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Research Article

Assessment of Hospital Housekeepers about Prevention of Blood Borne Diseases in Public Hospitals - Khartoum State 2016

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Abstract

Background: Hospital housekeepers are persons employed by hospital to manage sanitary works, by virtue of their job, can get blood borne diseases from patient's fomite, contaminated environment, patient's specimens, and by handling infected waste either by direct or indirect contact.

The most common examples of these diseases are human immune deficiency virus, hepatitis B and hepatitis C.

Aim of the Study: To evaluate the knowledge and practice of hospital housekeepers regard prevention of blood borne disease.

Material and Methods: The study conducted in Public hospitals Khartoum, Khartoum Bahri and Omdurman 2016. Descriptive study used. Ninety two (92) hospital housekeepers enrolled in the study, SSS they selected by systematic simple random sampling technique probability proportional to size.

Data Collection: Data collection done by using a structured interview questionnaire, observation checklist.

Results: The mean score of knowledge of participants as definition, types of blood borne infection, mode of transmission was 5.78 (P value =.0247). The mean score of practice is 10.57 (p value .0001).

Conclusion: Hospital housekeepers need Health Education Program for improving their knowledge and more practice.

Recommendation: Guidelines and clear policy for medical waste management system. Medical check for hospital housekeeping before recruitment and vaccination for Hepatitis for -ve hepatitis.

Keywords: Knowledge; Practice; Hospital housekeepers; Blood borne disease

Introduction

Good housekeeping and waste disposal are the main basis of infection control and prevention. Housekeeping at higher risk to infection because they are exposed to blood, body fluid, used sharp and other contaminated objects as a routine part of their job [1].

Risk factors of becoming infected with a blood borne pathogen or transmitting the disease to others is not the only healthcare provider. Although the risk to patients who are cared for by Human Immune Virus (HIV) infected (HCWs) health care workers is considered negligible, practice restrictions could be imposed by the courts on an individual basis as well as percutaneous exposures to blood borne pathogens. These injuries may result in 15,000 HCV, 70,000 HBV and1,000 HIV infections. More than 90% of these infections occur in developing countries [2].

Housekeeping and waste disposal staff is at a higher exposure to infection because they are exposed to blood, body fluids, used sharps and other contaminated objects as a routine part of their jobs. Occupational exposure to HIV infection of health workers is a medical emergency and it should be considered as a serious matter and measures should be taken to reduce the risk of transmission of HIV infection [1]

The Americans have been infected with HCV, of whom 3.2 million are chronically infected. Prevalence of HCV seropositivity among the hem dialysis population in Sudan is estimated to be around 34% [3].

HIV/AIDS is one of the largest obstacles to development in many countries and is destroying the lives and livelihoods of millions of people around the world. Nearly 95 percent of all infected individuals is found in developing countries and the situation is especially problematic in sub-Saharan Africa [4]

In Sudan UNAIDS (United National Acquired immune deficiency syndrome suggests that 0.53 percent with 98,922 people living with HIV in 2012, the prevalence of the disease is prone to rise due to the large scale population movement (refugees, returnees) and changing livelihoods which are reflected in high rates of urbanization and changing community structures [5].

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Table 1a: Distribution of the studied cases, according to demographic data (n=92).

Demographic data	No.	%
Age (years)	4	4.3
21 - 25	13	14.1
26 - 30	31	33.7
31 - 40	44	47.8
Above 41 year	4	4.3
Sex		
Male	7	7.6
Female	85	92.4
Marital status		
Married	60	65.2
Single	4	4.3
Divorced	18	19.6
Widow	10	10.9
Education		
Illiterate	56	60.9
Secondary	10	10.9
Primary	22	23.9
Others	4	4.3
Years of Experience in hospital		
Below 1 year	5	5.4
1-3 year	21	22.8
Years of Experience in this unit		
Below 1 year	18	19.6
1-3 year	27	29.3
4 - 6 years	11	12.0
More than 6 years	36	39.1

Table 1b: Distribution of the studied group according to demographic data "continue".

Demographic data	No.	%
Daily work period		
4 hour	0	0.0
8 hour	92	100.0
16 hour	0	0.0
Shift		
Morning	63	68.5
Afternoon	25	27.2
Night	4	4.3
Nothing	0	0.0
No. of assistants		
One	29	31.5
Two	28	30.4
Three	8	8.7
More than Four	23	25.0
Other	4	4.3
Isolation		
One	43	46.7
Two	0	0.0
2 - 4	0	0.0
More than 4	6	6.5
Other	43	46.7

General cleanliness and hygiene of facility are vital to the health and safety of staff, client, visitors and community at large. Good housekeeping and waste disposal are foundation of infection control and prevention. Housekeeping and waste disposal staff at are higher risk of infection because they are exposed to blood, body fluid, used sharp and other contaminated objects as a routine part of their job [6].

Occupational Safety and Health Administration (OSHA) put standard's requirements state to employers must do to protect workers who are occupationally exposed to blood or Other Potentially Infectious Materials (OPIM), as defined in the standard. Which protects workers who can reasonably be anticipated to come into contact with blood or OPIM as a result of doing their job duties. These standards establish by exposure control plan, this is a written plan to eliminate or minimize occupational exposures. The employer must prepare a list of job classifications in which all workers have occupational exposure and a list of job classifications in which some workers have occupational exposure, along with a list of the tasks and procedures performed by those workers that result in their exposure, and updated it annually to detect changes in the works, procedures, and positions that affect occupational exposure, and also technological changes that eliminate or reduce occupational exposure. In addition, employers must annually document in the plan that they have considered and begun using appropriate, commercially-available effective, safer medical devices designed to eliminate or minimize occupational exposure. Employers must also document that they have solicited input from frontline workers in identifying, evaluating, and selecting effective engineering and work practice controls [6].

In addition, implementing the use of universal precautions and treating all human blood and OPIM as if known to be infectious for blood borne pathogens [6]. Identifying and using engineering control. These are devices that isolate or remove the blood borne pathogens hazard from the workplace, which include sharps disposal containers, self's sheathing needles, and safer medical devices, such as sharps with engineered sharps-injury protection and needleless systems [6]. Identifying and ensuring the use of work, these can minimize the possibility of exposure by changing the way a task is performed, such as appropriate practices for handling and disposing of contaminated sharps, handling specimens, handling laundry, and cleaning contaminated surfaces and items [6].

Provide Personal Protective Equipment (PPE), such as gloves, gowns, eye protection, and masks. Employers must clean, repair, and replace this equipment as needed. Provision, maintenance, repair and replacement are at no cost to the worker [6].

Make available hepatitis B vaccinations to all workers with occupation, this vaccination must be offered after the worker has received the required blood borne pathogens. Also training and within

Table 2a: Knowledge about blood borne diseases (n=92).

Assessment of knowledge about blood borne diseases	No.	%
The meaning of AIDs		
Group of infectious disease	8	8.7
Infected disease	22	23.9
Diseases transmitted by sexual relation	40	43.5
Disease affect immunity	22	23.9
Cause of AIDs		
Virus	53	57.5
Fungi	3	3.3
Microorganisms	3	3.3
Unknown virus	33	35.9
While you are practicing your work what the fluids which can cause infection of HIV or HBV		
Blood	72	78.3
Urine	7	7.6
Bloody secretions	9	9.8
Bone marrow	0	0.0
Amniotic fluid	0	0.0
Milk	0	0.0
Sperms	3	3.3
Vaginal discharged	3	3.3
Procedure that transmit AIDs or hepatitis		
Handling sharp objects	50	54.3
Linens	4	4.3
Clean floor	2	2.2
Clean WC	1	1.1
Clean any objects from blood	35	38.0

Table 2b: Knowledge about blood borne diseases (n=92).

Famous signs and symptoms appear on patient infected with AIDs	no	%
Biles, oedema, backage	5	5.4
Abdominal pain, vomiting, sore throat	1	1.1
Diarrhea, wt loss, fever	76	82.6
Conitous cough, skin infection,	9	9.8
Mouth rash, jaundice, limph edema	1	1.1
Investigation needed for diagnosis AIDs		
Blood	86	93.5
Urine	4	4.3
X-rays	1	1.1
Stool test	1	1.1
Prevention from AIDS through		
Wear PPE	61	66.3
Isolate infected person	7	7.6
Clean sharp object	11	12.0
Waste managements	13	14.1
Better solution for cleaning floor and protection from AIDs		
Detol	48	52.2
Savlon	11	12.0
Powder	33	35.9
Beta din	0	0.0
The correct methods for discarding sharp and infected objects		
Drowning	3	3.3
Burning	58	63.0
synergic	10	10.9
Cleaning	21	22.8

Knowledge regard blood borne diseases

variable	T test	Means	SD	P-Value
knowledge	1.99	5.78	1.78	.0247

10 days of initial assignment to a job with occupational exposure.

Hospital housekeepers had inadequate knowledge, unfavorable attitude to the blood borne diseases and also they had faulty or unsafe practices in handling sharps hospital waste, blood and body fluids. This experience, motivated me to undertake a study on knowledge, attitude and practice of hospital Housekeeping, personal on blood borne diseases and to provide an education program regarding blood borne diseases.

Methodology

It is a descriptive study for all the departments in the greater governmental hospitals (Omdurman-Khartoum Bahri -Khartoum who are working in those departments and have direct patient care or services, both sexes, others who rejected in the study, those who are not working in those departments and have no direct patient care or services and refuse to participate in the study

Sample size: 92 according to equation [7].

$= (Z1-\alpha+z1-\beta)^2/\Delta+Z1^2-\alpha/2$

Data Collection

This includes all structured interview questionnaire for assessing the housekeeping personnel knowledge regarding blood borne diseases and it's precaution methods and observation check list regard practicing of prevention of blood borne diseases, the average time taken for completing knowledge questionnaire was 20 minutes and time taken to observe the job practice of housekeeping personnel was 30 days.

Results

92 respondents enrolled in the study, 47.85% their age between 31-40years, 33.7% 26-30years while 13% their between 21-25 years and very small percent 4.3% their age above 41 years, 60% are married and the rest are single and divorced and widow, the majority of them are female and the rest of demographic data are shown in Table 1a, b. In Table 2a, b respondents have good knowledge about the blood borne infection mean 5.78 +SD 1.78. Table 3 shows the knowledge of studying group regards hepatitis B definition causes and mode of transmission and the availability of vaccine mean 5.78 SD 1.78. Table 4 shows the results of respondents regard HCV mean 6.48 SD 3.49.

Table 3: Knowledge of studied group regard hepatitis B (n=92).

Knowledge	yes	%	No	%	Don't no	%
do you heard about HBV before	56	60.9	22	23.9	14	15.2
do you heard before about the appearance of symptoms after the infection directly is one of the causes of the HBV	39	42.4	28	30.4	25	27.2
HBV lead to cancer of the liver	56	60.9	10	10.9	26	28.3
hepatitis can transmit through shaking hands	12	13.0	52	56.5	28	30.4
cuddling and kissing infected patient can transmit the disease	35	38.0	34	37.0	23	25.0
disease can transmit directly from infected mother to her fetus during pregnancy	62	67.4	14	15.2	16	17.4
disease can transmit through blood transfusion or part of the body from infected person to healthy one	71	77.2	10	10.9	11	12.0
mosquitoes and other insects bites can transmit the disease	50	54	28	30.9	14	15.2
using contaminating needle with hepatitis can transmit the disease	39	42.4	31	30.4	22	27.2
sex relation can transmit the disease	56	60.9	10	10.9	26	28.3
availability of vaccination for HBV	12	13.0	52	56.5	28	30.4

Knowledge of studied group regards HBV

variable	T test	Means	SD	P-Value
knowledge	1.66	5.78	1.78	.499

Table 4: Knowledge of studied group regard hepatitis C (n=92).

Knowledge	yes	%	No	%	Don't no	%
do you heard about HBV before	56	60.9	22	23.9	14	15.2
do you heard before about the appearance of symptoms after the infection directly is one of the causes of the HBV	39	42.4	28	30.4	25	27.2
HBV lead to cancer of the liver	56	60.9	10	10.9	26	28.3
hepatitis can transmit through shaking hands	12	13.0	52	56.5	28	30.4
cuddling and kissing infected patient can transmit the disease	35	38.0	34	37.0	23	25.0
disease can transmit directly from infected mother to her fetus during pregnancy	62	67.4	14	15.2	16	17.4
disease can transmit through blood transfusion or part of the body from infected person to healthy one	71	77.2	10	10.9	11	12.0
mosquitoes and other insects bites can transmit the disease	50	54	28	30.9	14	15.2
using contaminating needle with hepatitis can transmit the disease	39	42.4	31	30.4	22	27.2
sex relation can transmit the disease	56	60.9	10	10.9	26	28.3
availability of vaccination for HBV	12	13.0	52	56.5	28	30.4

Knowledge of studied group regards HCV

variable	T test	Means	SD	P-Value
knowledge	1.661	6.48	3.49	0.5002

The Table 5 shows the results of study group regard HIV/AIDs and mean7.79 SD 2.43. Table 6a, b shows the practice of the group regard BBI mean 10.57 SD 5.12.

Discussion

The nearly half of the hospital housekeeping personnel (47.8%) above the age of 41 years, which is differing to findings regarding the age group ranging from 20-30 years were noted in a study conducted for the evaluation of the post teaching knowledge about HIV/AIDS among hospital class 4 employees (workers who are involved in duties

Table 5: Knowledge of studied group regard HIV/AIDs (n=92).

Knowledge	true	%	false	%
The quality of patients life improved by treatment	31	33.7	61	66.3
The chance of entering virus of AIDs to the skin through abrasion	61	66.3	31	33.7
The chance of entering virus of AIDs at the vaginal discharge is big	67	72.8	25	27.2
Those who dealing with blood are more expose for virus of AIDs	69	75.0	23	25.0
Dealing with needles may cause infection to person	73	79.3	19	20.7
Wearing gloves prevent completely from AIDs	50	54.3	42	45.7

Knowledge of studied group regards HIV/AIDs

variable	T test	Means	SD	P-Value
knowledge	1.66	7.79	2.43	.0001

Table 6a: For observational checklist for practice of preventive BBI (n=92).

observation	no	%
Wear gloves during work		
Not done	3	3.3
Done correct	31	33.7
Done incorrect	58	63
Wearing boots during work		
Not done	82	89.1
Done correct	4	4.3
Done incorrect	6	6.5
Wear gloves during collection medical waste		
Not done	12	13
Done correct	32	34.8
Done incorrect	48	52.2
Wear gloves while collecting needles and sharp objects		
Not done	9	9.8
Done correct	29	31.5
Done incorrect	54	58.7
Using disinfectant while cleaning		
Not done	8	8.7
Done correct	52	56.5
Done incorrect	32	34.8
Wash hands after removing gloves		
Not done	55	59.8
observation	no	%
Wear gloves during work		
Not done	3	3.3
Done correct	31	33.7

of waste collection and waste disposal [8]. The majority of hospital housekeeping personnel (92.4%) were female and this finding is supported by finding in a study conducted in the past which indicate that more females are involved in hospital housekeeping works 90% were females [5].

The half of the participants (59.8%) their hospital experience were above 6 years and spent this period in one unit which is differing to

Table 6b: For observational checklist for practice of preventive BBI (n=92).

Collecting equipment and contaminated towel separately		
Not done	32	34.9
Done correct	27	29.3
Done incorrect	33	35.9
Close the paper for contaminated towel and medical waste tidily		
Not done	20	21.7
Done correct	27	29.3
Done incorrect	45	48.9
Use safety pox for collecting needles and sharp objects		
Not done	25	27.2
Done correct	21	22.8
Done incorrect	46	50
Using car for transport medical waste to other place		
Not done	83	90.2
Done correct	9	9.8
Done incorrect	0	0

Practice of preventive BBI

variable	T test	Means	SD	P-Value
knowledge	1.66	10.57	5.12	0.1

finding regarding job experience ranging from 6 months to 2 years noted in study conducted to assess the sharp injuries among hospital support personnel [9]. Most of the participants (68.5%) prefer to work in the morning shift.

The majority of participants (75.0%) not received any training program. This finding is similar to study conducted in Egypt for the improvement of knowledge for health care workers regarded blood borne diseases which showed 70% improvement of knowledge [10].

At variance of our finding, a study conducted for the evaluation of the post teaching knowledge about HIV/AIDS among hospital class [4] employee hospital workers reveal only about half of the class IV workers trained, these findings indicate that hospital housekeeping personnel need periodic awareness about precaution regarding the blood borne infections [8].

The majority of participants (71.7%) has previous knowledge during travelling. Regard HBV our study is at variance with studies conducted among auxiliary health workers to assess their perception regard hepatitis B which showed 90.03% aware about HBV [11].

Other similar survey conducted in Kuwait to assess knowledge towards blood borne infection, which showed good knowledge regard blood born diseases, it is strongly disagree to our study [12].

Study in Southern Nigeria, which assessing knowledge, attitude among health care workers (including hospital housekeepers) towards HBV found that majority of the respondents demonstrated high level of knowledge of hepatitis B infection, the routes of transmission of the Infection 81% which is similar to our study with our study [13].

Hepatitis C virus infection is an emerging health problem worldwide. Awareness about the disease is necessary in the prevention and control of disease and particularly among housekeeping personnel due to their job practice. The present study showed that knowledge of housekeeping personnel about hepatitis C and uses of preventive measures is adequate, similarly with studies conducted in Tertiary Hospital in India among health care workers to assess attitudes and awareness regarding hepatitis B and C, the results revealed that all respondents had favorable knowledge and attitudes towards this infection 99% [14].

Respondents of this study have good knowledge regard HIV/AIDs mean knowledge 7.79 and this is strongly disagrees with study conducted in India on hospital housekeeping personnel in Mangalore hospital to assess the impact of learning package on HIV/AIDS for hospital housekeeping personnel which is about 63% [15].

Improve knowledge and practice regarding preventive measures play an important role in control of the blood borne diseases, our finding showed good knowledge but they have poor practice regard prevention of blood borne diseases, this supported with study done in Egypt to assess knowledge, attitudes and practices of health care workers regarding needle stick injuries that, showed gap in practice about protective measures for prevention of hepatitis C such as hand washing, wear gloves, surgical mask, and gown and recapping the needless 29% [16].

These workers clean and collect infectious waste generated during the provision of health care services to the population. Thus, they are at a very high risk of exposure to objects contaminated with blood and body fluids [17].

Other study disagrees with our finding, a study conducted in Dhulikhel Hospital to assess the knowledge and practices on preventive measures of blood borne diseases among non-medical attendants (sanitary workers,) the participants of this study showed favorable practice towards Blood Borne Diseases 68% [18].

From the findings hospital housekeepers need comprehensive education program regard practicing to prevent blood borne infection. A Study conducted in 2004 in Konanur to evaluate effectiveness of education programs towards HIV/AIDS among different categories of health care works, including hospital housekeeping personnel, results showed poor knowledge, but improve after the education program by 17% specifically among hospital housekeeping personnel which is strongly disagrees with our study [19].

Conclusion

Hospital housekeepers have poor practice, although they have good knowledge regard blood borne infection.

Recommendation

Continuous education and periodic awareness on blood borne infection regard knowledge, attitudes and practice may be provided for hospital housekeeping personnel and there should be guidelines and clear policy for the medical waste management system. Medical check for hospital housekeeping before recruitment and vaccination for Hepatitis for -ve hepatitis hospital housekeeping personnel.

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