenta Mediserve Sdn Bhd that handle the clinical waste management for the general hospitals with the total population is 457. The sample size in research using the Krejcie and Morgan (1970) being obtain is 137 to be respondents. The result will be evaluated through SPSS to obtain the frequency of the data regard the issues in clinical waste management among the respondents.

4.0 ANALYSIS AND FINDINGS

According to frequency result on the table below shows that lack of awareness and knowledge among management employees is the crucial issues faced by general hospitals in districts of Perak as the respondents are found unable to define the clinical waste and categorized the waste into it group. Next, the issues on waste collection and transported is the second highest due to the unorganized schedule during managing the waste. Then, follow by the issues of the management team of the CWM. The disposal system is found as the least issues encountered by the respondents.

Table 1: Descriptive statistic on the Issues of CWM in general hospitals in Districts of Perak

ISSUES	Waste Collection and Transported	The Management Team of Clinical Waste	The Awareness and Knowledge Level of Employees	Financial and Human Resources	Clinical Waste Management Policies	Clinical Waste Management Process	Disposal System
MEAN	7.79	6.67	9.20	4.44	4.49	4.41	4.19

5.0 CONCLUSION

In conclusion, through the findings, the issues on clinical waste management in general hospitals districts of Perak are identified. According to the study had been done, it was found that the level of awareness and knowledge among the management employees are lower. Even though the training provided by the management is sufficient for the employees to handle the waste, but yet the knowledge regarding the waste shall be explained. For the clinical waste collection schedule twice a day is found unorganized and inefficient as the waste will be not collect by the employees after the afternoon schedule. Overall, the issues of clinical waste management need to be supervise as to avoid the future effect on safety and health of living being as well as the environment.

REFERENCES

- Ambali, A. R., Bakar, A. N., & Merican, F. M. (2013). Environmental Policy In Malaysia: Biomedical. *Journal of Administrative Science*, 10(1).
- Hamadan, N., Sapri, M., Mohammed, A. H., Awang, M., Abd Rahman, M. S., Rosli, N. W., et al. (2012). The Implementation of Clinical Waste Handling in Hospital Sultanah Aminah Johor Bahru (HSAJB). *International Congress on Interdisciplinary Business and Social Science 2012*. 65, pp. 802 - 807. Elsevier Ltd. S.
- Jayawardena DBAS (2018) Critical Analysis of Clinical Waste Management System in National Hospital of Sri Lanka. *Eur Exp Biol Vol. 8 No. 1:8*. Doi: 10.21767/2248-9215.100049
- Kafle, H.P. (2015), *Hospital Waste Management (Power Point slides)*. Online: <https://www.slideshare.net/harikafle944/hospital-waste-management-47700029> (Accessed on 22 May 2019).
- Krejcie, R.V., & Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610
- Laws of Malaysia. Act 342 Prevention and Control of Infectious Diseases Act 1988 (2006).
- MOH. (2009). Project Operation Guidelines for Clinical Waste Management Services: Privatized Hospital Support Service Ministry of Health Malaysia.(Document No. POG/ CWMS/ C-01), Putrajaya, Malaysia: SIHAT
- Omar, D., Nazli, S. N., & Karuppananb, S. (2012). Clinical Waste Management in District Hospitals of Tumpat, Batu Pahat and Taiping. *ASIA Pacific International Conference on Environment-Behaviour Studies*. 68, pp. 135 - 145. Giza: Ltd. Selection.
- Razali, S. S & Ishak, M. B (2010). Clinical Waste Handling and Obstacles in Malaysia. *Journal of Urban and Environmental Engineering*, 4, 47-54.
- World Health Organization (2018). Management of Solid Healthcare Waste at Primary Healthcare Centres – A Decision Making Guide, Geneva.