

# Knowledge, Attitude and Practice of Nurses and Paramedical Staff Regarding Infection Control in Aziz Fatimah Hospital Faisalabad

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## ABSTRACT

**Background:** Standard precautionary measures are required to prevent the nosocomial infections in any hospital. The infection can be transmitted in the form of blood and other body secretions like urine, cough air droplets and sputum which can contain contagious organisms which can produce diseases. Nurses and other health care workers are responsible for the immediate care of sick patients. Therefore, all the health care workers (HCW) should have the proper knowledge, and awareness of infection control. The aim of this study is to evaluate the knowledge, attitude and practice of nurses, and paramedical staff regarding infection control. For this purpose, a cross-sectional study design is used, and 104 participants were included in the study. Result of this study reveals that most of the staff has good knowledge of infection control, but some have unsatisfactory attitude and practice toward infection control either they don't use PPE or carelessness behavior. **Objective:** To study knowledge, attitude and practice of paramedical staff and to give recommendation in the light of this study. **Study design:** Cross section study was performed among nurses and healthcare support worker staff of hospital. **Setting:** Aziz Fatimah Teaching Hospital Faisalabad. **Duration:** 2 months. **Results:** 104 nurses and health care support workers participated in the study. The results of the study reveal that most of the staff has good knowledge of infection control, however, some have unsatisfactory attitude and practice toward infection control either due to lack of awareness or lack of support from management of the hospital. **Conclusion:** This study shows that knowledge, attitude and practice regarding infection control is not optimal in accordance with the guidelines. The study has also concluded that appropriate training and education is required to create awareness among nurses and health care support workers to prevent cross infection in the hospitals. Moreover, a strict policy must be followed by all the nurses and health care support workers to achieve the desired goals of controlling infection and saving unnecessary expenditures exhausted on treating the infections. In addition, all the necessary personal protection equipment must be provided to the hospital staff.

**Keywords:** Knowledge, Attitude, Standard precautionary measures, Health care worker, Nurse

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## INTRODUCTION

Hospital acquired infections are significant causes of morbidity and mortality among patients. A breach in infection control measures poses a great risk of spread of infection from patients to health care providers, other patients. It is therefore mandatory for all nurses, health care support workers, and even patients, to follow a strict infection control policy. It is also obligatory for health care executives to ensure implementation of the infection control practices in hospitals.

Infection control is extremely necessary in any hospital to avoid the risks of cross infections or transmission of infections to patients. Nurses, and paramedical staff are at high risk of presentation to cross-infection with blood-borne pathogens, for example, hepatitis B infection (HBV), hepatitis C infection (HCV), and human immunodeficiency infection (HIV), mycobacterium tuberculosis and different infectious microorganisms that colonize in the oral depression and the upper respiratory tract.<sup>1</sup>

In one investigation, medicinal services specialists referred to different explanations behind not utilizing the personal

protective equipment (PPE). This was trailed by no use of PPE by associates, occupied plan also troubles in doing activity.<sup>2</sup>

Healthcare in the broadest sense incorporates psychosociology and ergonomics as a feature of the program to enhance the personal satisfaction in work place. Simple surgical mask helps in prevention from infectious droplets (bacteria and viruses) that are created during coughing and sneezing. Hand hygiene is an important measure to prevent cross infection in hospitals, but adherence to policy is generally poor.<sup>3</sup>

The information from empower organizations to set program needs, evaluate assets required for usage, and build up a pattern in which change can be surveyed after intercessions are actualized. The studies can recognize information holes, social convictions, or behavioral examples that may block disease control endeavors.<sup>4</sup>

## LITERATURE REVIEW

World health organization (WHO) declared a global policy for the health care workers to provide them best technology and infrastructure for successful bring about level of health

protection in every place. About twenty types of pathogens can be transmitted through blood due to accidentally needle prick injuries. Many facilities are available for the prevention of infection like HBV vaccination, use of gloves while treatment and proper disposal of syringe needle after use. Despite, many countries have very poor health care facilities that is why they have many health-related issues.<sup>5</sup>

Nearly in all developing countries the health care waste management is the biggest issue and its effects on health care facilities. The first step for management is planning and making a policy for it. In Pakistan a well-furnished system and planning is required for the management of clinical waste.<sup>6</sup>

The infectious waste which is produced during course of treatment, diagnosis or from patients. If the waste is not properly managed, it becomes dangerous. Accidentally contact with the contaminated syringe causes spread of infection if someone is not aware of infection control procedures.<sup>7</sup>

The investigation discovered different other factors which are additionally in charge of the poor Infection control rehearses in clinic setup despite high awareness among specialists and attendant. Some studies show that there is good knowledge of infection control among health care worker.<sup>8</sup>

Different studies which are conducted in worldwide show that most of paramedical staff are unaware of infection control. They do not use gloves and cleanliness of hand after contact with patient (pt.), or wear of protective glasses. The major standard precautionary measures are prevention from needle stick injury. Many of them are caught by that injury, if they are properly vaccinated, they will not be affected by disease.<sup>9</sup>

Safe method like use of PPEs are helpful for controlling the spread of disease. Instead of them the hospital staff shows negligence behavior to control it. Either they do not use PPEs or lack of knowledge. For that purpose, staff training is essential for maintaining safe working and habit and eliminate the risk of developing of disease. The use of PPE is necessary because it is the source of protection during working hours.<sup>10</sup>

Through their proper knowledge and attitude of nurses towards infection control, spread of disease can be controlled. If the standard precaution (SP) are not good so patient health outcome is very poor which leads to high cost of medicine. Some nurses do not wash their hands after contact with patient which is the main cause of infection. Proper hand washing reduces as well as eliminate the risk of infection. The risk of infection increases when contaminated equipment is used these are the source of HBC, HCV, AIDS etc. so good care, knowledge and attitude is required for control.<sup>11</sup>

When patient is known for blood borne disease, precautionary measures are adopted to avoid contacting with patient blood. Precautionary measures are used in all types of patient either they are suffering from blood borne disease or not. The health care workers skin is exposed to disease pathogens, he/she should protect himself/herself from needle sticks injury, sharp edge equipment injuries and chemical burns. Airborne precaution is mandatory for control the spread of air borne droplet disease. For that purpose, use of face mask is

mandatory. Because microbes are very small, they stay in the air for period and cause disease. Air-borne droplet causes the spread of many diseases like mumps, influenza, pneumonia etc.<sup>12</sup>

## METHODOLOGY

**Study Design:** This study was conducted in cross section design. The responders included in this study were paramedical staff including both male and female.

**Settings:** Aziz Fatimah Teaching Hospital Faisalabad-Pakistan

**Duration:** 2 months

**Sample Size:** 104

**Sampling Technique:** Convenient sampling type of non-probability sampling was used. Data was collected through close ended questions. Face to face interview were conducted in the language that responder easily can understand. Ethical issues like informed consent and full aims of this study were strictly observed.

**Data Compiling:** Data was compiled by using Microsoft office and results are presented in the form of tables.

## RESULTS

Out of total 104 individual's 50 percent have knowledge and information about hepatitis B and hepatitis C infection and 42.3 percent do not have. On the other hand, 37.5 percent are aware of AIDS infection and 40.36% have knowledge of Tetanus infection. Only 30.76% know about Cholera infection.

**Table 1: Opinion about infection by diseases**

Disease	Yes	No	Don't Know	Total
Hepatitis (HCV, HBV)	52	44	8	104
AIDS	39	34	31	
Tetanus	42	54	8	
Cholera	32	61	11	

Most of the individuals are vaccinated. 59.61 percent are vaccinated against HBV 51.92% are vaccinated against Tetanus and Measles. Only few got vaccination against Influenza and Typhoid 22.11% and 28.84% respectively.

46.15 percent said that they got vaccine before joining to hospital and 20.19% said they got after joining to hospital while 33.65% are not vaccinated.

**Table 2: Vaccination against diseases**

Disease	Yes	No	Don't Know	Total
HBV	62	40	2	104
Tetanus	54	45	5	
Measles	54	46	4	
Influenza	23	77	4	
Typhoid	30	70	4	

Most of the responders have good knowledge that different secretions from body cause diseases. 89.42% - 95.19%

respond that the saliva, urine, blood, sputum and air droplets are the source of infection. 84.61% - 87.5% responders said that disease can be spread from patients to other individuals. 91.34% said they wash their hand after contact with patient and 78.84 % prefer sanitizer. 69.23 % also change their gloves and 88.46% also wash their hand after removing gloves.

**Table 3: Secretions causing diseases**

Secretions	Yes	No	Don't Know	Total
Saliva	98	3	3	104
Urine	93	7	4	
Blood	99	3	2	
Sputum	95	2	7	
Cough droplets	99	3	2	

89.43 % use gloves, 85.57% use mask and 35.57% use apron before giving treatment to patients as protective equipment. 88.46% responder said that they are provided with personal protective equipment and 82.69% use these PPEs and from rest of the 17.31% how do not use personal protective equipment, 5.7% said they did not comfortable and 94.23% did not respond.

**Table 4: Use of different personal protective equipment**

PPE	Yes	No	No Answer	Total
Masks	89	10	5	104
Gloves	93	6	5	
Gown/Apron	37	62	5	
Goggles	0	0	104	

53.84% got needle stick injury while working. 36.53% injured by sharp edge weapon like blades, 14.42% had acid burn while treating the patient either in wards or operation theatre. Some of them also injured by electricity (6.7%)

**Table 5: Injuries during work**

Injuries	Yes	No	No Answer	Total
Needle stick injury	56	41	7	104
Sharp edge Weapon	38	59	7	
Abrasion	19	88	7	
Bruise	3	94	7	
Acid	15	82	7	
Electrocution	7	90	7	

## DISCUSSION

This is the first study which was carried out in Aziz Fatimah Hospital Faisalabad. We have no available data on safety measures here in hospital and we tried to lay down our first step by doing this research work. The essential thought which leads this investigation is that we need to know the resistible and dangerous infections to which paramedical staffs are uncovered amid their contacts with the patients.

The sanitary workers should take in mind that clearing the vomitus and other excreta of the patient who is taking hostile of destructive medications. A waste handler must know about sharps.

Result of current study reveal that most of paramedical staff have good knowledge of Personal Protective Measure (PPM). 91% of staff said yes out of 104 that they use PPM before and after contact with patient. 91% of staff washes their hand before and after contact but 78 from them prefer sanitizer after removing gloves after contact with patient which is considerable better than previous research that is 81.8% said yes and 68.2% prefer hand wash before and after contact. Finding of current result shows that only few paramedical staff knowledges was not satisfactory. Out of 104 n=62 do not use gown or apron and all of 104 do not use goggles either due to lack of knowledge or carelessness.<sup>11</sup>

A study was conducted in Nigeria, it showed that 68.9% of both doctors and nurses always wash their hand after contact with patient and 97.83% responds they use gloves and in our study 91.3% responds they wash their hand after contact with patient and 93.9% respond they use gloves. Our study population shows good result than the previous one but more knowledge and good attitude toward infection control and use of PPE is required for better result not only for the health of patient but their own health.<sup>12</sup>

A study was conducted on student nurse of tertiary care hospital it showed that most of the student have Knowledge of prevention of HBV infection about 88.1% said HBV spread by body fluid and 79.9% responder said it is spread by blood transfusion reaction and in our study about 93% said it is spread through body fluid which show that they have good knowledge of infection spread as compare to previous study .<sup>13</sup>

57% of responder said that they have needle stick injuries and 39% said they have sharp edge weapon injuries. This was relatively high than previous study which was conducted in South West Ethiopia there HCWs only have 29.6% needle stick injuries. This difference could be eliminated by knowledge of infection control by using PPEs .<sup>14</sup>

was conducted in Jamaica which shows that most of the health care worker have good knowledge of infection control and they also have knowledge of blood-borne disease. About 93% of staff responds they knew that the hepatitis C virus (HCV) is transmitted by blood and needle stick injury. Here in our study 54% respond that they have the knowledge of HCV.

This difference is due to inappropriate knowledge regarding infection control. The previous study shows that 74% of individual are vaccinated against HBV and in our study 60.7% are vaccinated against the HBV. This difference only be removed by enhancing their intellectual level. In the previous study the responders show that they do not use equipment like gloves, mask, they have very poor compliance and in our study 89.8% uses mask, 93.99% uses gloves and only 37% use gown while treating the patients. But further improvement is essential for better results.<sup>15</sup>

In Pakistan the HCWs are infected from disease due to inappropriate HCW management. There is no proper system of management. Training should help them to improve their situation. In the study showed that poor knowledge impact not only their own health but also on the health of patients and in our study most of the health care workers show that they have little or no knowledge of infection control, a robust training and education is required for proper management of infection control.

## CONCLUSION

This study shows that knowledge, attitude and practice regarding infection control is not optimal in accordance with the guidelines. The study has also concluded that appropriate training and education is required to create awareness among nurses and health care support workers to prevent cross infection in the hospitals. Moreover, a strict policy must be followed by all the nurses and health care support workers to achieve the desired goals of controlling infection and saving unnecessary expenditures exhausted on treating the infections. In addition, all the necessary personal protection equipment must be provided to the hospital staff.


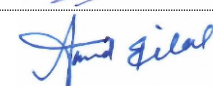
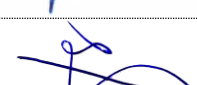

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