

Research Article

Perceptions Regarding Hepatitis B and C Diseases, and Their Risk Factors among Ward Boys Working in Tertiary Care Hospitals of Islamabad

Soomar SM^{1*} and Abdullah M²¹Department of Community Health Sciences, Aga Khan University Karachi, Pakistan²School of Nursing and Midwifery, Aga Khan University, Karachi, Pakistan***Corresponding author:** Soomar SM, Department of Community Health Sciences, Aga Khan University Karachi, Pakistan**Received:** May 05, 2020; **Accepted:** May 19, 2020;**Published:** May 26, 2020**Abstract**

Background: Hepatitis is a serious public health issue in the present era. More than 2 billion population is suffering from Hepatitis infection. Similarly, there are about 36 million healthcare professionals globally, out of which approximately 3 million per year get an injury from some sharps, thus resulting in 2 million subjects being infected with HBV and 1 million with HCV (WHO). A systematic study of 2015 showed HCV sero prevalence in the adult population of Pakistan was 6.8 whereas individuals infected with HCV were 6%.

Methods: A qualitative study, with Phenomenological approach, was conducted among wardboys of Islamabad. Two Tertiary care hospitals of Islamabad, one in the public sector and the other in the private healthcare sector were selected as a study site. In-depth interviews with purposely and conveniently with selected ward-boys working in both the hospitals. A total of 25 in-depth interviews were conducted by the principal researcher from wardboys, 12 and 13 from the public and private sector hospital till the saturation was achieved.

Results: 25 participants were interviewed on the basis of the interview guide and asked in detail about hepatitis B and C disease their risk factors and causes. It was found that wardboys lacked comprehensive knowledge about the disease process. They did not adopt preventive strategies and precautionary measures and they lack refresher training and possess knowledge about the spread of infection which was close to none. Little efforts were made in these hospitals to ensure the safety of this group which would render them at high risk of attaining infection as well as transmitting it. Apart from health care workers, especially the wardboys that are subjects of this study were not compelled and penalize to follow infection control standards which led to the downfall of the system and provided a way for infection to proliferate and prosper.

Conclusion and Recommendations: From this study, it is concluded that ward boys in private and public tertiary care hospitals are at high risk of acquiring Hepatitis B and C infection. They lacked knowledge about the infective disease and its preventions. Certifications should be made mandatory for wardboys to allow for work in this environment. Hospitals do not have an efficient system for infection control measure and lack of infection control training. It is important to make infection control processes strong and conduct regular refresher training for all health care workers.

Keywords: Infectious Disease; Paramedics; Hospitals; Knowledge; Low Middle-Income Country

Introduction

Hepatitis is the inflammation of the liver and vital organ in the human body. Its main function is a purification of blood and protects from multiple infectious diseases. If any defect occurs in the liver it alters all its functions and causes liver disease, which includes Hepatitis B and C. Hepatitis is a serious public health issue nowadays [1]. According to WHO, the Hepatitis C virus is responsible for Hepatitis C infectious disease of the liver. Two types of Hepatitis acute and chronic occurred through this virus. It affects mild to severe illness. The hepatitis C viral infection spreads through a small quantity of

blood via intravenous drugs, needle sticks injury and donation and receives of blood and blood products [2]. After the arrival of Hep B vaccination in the year 1980, a reduction was observed in the prevalence of Hep B. It was also observed that prenatal screening of long term infected mothers can prevent transmission of disease to their new born. Health care workers all around the world are at risk of attaining infectious diseases like hepatitis B and C in comparison to other occupational groups because of the working environment [3]. Pakistan has a significantly high prevalence in urban areas as compared to rural areas and it is increasing day by day. In term of health care, a study in which samples of health care workers were

analysed. Samples showed a prevalence of Hep B and C to be 5.8 and 3.25 respectively. This can reduce health workforce productivity, put patients at risk and affect the health systems performance. Hepatitis B is a serious issue in public health that can easily be prevented through knowledge [4]. Hepatitis B virus infection transmission occurs from blood and body fluids needle stick injuries or re-use of needles razor blades, unprotected sex and vertical transmission from mother to child [5]. Without intervention, Hep B positive mother faces a 20% risk of infecting her baby at the time of birth. It can also be transmitted from household items through non-intact skin or through the mucous membrane. However, at least 30% of reported hepatitis among adults cannot be associated with an identifiable risk factor [6]. Pakistan is a developing country, therefore, it showed focus on devising ways to promote and maintain preventive strategies to maintain and eliminate the burden of this disease. The risk factors associated with Hep C transmission in Pakistan were injection use, Unsafe medical and medical practices, Blood Transfusion and perinatal transmission are common [7]. Several studies showed that factors associated with these unsafe practices are poor knowledge, lack of skills, awareness, sterile. Barbers also play a pivotal role in the spread of infectious diseases including hepatitis B and C via unsterile razor. Another study shows that most of these barbers are unaware of the phenomenon about the spread of blood-borne infections [8]. The main reasons for the rapid spread of this disease are lack of knowledge and poor medical facilities especially in the least developed countries like Pakistan. In 2015 about 1.34 million deaths were caused by this disease [2]. Effective preventive measures are needed to be practised along with vigilant primary care services to put a hold on this threat that has engulfed Pakistan for many years and has affected its health as well as the quality of life of its residents due to non-compliance. Although primary health care strategies have reduced the HIV incidence, they have been less efficient in reducing HCV incidence. The worldwide prevalence of HCV remains on the higher side among injecting drug users. This will require some new interventions to be designed to create a better response at this global health problem. Even though its prevalence is high many interventions in progress seem to be applicable and cost-effective due to their impact on the prevalence of HIV, therefore, this threat can be reduced. Even though Hep B and C is becoming a huge threat to public health yet there is little information till date on its incidence and prevalence about Hepatitis in Pakistan as compared to the developed countries like America and UK where there is a significant amount of information. However, several attempts have been made to measure the sero prevalence of HCV in Pakistan. In four provinces of Pakistan prevalence turns out to be Punjab 6.7%, Sindh 5%, Baluchistan 1.5% Khyber Pakhtunkhwa 1.1% respectively. A total of about 10 million people suffer from HCV in Pakistan and the majority of them develop a chronic liver disease that is why it is a disease of epic proportions and needs to be dealt with [9]. Public health programs need to make way for the public to fight this problem and thus make progress in the following 4 fields. Prevention of new Infections, awareness about the spread of infection, Increasing testing and diagnosis, getting diagnosed individuals into treatment and care. Apart from vaccination and screening, another important component is educating the population so that they are aware of the threat that this disease poses. In this regard, the Centre for Disease Control and Prevention has highlighted the need to work with stakeholders of a community. This will increase awareness

about the disease among them. However globally, 71 million people suffer from chronic Hep C infection. A substantial number of these people will develop cirrhosis or liver cancer. 0.39 Million people are dying each year from Hep C, most of them die from cirrhosis and cancer of hepatocellular. HCV infection is hard to diagnosis and its management is not too good [10]. Currently, immunization for HCV is not available. But there are many types of research related to it are in progress. It is estimated that 2,000,000,000 peoples are infected with the Hepatitis virus globally, and 350000000 people are carriers for life and most of these are in the INDO-PAK region. Its transmission occurs from blood and body fluids needle stick injuries or re-use of needles razor blades, unprotected sex and spread of infection to child by mother. The areas where the prevalence rate is so high are Pakistan India and China, where transmission through contaminated syringes, apparatus use and blood product was utmost relevant. Hep B Virus and Hep C Virus are responsible for the two most extensively spread liver diseases globally [11]. Healthcare Professionals have the risk of getting Hepatitis B&C viral infection through skin eye, syringes and blades. 25% of the total occupational exposure is through the oral route and 75% exposure is through the skin. According to the World Health Organization (WHO) statistics, there are about 36 million healthcare professionals globally, out of which approximately 3 million per year get an injury from some sharps, thus resulting in 2000000 subjects being infected with HBV and 1000000 with HCV [12]. Other studies have predicted that frequency of injury to healthcare professionals caused by sharps ranges from 1.4 to 9.5 per 100 healthcare professionals per year those results in 0.42 Hep B Virus infections per 100 sharps injuries annually. This research shall contribute to assessing the perceptions of wardboys working in a tertiary level hospital concerning hepatitis B & C infection and its risk factors in a developing country.

Literature Review

Global perspective

Hepatitis viral infection is a challenge that occurs globally. As per the World Health Organization, more than 2 billion populations are suffering from Hepatitis virus infection. Chronically carriers around the world are 378 million people. About 257 million people have HBV infection (those who have surface positive antigen of Hepatitis B. There are approximately 620000 deaths relate to Hep B Virus annually. Moreover, the incidence of Hep B Virus is 4.5 million globally per year, out of which $\frac{1}{4}$ leads to liver ailments. The prevalence of Hepatitis C virus is at 2.5%. 177 million of HCV infected adults globally. An estimated 71 million people suffer from chronic Hep C infection. A noteworthy number of those who are chronically infected will cultivate cirrhosis or cancer of the liver. Hep C in low endemic regions, like the U.S, North Europe, parts of South America and Australia, have less than 2% occurrence of HBs Ag. Carrier rate between 2% and 8% includes the Middle East, Eastern European countries and the Mediterranean basin are considered areas of moderate endemicity whereas In high endemic areas, like central Asian republics, Southeast Asia, Sub-Saharan Africa and the Amazon basin, the HBV carrier rate is over 8% [13]. According to a 2014 report on Hepatitis C in the UK One of the most important risk factors is injectable drug use as evidenced by a study in the UK in 2013. Data from the same study suggested that infection injectable drug users was on higher side 50% in England 32% In North Ireland

and 47% in Wales 57% of Scottish injectable drug users tested positive for Hep C. A sub survey in England and Wales that people who inject image and performance enhancing drugs 3.6% had Hep C antibodies positive [14]. Most recent estimates suggest that around 160,000 people in England are living with chronic HCV infection and modeling work is ongoing to update this estimate The practice of injecting drugs is deemed one of the most important risk factor for HCV infection being as much as 90% of all the reports among risk factors In year 2015 as much as 54% of the population, who had injected themselves with psychoactive drugs participating in the UAM survey of people who inject drugs, survey showed that they were tested positive for antibodies of HCV and this proportion has thus been constant over the past 10 years or so. There is some evidence of an increase since 2011. The study also recognizes factors in generating useful “Global” and even “Regional” estimates for hepatitis C. Due to markedly different epidemiology in each country as seen in anti-HCV prevalence between Egypt and the rest of North Africa/Middle East [15]. In Europe Hepatitis C is a major public health concern because of the high burden of infection and high levels of associated morbidity rate and mortality rate. The global strategy aimed at the elimination of hepatitis virus and provides a much-welcomed chance to improve struggles meant to control this burden. It is essential that countries have access to health information to achieve the goal of elimination, through control programming and operative prevention. In 2013 according to WHO Prevalence of chronic Hep B virus in Thailand prevalence was 6.4% for Thailand 4300000 individuals, Cambodia 4.1%, 3.4% for Myanmar, In Laos 8.7%, and in Vietnam, it was 10.8%. In Rwanda, tertiary care hospital workers are at increased risk of exposure and low rate of HBV being vaccinated, among the high-risk group for Hepatitis B Virus/Hepatitis C Virus spread. Advancement of infection control practices is immediately suggested to deliver shield to this possibly high-risk cluster [16]. In the National hospital of Tanzania Hepatitis B vaccine coverage is presently low, although adequate knowledge of and optimistic approaches to the immunization. This is a challenge and severe public health situation for a country with an elevated prevalence of Hep B infection. The prevalence of current Hep B virus infection and lifetime exposure among health care workers was significantly high in Uganda. Body fluid exposure infection was high as well and only a small amount of HCW was immunized for Hep B infection. Furthermore, infection control practices, knowledge, attitudes and other approaches for control of infection need to be strengthened [17]. In Egypt, the Alexandria University Hospitals exposure of Hepatitis-C Virus through contact with Body Fluid and Blood in Nurses care professionals and Paramedical Employees the prevalence of anti-HCV positivity was 8.6% and HCV infection was 4.4% [18]. In Palestine study was conducted about the risk factor of hepatitis B according to study Many behavioural and health care related risk factors like blood transfusion, hospitalization, Intravenous drugs usage, shaving equipment’s sharing were identified to be more prevalent among the Hep B cases. Specifically, raising public awareness about the determinants of HBV and its mode of transmission are necessary actions to prevent and control the disease [18].

National perspective

In developing countries, most people are still having hepatitis

viral infection. Hospital workers have different risk awareness and Hep B infection knowledge. Health care professionals like nurses have different knowledge and cleaners have different knowledge because of the differences in education status, training programs, and professed significance within the hospital. The overall risk perception is poor [11]. Another article highlighted that nurses and housekeepers have frequent Needle Stick Injuries and Blood Body Fluids exposures. It has been noted that hospital workers have a low risk of Hep B infection and low immunization rate although having adequate knowledge of the Hep B vaccine. Pakistan is in the high prevalence areas for Hepatitis B and hepatitis C. 4.5 million people are carriers of Hepatitis B Virus with a rate of 3-4% for, about 12.8 million patients with Hep B virus have 6-8% sero prevalence. 10% develop chronic hepatitis and 15% - 25% about 50% of these individuals develop hepatic decomposition or hepatocellular carcinoma develops cirrhosis after having Hep B viral infection. Chronic liver illness progresses due to prolonged Infection of Hepatitis C in which KAP, Hepato-cellular carcinoma is 50%. In 2015 about 1.34 million deaths were caused by this disease. Knowledge Attitude and Practices; of health care professionals, physicians and groups of the healthy community towards the patients of Hepatitis-B and C were studied by different scholars at international. Awareness about biomedical concepts of diseases like cause, symptoms, precaution and prevention shapes up the attitude of people towards patients of those diseases. Practices of health care professionals and non-health care employees working in health care setup also vary due to their knowledge about the disease. Studying knowledge, of a disease helps to understand the general perception of people. This information may help to change peoples’ perceptions towards the disease and creating a positive environment for controlling infectious diseases like Hepatitis argued that better knowledge is essential for control of Hep B&C disease in emerging countries [17]. Hepatitis B and C virus contribute to the global threat of general population specifically in developing countries because research shows that that lack preventive measures as well as appropriate knowledge to avoid these infections [19]. According to a study, Hep B was named disease of the poor as the disease was found to have a higher association with people of lower socioeconomic status [19]. Estimates showed that 3-4% of people suffer from Hep B virus and 5-6% of people in Pakistan suffer from Hep C infection. Since 1994 WHO worked with Pakistan Ministry of Health to add Hep B vaccine in its Expanded Programs on Immunization so that burden of disease could be reduced. Multiple studies have shown that about 80% of HCV related infections proliferated into Chronic Liver Disease. Considering this threat in 2004 first project was morphed by the Ministry of Health namely Hepatitis Control Programme through the funding of the World Health Organization. The focus of this program shall be on vaccination, safe use of injections, safe blood and blood product transfusion, Behavior Change Communication of the population as well as the health care workers, hospital waste management and hospital waste surveillance [20]. In Pakistan approximately 10 million people suffer from Hep Pakistan has one of the biggest burdens of Hep C infection in the world. National hepatitis survey shows about 8 million people living with Hep C in Pakistan [5]. Majority of these individuals are not even aware of their disease due to which their diagnosis is delayed and so does their treatment, therefore, treatment is [6]. A review highlighted lack of community-based work in Pakistan on Hep B and C as a number of subjects

Table 1: Summary of themes.

Lack of infection control process in Hospital	Poor Knowledge of Ward boys	No Background Knowledge	No teaching Learning Session for Ward boys
The spread of infection:	Knowledge deficit.	Malpractice	No Learning Opportunity in Hospital
Awareness about the spread of disease:	Non-Clinical Education and Skills.	Poor knowledge about Disease.	Lack of Interest to learn
Lack of in-service Refresher training in hospital:	No background knowledge of Ward boys.	No Training in hospital.	
Public Hospital Vs. Private Hospital perceptions:	High-risk Perceptions	Poor Knowledge about Hepatitis Disease and its spread.	

studied were majority high-risk groups, patients that suffer from Hep B or C and donors of blood. The mean prevalence of Hep B and C in data collected from children was 2.3% and 2.5%, in pregnant women it came out to be 2.5% and 5.2%, in general, population prevalence was 2.6% and 5.3% in army recruits prevalence of Hep B and C was 3.5% and 3.1%. Among Blood donors 2.4% and 3.6%. In health Care workers 6.0% and 5.4 %, in high-risk groups 13.0% and 10.3%. Patients with provisional diagnoses of hepatitis had a percentage of 12.3% and 12.0% where patients with chronic liver disease showed a prevalence of Hep B and C to be 25.7% and 54% respectively.

Rational of the study

Reason for conducting this study is to identify the perception about disease and risk factors in wardboys working in tertiary care hospitals Islamabad. This is leading disease in Pakistan its prevalence is high in general population and health care workers. This will provide a lead to know regarding perceptions of disease and its risk factors in the marginalized group.

Research question

What is the perception about hepatitis B and C in wardboys working in tertiary care hospital?

What is the perception about risk factors of hepatitis B and C in wardboys working in tertiary care hospital?

Aims and objectives

Aim: To control the spread of Hep B and C diseases in wardboys working in hospitals.

Research Objective: To assess perception about risk factors of Hepatitis B and C among wardboys working in tertiary care hospitals Islamabad.

Methodology

A qualitative study, with Phenomenological approach, was conducted in tertiary care hospitals among wardboys of Islamabad. Two Tertiary care hospitals of Islamabad, one in the public sector and the other in the private healthcare sector were selected as a study site. The study was conducted in 3 months. In-depth interviews with purposely and conveniently with selected ward-boys working in both the hospitals. Lists of the target population from both the hospitals were obtained. From the list, the study participant depending upon their availability and consent to participate were approached. According to the interview, guide participants were interviewed through random sampling until saturation achieved. In-depth Interviews were conducted on a prepared in-depth interview guide following the Phenomenological design. In which the participant described their live phenomenal experience. Data collection was done through interview guide by trained staff. The time limit was 20

-25 mints. Inclusion Criteria was all ward boys are working in these hospitals that consent to participate and Exclusion Criteria was ward boys being either a case or carrier of Hepatitis B or C, and being treated for the disease. All consenting wardboys were included in the study. A total of 25 in-depth interviews were conducted by the principal researcher with wardboys who were working in tertiary care hospitals of Islamabad, 12 from public sector hospital and 13 from the private sector hospital till the saturation was achieved. All interviews were conducted in a hospital setting. By using interview guide questions were asked in Urdu and response were in Urdu and Punjabi then response interpreted in English. Only three interviews were conducted in the Punjabi language on the request of participants. Only 02 participants refused to participate in this study. The average length of the interviews was 13 minutes. Participants were fully authorized to discontinue at any point. Consent was clear and well described.

Result

Demographic data

All participant were Male of different age range 23 years – 27 years were 6 participants, 28 years – 32 years were 7 participants and 33 years and above were 12 participants. Mean qualification was matric and 4 out of 25 participants were intermediate. Job experience range 1-3 years were 04 participants, 4 years-7 years were 10 participants, 8 years-11 years were 06, 12 years and above were 05 years. Out of 25 participants, 12 interviews were taken from the public sector and 13 interviews were taken from participants who belonged to the private sector (Table 1).

Lack of Infection Control Process in Hospital

In the public hospital of Islamabad, the infection control process was not standardized because of the poor infrastructure of local bodies and lack of interest of government officials. The participants were not aware of the infection control process. Hospital did not organize any session for wardboys about infection control process. There was a big gap of knowledge among wardboys about infection control. They had a lot of experience working in a high-risk environment but they still did not have knowledge about infection control process.

The Spread of Infection

The ward boys were working in tertiary care hospitals of Islamabad did not have in-depth knowledge about the spread of infection. The ward boys were working in these hospitals having Matriculation Certificate. While collecting data from ward boys, they were telling, they did not have knowledge about this disease and its spread in hospital and community, even during the hiring process they did not get any departmental training nor from human resource department one ward boy verbalize during his concern during an interview about

spreading the infection control. Ward boys from both hospitals told about their perceptions regarding the spread of infection. When they told their perceptions it was concluded that they do not have enough awareness about the spread of infection. Ward boys informed that they had never taught about the spread of infection ever. They knew a little bit about spreads of infection but still, there was a need to know more about spreads of infection.

Awareness about the Spread of Disease

Both Public and private hospital wardboys have different knowledge and perceptions regarding disease spread. There was a vast gap in knowledge among them. They did not have sufficient knowledge about the diseases process and its spread. They were not aware of the disease as it is a communicable disease. They answered like; they are unaware of this disease. They heard about it from unit and patients. It is a liver disease in which our liver does not work properly. Patients suffered from anorexia and paleness of the body. They knew a little bit about the spread of disease but that was not enough. Wardboys working in hospitals were on high risk of being infected. They were telling about this, I concluded they did not have enough knowledge about it.

Lack of in-Service Refresher Training in Hospital

Both hospitals public as well as private were not giving the opportunity to their wardboys to learn and advance their knowledge. There was no facilitation for wardboys to enhance their knowledge and skills according to modern technology medical field are so vast and both hospitals have a great opportunity to advance their workers with skill and knowledge. Knowledge and skill deficiency have been found among wardboys as they answered questions. Wardboys from both hospital said that there were no educational activities and in-service refresher trainings occur up till now. They did not know about disease process and its spreading process. Furthermore, hospital administration was not taking imitative to take any action to teach the wardboys. Ward boys from hospital verbalize that, they did not take any lecture or trainings session related to any disease pattern in hospital. They were not trained at any point at all.

Public Hospital v/s Private Hospital Perceptions

Wardboys from both hospitals said that they were on high risk to get this disease. Wardboys told that they knew they are working in a hospital where patients came with different diseases so we can get this disease from them. Wardboys from both hospitals identified they are on high to get this disease. Risk perception of wardboys from the private hospital was almost the same as a public hospital. As both hospitals wardboys told same thing, they are on high risk of getting this disease, and can be a career of spreading disease among patients.

Hospital Perceptions

As far as hospital perceptions is concern, the management was least bother to educate their most important line of staffs. The management of both hospitals were had the same thinking process to words the education of staff members. Analysis of the interview yielded interconnected themes. These were that hepatitis disease is not very known to everyone. They do not have knowledge about disease its spread. They have knowledge about its precaution due to the enforcement of hospital policy.

Lack of Infection Control Process in the Hospital

A 35 year's old male ward boy from the public hospital told, "Main yahan 10 saal say Kam kr Raha humhy infection k mutaliq Kuch Nai btaya jata bus itna btaya jata ha k gloves pehna krain mareez ka kam krty waqt. humhy kisi kisam ki koi class nai dijati infection control walay atay hn kabhi kabhi aur bus hmy kuch nai kehty hum apna kam krty rehty hn".

Health system is worthy if it has control over the infection. It will never improve if there is no control over the spread of infection in the hospital setting as well as the community. In Pakistan public and private sector, the hospital's infection rate is high. The infection control process is very important in every hospital because if it is in control then it has a great effect all over the disease burden and if it is not in control then it increases morbidity and mortality rate of a hospital as well as the country. In the public hospital of Islamabad, the infection control process was not standardized. The participants were not aware of the infection control process. Hospital did not organize any session for wardboys about infection control process. There was a big gap of knowledge among wardboys about infection control. They had a lot of experience working in a high-risk environment but they still did not have knowledge about infection control process.

A 33 years old ward boy from public hospital identified, "There is a team for the infection control process that is working to control the infection. They never told me how we control the spread of infection. I am working here for more than 7 years. I did not learn about it. I use gloves while handling the patients and changing their bedsheet. I wear gloves mostly but not all the time while caring for the patients".

Ward boys from public hospital realized that there is a lack of infection control process in their hospital. They were not trained in the hospital regarding infection control. They have been working here from many years but the organization of the hospital did not take any interest to teach them. They did not know about the infection control process. They come to perform their duties and then going back without even knowing. They did learn from other staff that spread of infection occurs from patients. Mostly they use gloves but sometimes they do not use gloves while handling the patients. They were doing malpractice in the hospital.

A 25 years old wardboy from private hospital informed. "Hammy koi pta nai k infection control kaisay hota ha na he kisi ny hmy koi class di ha bus supervisor aur infection walay atay hn aur yeah keh kr chalay jatay hn k gloves pehn liya kro unit main gloves pary howay hoty hum aksar pehn lyty hn bus itna he hota ha kabhi hmy btaya nai k infection kaisay lgta ha isko hum kaisay control kr skty hn".

The participant from the private hospital informed about the infection control process. They told that there is an infection control department in our hospital that is working to control the spread the infection in the hospital. Routinely rounds, check and balance are maintained in every department. There is a proper team for the infection control program. It has a separate department name as infection control department which is working in the hospital. When asked they knew about infection control process. They said they did not know about it. They also identified that there is no session from this team for us about infection control process.

A 23 years old ward boy from the private hospital said " I do not

exactly know about infection control process and I did not take any class about it I think there is lacking in infection control process in my hospital because they came in our department and go back without giving any information. They never focus on us. I am working here for more than 3 years I did not know anything about it”.

In private hospitals, wardboys realized they don't have sufficient knowledge regarding infection control process. They were told that there is a lack of infection control process in our hospital. They did not know anything regarding infection control. They identified infection control come and did nothing. In both hospitals, wardboys identified that they did not know about the infection control process although both hospitals have infection control department separately. Infection control process in both hospitals was not good according to the ward boy's point of view. Wardboys told that they wear gloves while care of the patients, not all the time but sometimes they wear gloves. Hospitals infection control management never takes any action to organize infection control session for them. That's why they did not know about the infection control process. They did not have any idea about infection control except wearing gloves. They have a knowledge deficit about the infection control process. The infection control process is very important to know among wardboys working in tertiary care hospitals because in tertiary care hospitals multiple patients having different diseases came, wardboys have direct contact with patients if they do not know about infection control process they are on high risk to get the infection in the hospital. As the wardboys explained that they do not know about it. In both hospitals, there was no learning environment for wardboys. All the wardboys did not about the infection control process they have deficit knowledge which leads to malpractice. According to wardboys, both hospitals have infection control department but they were focusing to control the spread the infection and unable to teach the ward boys till now how it spread what precautionary measure are necessary for communicable diseases. Both hospitals have the same issues about the gap in knowledge and practices. As wardboys told there was infection control team in both hospitals which are working to control the spread of infection but many lacking are still present in both hospitals. Wardboys working in both hospitals do not know in-depth knowledge about infection control. All participants from the public sector and private sector said they are using gloves while handling the patients. They did not use always gloves but mostly use gloves. And there were no specific precautions for hepatitis patients in their point of view.

Awareness about the Spread of Infection

Effective use of infection preventions and control strategies is very important for the provision of quality health care to the clients as well as for maintenance of a safe working environment. Wardboys educational background was not sufficient to work with patients. Infections are an important cause to increase or decrease the morbidity rate and mortality rate of any country. If we control the spread of infections of communicable diseases, then we will be able to control the spread of the diseases.

A 31 years old wardboy from public hospital informed “Infection syringe say phelta ha mareez k sath khana khanay say phelta ha us k hath milanay say phelta ha usko touch krny say phelta ha mareez ki bedsheet sy phelta ha aur us k khoon sy phelta ha agar hmy lg jaiy to

hum ny apna checkup kabhi bi nai krwaya hmhy zarorat nai prhti the main alhamdulillah theak hn aur na kabhi hospital walo ny hmy bola ha checkup ka”.

The wardboys were working in tertiary care hospitals of Islamabad did not have in-depth knowledge about the spread of infection. The wardboys were working in these hospitals having Matriculation Certificate. While collecting data from wardboys, they were telling, they did not have knowledge about this disease and its spread in hospital and community. Wardboys from the public hospital told about their perceptions regarding the spread of infection. When they told their perceptions it was concluded that they do not have enough awareness about the spread of infection.

“A 28 years old wardboy from public hospital Islamabad was telling, “It spreads through needle prick injuries, used razor blade, direct contact with patients and they are coughing”.

Wardboys from the public hospital told that they do not know about how exactly spreads of infection occur. They gave their different perceptions when asked if they were ever taught about the spread of infection. All the wardboys of the study informed that they had never taught about the spread of infection ever. They knew a little bit about spreads of infection but still, there was a need to know more about spreads of infection.

A 23 years old wardboy working in private hospital Islamabad told, “infection syringe ki needle sy lgta ha bus itna he pta ha k syringe ki needle sy lgta aur kuch bi nai pta”.

Wardboys working in private hospital gave a little information about spreads of infection. Their knowledge was limited related to awareness of the spread of infection. They were told that they did not have any idea about how it spreads.

A 28 years old ward boy working in private hospital Islamabad expressed himself “It spreads through sharing razors blade, used syringes, dirty bed sheets. It also spread through sharing patient's meal with others and if we do not wear gloves while working in hospital infection will spread”.

From private hospitals, participants were not fully aware of the spread of infection. They informed according to their understanding. Participants were focusing on that infection will spread many ways like sharing meals. Most of the participants realized they do not have enough knowledge about the spread of infection. It seemed wardboys had little idea about the mechanism of spread of infection in the hospital. In both hospitals, the public and private hospital interviews were taken from wardboys. Wardboys said they do not know how the infection spread in the hospital. They realized that they do not have enough knowledge to describe exactly how it spread. As yet, in Pakistan, there is no institute which has started any certificate or diploma course in infection control. Awareness about the spread of infection is very important especially in developing countries because the infection rate is high in developing countries like Pakistan. They were telling according to their thoughts. They were telling about their qualification which does not contain such information. While working in hospitals they never conduct any class related to infection control. Participants said they are telling according to their point of view. Some of the ward boys kept a little information on how the

infection spreads. They identified one or two things in which infection will spread; as wardboys mentioned it spreads through needle stick injuries and razor blades.

Awareness about the Spread of Disease

Awareness about disease pattern is very important because if one knows about the disease process one will deal with the patients well and take precautions to prevent infections. The deficiency in knowledge seems like a high-risk attitude. It is most prominent in wardboys of these hospitals. Education of wardboys about risks and modes of transmission of hepatitis disease is important.

A 26 years old wardboy from public hospital. "Kala yarqan (Hepatitis B and C) phelta ha jb hamri body main khoon kam hojata ha khas tor pe hamry mehday (stomach) main khoon kam hojata ha hum sai sy khana na khatay jigar main garmi barh jaiy tbi bi kala yarqan hojata ha.is ke elawa jb hum kisi mareez sy milty hn salam dua krty hn to us k ganday kapro sy aur mareez k khansi krnay sy bi yeah bemari lgti ha."

The wardboys working in a public hospital did not know about the disease process and its spread in hospitals. They told about the spread of disease was totally irrelevant, unrealistic and also very limited. Mostly signs and symptoms were not present. It was concluded there was a big gap of knowledge among wardboys. Wardboys from the public hospital did not study the disease process and its spread in their academic studies as they mentioned. Wardboys had little knowledge about the disease process. Wardboys informed they did not take any class related to the disease process as they were working for many years in the hospital. They learned things from their own. A 35 years old wardboys from public hospital was telling about the spread of disease "I do not know anything about Hepatitis disease except it has two types these are Yellow(Hepatitis A) and Black Hepatitis(Hepatitis B, C) It spreads if we don't take care of its precautions like sharing meal with hepatitis patients. It also spreads utensils sharing and food sharing with patients. Its signs and symptoms are abdominal distension, bleeding from mouth and jaundice". Mostly wardboys from the public hospital gave the same answers about the spread of disease. They responded like common men who do not know about hepatitis disease exactly. They were focusing on the disease will spread if we will share meals with hepatitis patients. In fact, there was a big gap between knowledge and practice. They identified there was not a single session organized from management for them, Where they learned about the disease process. They were working in the hospital for many years; wardboys identified there was no learning facility for them.

A 25 years old wardboy from private hospital Islamabad said "kala yarqan mareez k sath khana khanay unko milnay sy un k sath zyda batain krny sy aur thandi cheezain khanay sy jaisay bazar sy juice banda peeta ha jo dabay wala hota ha us phelta ha yeah aisi beemari ha jo kisi ko bi lg skti ha zarori nai aisa ho kisi aur trah bi lg skti ha".

Wardboys from private hospitals described disease process according to their knowledge. Their educational background was not covering clinical education. They did not study any disease in their studies. Although they were working in the hospital still they did not exactly know how the disease process and its spread was. They do not know anything about the disease process most of them said they

do not have any idea about the disease process and its spread. They were trying to answer the questions according to their knowledge as they listen from others. They were telling, they were never asked about the spread of disease that's why they do not know about it. A 24 years old wardboy working in private hospital Islamabad, "Hepatitis is a disease of the liver in which level of blood volume in the human body will decrease and water in blood also decreases. In this disease the blood volume will decrease in our body due to malfunctioning of liver and blood colour will become black. It has two types Hepatitis A and Hepatitis B, C. if a person having this disease he became weak. Hepatitis B is very dangerous no treatment for it". Wardboys told about hepatitis disease is basically liver disease. They heard about it from unit and patients. It is a liver disease in which our liver does not work properly. Patients suffering from anorexia and paleness of the body. They knew a little bit about the spread of disease but that was not enough. Wardboys working in hospitals were on high risk of being infected. They had to know about it spreads. They were telling about this, I concluded they did not have enough knowledge about it.

Both Public and private hospital wardboys have different knowledge and perceptions regarding disease spread. There was a vast gap in knowledge among them. They did not have sufficient knowledge about the diseases process and its spread. They were not aware of the disease as it is a communicable disease. They answered like; they are unaware of this disease.

Lack of in-Service Refresher Training in Hospital

In every organization, refresher training is important especially in the hospital setting as they play an important role. Health care workers need to know what is happening around the world. In service, training basically enhances the knowledge and competency of a person. In-service refresher training is very important for tertiary care hospital because this type of hospital has an advanced level of care and dealing with multiple specialities at a time. The workers deal with different types of patients having different diseases-service refresher training play an important role to overcome causes of mortality and effectiveness in patient's care.

A 38 years old ward boy from public hospital Islamabad was telling. "Meray hospital main hamaray liay koi aisi class ya training nai howi na he hmy kis ny btaya ha kabhi kisi ny kuch aisa hmy kabhi kisi ny kisi bemari k mutaliq koi training nai mili main kai salo (years) sy kam kr raha aisa kuch nai howa".

Wardboys from public hospitals informed that was no in services refresher training in their hospital for them. Wardboys were not aware of in-service refresher training. Wardboys informed they are working for many in hospitals but did not attend any training related to their fields. As concluded they were not aware of it.

A 33 years old wardboy from the public hospital said." There is no in-service refresher training in hospital for wardboys since I am working 10 years. We did not take any training in hospital related to patient care and about a disease or clinical related".

Wardboys were working in the hospital they had many years' experience as a wardboys still hospital was not focusing on their clinical knowledge and training. There were no educational and in-service refresher training to be arranged for this group.

A 25 years old ward boy from private hospital informed, "Main is hospital main 5 saal (years) sy kam kr raha hn hum ward boys k liay kabhi koi infection control ya hmaray department ki trf sy koi training nai howi jis main hmy kisi bemari ya ehtiyat k baray main btaya gia ho".

As the wardboys from private hospital realized that there is a good infection control department in our hospital but they are not facilitating us. There was not a single training session arranged from higher management or infection control department for them. They did not attend any service related training during their service in their hospital.

A 27 years old wardboy from private hospital explained. "There is no training session or short courses for wardboys in this hospital. We did not know about disease process because our hospital organized many sessions for other workers but there is not a single training or session for us related to clinical and about patient handling for us. They came and told us to wear gloves while handling the patient only".

Wardboys private hospital said that there were no educational activities and in-service refresher trainings occur up till now. They did not know about disease process and its spread. Hospital was not taking any action to teach the wardboys. Wardboys from hospital told, they did not take any lecture or trainings session related to any disease pattern in hospital. They were not trained at any point at all. Both hospitals public as well as private were not giving the opportunity to their wardboys to learn and advance their knowledge. There was no facilitation for wardboys to enhance their knowledge and skills according to modern technology medical field are so vast and both hospitals have a great opportunity to advance their workers with skill and knowledge. Knowledge and skill deficiency have been found among wardboys as they answered questions.

Public Hospital v/s. Private Hospital Perceptions

The wardboys in these hospitals have different knowledge and having different risk perceptions about disease. While collecting the data according to their knowledge and they have different perceptions about the disease and its risk.

A 24 years wardboy from public hospital expressed his views "Yeah aik aisi beemari ha jo kisi ko bi lg skti ha, jb hum bura sochty hn tb bi yeah beemari lg skti ha. q k bemari ki koi khas wajah nai hoti bus hojati ha. aur main hospital main kam krta hn main smjta hn k mgy khatra ha k mgy yeah bemari lg jaiy".

Wardboys from the public hospital had different perceptions about the risk of the disease. According to their knowledge, they have different perceptions. They were told that we were on high risk of getting this disease.

A wardboy from private hospital answered. "yeah aik aisi bemari ha jo khoon (blood) sy aur needle sy phelti ha hum hospital main kam krty hn yeah cheezain hoti hn hmry pas mareez (patients) atay hum unka khayal rakhty hn unka kam krty hain un k pass jatay hn aur yeah bemari aisay he phelti ha mgy lgta ha k yeah bemari mgy bi lg skti ha q k bemari koi bi ho wo Khuda ki traf sy ati ha main khatra mehsoos krta hn is k honay ka".

According to them, the disease spread with blood and needle

prick injuries. They deal with multiple patients in a day. They thought this disease came from God. Everyone was on high risk to get this disease and they were on high risk to get this disease. Some wardboys from private hospitals had different perceptions regarding the spread of this disease they thought this disease spread from the community. One wardboys expressed his feeling he infected from hepatitis when he was not working in the hospital. Peoples mostly got this infection from the community, not in the hospital so according to his views, we cannot get hepatitis disease from the hospital. Wardboys from both hospitals said that they were on high risk to get this disease. Wardboys told that they knew they are working in a hospital where patients came with different diseases so we can get this disease from them. Wardboys from both hospitals identified they are on high to get this disease. Risk perception of wardboys from the private hospital was almost the same as a public hospital. As both hospitals told same that, they are on high risk of getting this disease.

Data Availability Statement

The Qualitative (Raw) data used to support the findings of this study are available from the corresponding author upon request.

Discussion

This study was conducted to know the perceptions of wardboys about the risk factors of hepatitis disease in tertiary care hospital of Islamabad. The wardboys working in a public hospital did not know the basic knowledge of the disease and spread of infection. The private sector gives great focus on preventions of infectious disease in their hospital. But in this study, the wardboys are not well aware of the disease process. They did not use personal protective equipment's while handling the patients. They were taught by their senior's staff to wear gloves. There was none availability of other personal protective equipment's like gowns, mask and face shield according to wardboys. There was a bit of knowledge and were not trained as they were working in a hospital. A tertiary level hospital having limited resources to control the spread the infection for the general population. It had been observed in this study that participants were not aware of the risk factors and high-risk population of these diseases. The private hospital should focus on its wardboys and arrange the programs and training courses for them. A study in Northern India, there has not been ample research regarding the assessment of obstacles faced by health care workers due to knowledge deficit regarding the implementation of infection prevention practices [21]. Wardboys were working in a high-risk environment. The infection control process decreases the nosocomial infection, morbidity and mortality but wardboys did not have basic knowledge of it. In the Public sector hospital, the burden of the patient's burden was high. So this leads to the spread of infectious disease among patients and health care provider. Healthcare-Associated Infections (HAIs) guidelines of prevention of infection remain the same regardless of the infection [22]. As in public hospital, they have organized structure and proper developed infection control department which play a significant in prevention and control of infection. Effective infection prevention and control is central to providing high-quality health care for patients and a safe working environment for those that work in healthcare settings. Risk management is an important part of this step when implemented effectively patients can be provided quality of care through infection prevention. Therefore it will not wrong to highlight the fact that Infection Control is a fundamental part of

the clinical care of an individual. A survey suggested that a simple practice as poor hand hygiene can be responsible for causing as much as 40% of infection transmitted in a hospital setting [23]. In both public and private hospital, wardboys said that they do not know how the infection spread in the hospital. Awareness about the spread of infection is essential especially in developing countries like Pakistan where hepatitis is more prevalent. Some of the ward boys on kept a little information about how the infection spreads. They identified one or two things in which infection will spread; as wardboys mentioned it spreads through needle stick injuries and razor blades [24]. Relating to this a study suggested that one-third of healthcare-associated infections are preventable [25]. One tertiary Public sector study showed that basic hand washing facilities are still not available at 25% of public sector hospitals of Pakistan [26]. It is the utmost need of the developing countries to formulate required policies for implementation of standards that achieve infection prevention [27]. Both Public and private hospital wardboys were knowledge deficit. They were not aware of the disease process and its causes. Most participants in the study showed misperceptions about the disease. They were not familiar with the disease process or its management due to deficiency of teaching sessions and in compliance with the up gradation on knowledge. A study shows a lack of knowledge about hepatitis was reported among healthcare workers [28]. The burden of healthcare-associated infections is shared by both developed and developing countries. According to a WHO survey conducted in 55 hospitals in 14 countries in 4 regions, the total percentage of patients who had nosocomial infection 8.7%. Thus, relating to poor practices among healthcare workers [29]. In this regards, Wardboys considered themselves to be at high risk of acquiring this disease still they were not following standard practices of disease prevention and it could result fatal for them as any wrong practice can prove life-threatening to them. Whereas the study showed that Health care workers all around the world are at risk of attaining infectious diseases like hepatitis B and C because of the nature of their profession [30]. It was observed in this study that participants did not know about the spread of Hep B and C infection, making them more susceptible to transmission of infection both to self and others. The only route of transmission that the majority of participants were familiar with was the needle stick injury. It was found that perceptions of the majority of participants about the disease and its risk factors were similar in both settings. Most of the participants thought that they were at high risk of acquiring this disease. In their view, it would be due to bad luck that they or any of their colleagues shall acquire this disease. Majority of studies couldn't find the difference between public and private health sector when it comes to the quality of one or both results are mixed as to whose better. In this study, failing to achieve the self-ideals and having the emotions of futility regarding the treatment turned into frustration over the course of time [31]. Wardboys believed this disease came from God. They thought everyone is on high risk to get this disease. In Iran, diseases were regarded as the punishment of sins by God Almighty. Evidence shows that these struggles lead to degradation in health and well-being [32-34]. Research Funding. The research was purely based on education purpose, hence it was conducted from self finance.

Conclusion

From this study, it is concluded that ward boys in private and

public tertiary care hospitals are at high risk of acquiring Hep B and C infection. They lacked knowledge about the infective disease as well as ways to prevent its spread. Certifications should be made mandatory for such personnel before they are allowed to work in this environment. Hospitals do not have a proper system for infection control measure and lack of infection control training, especially for wardboys. Only a few of them have knowledge about personal protective equipment's PPE, and the majority of them are working at high risk of infection. The wardboys are not aware of the infection control process related to hepatitis B and C. The infection control team does not organize awareness seminars and courses for them. The wardboys who are working in private hospital know that there was infection control department to control the spread the infection in the hospital. Even though, this department does not organize proper awareness session for wardboys. In both healthcare sectors, they have the same issues about the gap in knowledge and practices among wardboys. Wardboys working in both hospitals do not know in-depth knowledge about the spread of disease and infection control. All wardboys use gloves while handling the patients, but they don't follow specific precautions for hepatitis patients in their point of view.

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