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Evaluation of medical waste management in Ekurhuleni metropolitan municipality clinics

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DECLARATION

I Thamaga Hilda Thopola, declare that this research report is my own work. It is being submitted for the degree of Master of Public Health in the School of Public Health at the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

Signed by .....

On this the 30th Day of October 2009

ABSTRACT

Introduction

The study of medical waste management practices in Ekurhuleni Metropolitan Municipality clinics in South Africa took place in the absence of the relevant parliamentary law governing such waste, but governed by the final published Gauteng Health Care Waste Management Regulations 3003 of 2003.

In accordance with the Gauteng Health Care Waste Management Regulations 303 of 2003, Medical Waste Management Practices are such that where medical waste is generated, it should be segregated at the point of generation, be properly containerised, labelled, stored, treated and finally be disposed of.

The researcher studied 29 out of 112 clinics in Ekurhuleni Metropolitan Municipality on whether medical waste management practices in these clinics comply with the Gauteng Health Care Waste Management Regulations 3003 of 2003. The study also intended to help practising and managing nurses to reduce occupational health risks, while further increasing the safety of clinic service users from unforeseen infections by communicable diseases.

Materials and methods

The study followed a cross-sectional descriptive survey method wherein data acquisition was by means of interviewing clinic managers with regard to medical waste management

practices in their clinics using a structured questionnaire; and by observations of medical waste management practices through a walkthrough survey checklist**.**

The study sample composed of 30 clinics selected from a total of 112 clinics, where a total population of 7 maternity and 23 day clinics were included through random selection. A response rate of 29 out of 30 clinics selected was obtained.

The interview questionnaire consisted of six dimensions of measurement of medical waste management practices, while the walkthrough survey checklist consisted of twenty six items measuring medical waste management practices. Both were developed in line with the stipulations of the Gauteng Health Care Waste Management Regulations 3003 of 2003. A pilot study was conducted to further refine the contents of the above two measuring tools.

The study setting comprised individual sections of each clinic such as primary health care, maternity, HIV/AIDS, mental health, antenatal care, family planning and the communicable diseases section, wherein a nurse is assigned per shift to examine patients and to administer injections and medicines. Observations were done on all medical waste management practices in the examination rooms of all sections of the clinics in order to carefully record both negative and positive practices. Such observations made followed the required medical waste management process as per the Gauteng Health Care Waste Management Regulations 3003 of 2003.

Results

The operations of Ekurhuleni municipal clinics revealed a 67 percent (4 out of 6 required documentation) non-existence of the required documentations, predominantly in the areas of medical waste policy; written safe work procedures; a training programme; and conducting of risk assessments. Specifically,

- The majority (65.5%) of clinics in Ekurhuleni Metropolitan Municipality have no medical waste management policy.
- The majority (69%) of clinics in Ekurhuleni Metropolitan Municipality have no safe work procedures.
- The majority (93%) of clinics in Ekurhuleni Metropolitan Municipality have no waste management training programme.
- The majority (69%) of clinics in Ekurhuleni Metropolitan Municipality do not conduct risk assessment for their operations.

Of the 26 medical waste management practices observed, positive medical waste management practices were observed in 46 percent of the observations compared to 50 percent of negative observations, made in operating conditions of clinics.

Discussion

The findings of the study revealed a high degree of non-compliance of Ekurhuleni Metropolitan Municipality with the Gauteng Health Care Waste Management Regulations

3003 of 2003 with regard to the required documents and the acceptable observed practices.

Conclusions

Medical waste management training in Ekurhuleni Metropolitan Municipality does not happen due to both the lack of policy documents and budgetary problems.

Health care workers are exposed to both ergonomic and biological hazards due to a lack of proper medical waste storage, storage signage and incorrect handling of medical waste.

No medical waste management audits and risk assessments are conducted in Ekurhuleni Metropolitan Municipality clinics.

Non accountability over disposal of medical waste may promote illegal dumping of medical waste generated from Ekurhuleni municipal clinics.

Recommendations

Managers of clinics in Ekurhuleni Metropolitan Municipality need to be informed of the stipulations of Gauteng Health Care Waste Management Regulations 3003 of 2003.

Based on the developed policies, clinic managers need to develop medical waste management training programmes wherein the stipulations of Gauteng Health Care Waste Management Regulations 3003 of 2003 will be incorporated.

Designated medical waste management storage facilities to be provided for all Ekurhuleni Metropolitan Municipality clinics.

Clinic management and appointed medical waste management officers to ensure that medical waste management audits and risk assessments are conducted and that corrective measures are implemented in Ekurhuleni Metropolitan Municipality clinics.

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DEFINITIONS AND ABBREVIATIONS

Medical waste: A waste from a generator or a health care related facility as outlined in Section IV of Act 150 of 1999, Arkansas Department of Health, which, if improperly treated, handled, or disposed of, may serve to transmit an infectious disease and which includes the following:

- Contaminated items to include dressings, bandages, packings, gauze, sponges, wipes, personal protective equipment, cotton rolls and balls, which cannot be laundered or disinfected and from which blood, blood components, or regulated body fluids drip freely, or that would release blood or regulated fluids in a liquid or semi-liquid state if compressed or are caked with dried blood or regulated body fluids and are capable of releasing these materials during handling.

    - Contaminated disposable, single-use gloves such as surgical or examination gloves shall not be washed or decontaminated for reuse and are to be handled as a contaminated item.

- Contaminated sharps which includes, but not limited to, any contaminated object that can penetrate the skin, e.g., hypodermic needles, intravenous tubing with needles attached, syringes with attached needles, razor blades used in surgery, scalpel blades, Pasteur pipettes, capillary tubes, broken glass from laboratories, and dental wires.

- ‘Consignment’ means each individual load of health care risk waste, comprising of one or more containers containing health care risk waste, transported by a health care risk waste transporters.

- ‘Container’ means a bag, or a puncture resistant or leak proof container in which health care risk waste is placed.

NIOSH – National Institute of Occupational Safety and Health

DACEL – Department of Agriculture, Conservation, Environment and Land Affairs

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