

Immunization Status of Waste Handlers in the Tertiary Care Hospitals of Karachi In 2017

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ABSTRACT

Many hospital waste handlers are at risk for exposure to and possible transmission of vaccine-preventable diseases. Maintenance of immunity is therefore an essential part of prevention and infection control programs for hospital waste handlers. Optimal use of immunizing agents safeguard the hospital waste handlers and protect patients from becoming infected through exposure to infected workers. Consistent immunization programs could substantially reduce both the number of susceptible hospital waste handlers in hospitals and health departments and the attendant risks for transmission of vaccine-preventable diseases to other workers and patients. Thus, this research paper will look at Health Care Worker's (HCW's) immunization status; the factors surrounding that and methods on improving the status.

Keywords: Immunization status, vaccine preventable diseases, hospital waste

INTRODUCTION

Hospitals are healing places. However, a large number of patients and occupants lead to an increased risk of affection¹.

There are 34 public sector hospitals and 97 private sector hospitals² operating in the city of Karachi alone and there are many waste handlers working in these hospitals because of their contact with patients or infective material from patients, many hospital waste handlers (HWHs) (e.g., physicians, nurses, emergency medical personnel, dental professionals and students, medical and nursing students, laboratory technicians, hospital volunteers, and administrative staff) are at risk for exposure to and possible transmission of vaccine-preventable diseases³. Essential parts of prevention and infection control programs for HWHs include: Maintenance of immunity, optimal use of immunizing agents and consistent immunization programs⁴. Private physicians, offices, nursing homes, schools, and laboratories, and to first responders should also comply^{5,6}.

Prevention is better than cure thus preventive measures are a most desired method of treatment improving the human health and decreasing the prevalence of infection in the community, increasing the average life span of the people. Immunization against diseases started from the day Edward Jenner first invented vaccine against Smallpox virus in 1792.^[7] Vaccines are the best source of prevention against many infectious diseases including Tuberculosis, Polio, Hepatitis B, Diphtheria, Pertusis, Tetanus, Measles, Mumps, Rubella, Influenza, Varicella and Meningococcal infections⁸.

Medical facilities and governments are encouraged to formulate a comprehensive immunization policy for all health care workers including individual assessment and precautions to minimize exposure to blood and body fluids.

Guideline for pre/post exposure prophylaxis should be followed and are easily accessible 24 hours/day^{9,10}.

The aim of this study was to determine the immunization status of waste handlers in tertiary care hospitals of Karachi by assessing: the immunization status of HWH; the factors responsible for the present immunization status of HWH and then suggesting some plan of action for improvement of immunization status in HWH.

METHODOLOGY

This cross sectional study was conducted in a tertiary care hospitals of Karachi including government, charitable or trust and private sector hospitals. The duration of the study was from January 2017 to December 2017. The data was collected by pre-designed questionnaires. Non-Probability, Simple random sampling. Random hospital selection from all listed tertiary care hospitals of Karachi with a total participation of of 220 respondents. Pre-designed questionnaire, preliminary developed in English, completed by participants of the research at the hospital- the project was studied from the hospital waste handlers to obtain information regarding the working environment and immunization status of the workers. All the waste handlers of tertiary care hospitals: Doctors, nurses, emergency medical personnel, medical and nursing students laboratory technicians and hospital volunteers irrespective of age, sex, religion and occupation were included .Waste handlers suffering from chronic illness and addicts were excluded .Data analysis was done using SPSS version 16.0.Verbal consent was taken from each superior before filling the questionnaire. Confidentiality and non-disclosure of information were assured along with the assurance of data collection for academic purposes.

RESULTS

A total of 220 respondents participated in this research from hospitals of 4 towns (Gulshan-e-Iqbal, Gulistan-e-jauhar, Cantonment, and Saddar). This research was

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carried out in the year of 2017. The results obtained from this evaluation are described below.

Out of total 220 respondents, 0.5% were the policymakers, 5.5% were managers, 75.0% were the generators of the waste, 1.8% were the segregators, 13.6% were the collectors and 3.6% were belonging to other departments. Total 52.7% of the respondents were male and 47.3% were females. Out of the total respondents 15.5% were sweepers, 41.4% were nurse, 5.0% were the lab boys, 19.5% were the doctors, 18.6% belonging to other hospital related professions. Total of 74.1% were Muslims, 22.7% were Christians and 3.2% were Hindus. 14.5% of hospital waste handlers were illiterate, 15.0% were Matric, 20.5% were intermediate, 40.5% were graduates, 7.3% were postgraduates and 2.3% had no formal education. The financial status of the respondents was found to be, 50.9% were working at below 10,000, 39.1% were working at 10,001 to 20,000, 6.4% were working at 20,001 to 30,000 and 3.7% were taking 30,001 or above.

94.5% of the respondents replied that according to their perception immunization is necessary for them and the remaining 5.5% replied that it is not necessary for them. Out of total, 11.4% respondents never got immunized at all in their life and the remaining 88.6% received immunization of any kind in their life. Current immunization status of the 85.9% hospital waste handlers was found to be incomplete, 11.4% didn't get immunization at all and only 2.7% of the respondents had complete immunization status. 14.5% respondents replied that they had adverse reaction after receiving immunization and 86.5% responded in negative. 42.3% of respondents had a history of transfusion of blood, blood products or pricking injuries, 57.7% never had any such incident. 63.20% of the respondents replied that they were not checked for their immunization status before taking job in the hospital, 36.8% replied that they were asked for an immunization record. 54.1% of the respondents replied that there exists a rule for getting immunized before becoming the member of waste management team, 45.9% replied in negative. 54.5% told that there were no training sessions/workshops held in their hospitals regarding immunization, 45.5% replied otherwise. 55.9% of the respondents say that their hospitals provide them facilities for their immunization, 44.1% replied in negative. 94.1% of the hospital waste handlers think that they are at risk without immunization in the job they are doing, 5.9% think that they are not at a risk due to their job. According to respondents, only 15.5% of the respondents don't use protective measures while handling waste, 84.5% of the waste handlers use protective measures. Family members of 12.7% of the respondents were suffering from vaccine preventable diseases, 87.3% replied in negative. 21.4% of the respondents said that they have seen any of their colleagues dying from a vaccine preventable disease due to handling of hospital waste, 78.6% replied in negative. 28.6% of the respondents were facing financial difficulties which were stopping them from getting immunized, 23.6% were unaware of immunization, 24.5% didn't get time for immunization, 2.7% abstain from vaccination because of religious beliefs and 20.5% of the respondents gave other reasons of not getting immunized.

Table 1: Occupation of respondents (n=220)

	Frequency	Percent
Sweeper	34	15.5
Nurse	91	41.4
Lab boy	11	5.0
Doctor	43	19.5
Others	41	18.6

Table 2: Current immunization status of hospital waste handlers (n=220)

	Frequency	Percent
Complete	6	2.7
Incomplete	189	85.9
None	25	11.4

Table 3: Hospital waste handlers responses about factors stopping them from getting immunized (n=220)

	Frequency	Percent
Time	54	24.5
Financial difficulties	63	28.6
Unawareness	52	23.6
Religious beliefs	6	2.7
Others	45	20.5

DISCUSSION

This study gives the overall view of the immunization status of the waste handlers in the tertiary care hospitals of Karachi in the year 2017. According to this study a large number of waste handlers either had an incomplete immunization record or never got immunized at all and only a few of the waste handlers were with a complete immunization status.

The study shows that a large number of respondents are graduates but regardless of their good educational background they paid little attention to their personal care. Results of the study showed that a large number of the population is low income workers which are a great hindrance from health services and sources of immunization. The increased inflation rate contributes to the difficulty of accessing health services. In the study it was revealed that most of the waste handlers are aware of the risk of handling infectious waste and have the common understanding that immunization is necessary for them. Most of the respondents started immunization but a large number of waste handlers didn't complete their immunization schedule due to: financial difficulties, busy life, unawareness and some of religious beliefs. Majority of the waste handlers said that they should get all types of immunization available in the market as they are for their betterment and health maintenance. However, they emphasized that government and hospitals should make sufficient efforts in providing vaccines that are free as they are at a greater risk than the general population.

In this study an interesting fact was revealed: the majority of the respondents said that there is a rule of immunization before getting a job in the hospital but majority of them claimed that it was not enforced. Most of the respondent indicated that there are regular seminars regarding health being held in the hospitals but attendance is poor due to unappealing environments and unsuitable times. Therefore, most of the waste handlers are unaware of the vaccination types, the types of vaccinations available in the market and the necessity of a certain vaccine for a

certain disease. Majority of the waste handlers use protective measures before handling waste but they still feel at risk without immunization because there is still the chance of prick injuries. For better protection immunization is necessary.

Only a few respondents said that they have had a serious reaction after getting immunized so fear is not the reason for vaccine abstinence but the financial difficulties and their hectic work schedule. Supporting studies include: A cross sectional study was conducted by university of Antwerp, Belgium about the policies of hepatitis b vaccination among the health care workers¹¹. In other research conducted in turkey: is prevaccination screening cost effective against measles, rubella, mumps, and varicella among health care workers¹². A cross sectional study conducted in Combined Military Hospital Rawalpindi, Pakistan about the health hazards of the waste to the sanitary workers¹³. In a study conducted in Peshawar, Pakistan about the hepatitis B vaccination status amongst the laboratory workers in 2002¹⁴. A cross-sectional study was done among 802 health care workers at Lahore General Hospital, Lahore to assess their vaccination status against hepatitis B Infection¹⁵. Another study published in journal of Liaquat University of medical and health sciences in 2007 was about the hepatitis B vaccination status in health care workers¹⁶.

CONCLUSION

According to the results of our study it was found that irrelative to following protective measures waste handlers still think that they are at great risk without the immunization. Most of them have started their immunization but a large number of waste handlers haven't completed their immunization schedule. The main hindrance in getting better immunization status is the finance¹⁷⁻¹⁹. Vaccines are costly and the purchasing power of the people is low²⁰⁻²¹. Government and hospitals are not making enough efforts in providing cost effective vaccines by providing subsidies on them²². A collective stance needs to be taken for the betterment of the entire community²³.

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