



## Research Article

### KNOWLEDGE, PRACTICE & AWARENESS OF NOSOCOMIAL INFECTION AMONG DIFFERENT HEALTHCARE PRACTITIONER: A CROSS SECTIONAL STUDY

Maria Ayub\*, Uroosa Ajaz, Ummam Irfan, Syeda Fizza Fatima, Sana Mughal, Sadia Naz

Jinnah University for women, Karachi, Pakistan

\*Corresponding Author Email: maria.ayub2000@gmail.com

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#### ABSTRACT

Nosocomial infection is also called hospital acquired infection. These infections are most commonly caused by gram-positive bacteria, *Staphylococcus aureus* is most common pathogen responsible for these infections and gram-negative bacteria *E-Coli* is also common pathogen. The common nosocomial infection is pneumonia in ICU and UTI in general wards. The objective was to check the awareness of nosocomial infection between different healthcare practitioners and patients. This study was taken in different hospitals. For the purpose of this a cross sectional study was conducted at tertiary care centre. The sample population was comprised of 20 doctors, 20 pharmacist, 20 paramedical staff, 20 patients and 20 patient attendants. The study based on a questionnaire to achieve the objectives. The result shows that doctors, nurses, and paramedical staff have high percentage of awareness but patients have least awareness about nosocomial infection. Most of the people agreed that hands are the most common vehicle of transmission of organism, but most of the persons do not follow the hand hygiene movements. These infection also spread due to the bad sanitization quality of hospitals, more than 50% hospitals has bad quality of sanitization. Sterilization of ICU and sanitization of other wards should be done to prevent infection. 70% people knew the preventive measure of nosocomial infection, but 30% people do not have awareness about the nosocomial infections so, awareness campaign should be organized to avoid these infections.

**Keywords:** Nosocomial infection, sanitization, practice, awareness, different pathogens.

#### INTRODUCTION

Nosocomial infections, denominated healthcare-associated infections (HAI), have now become a universal quandary in every hospital around the world which accounts for the major global burden over patient susceptible to develop infection. Acknowledgment of the quandary and its individuality vary considerably from country to country<sup>1-4</sup>. In Recent times, attention towards HAIs as a patient safety and public health quandary has highlighted the necessity for systematic HAI surveillance as part of a broad-predicated obviation and control strategy<sup>5,6</sup>.

Most of the nosocomial problems are caused by streptococci. *Staphylococcus aureus* and other gram positive cocci were common pathogen in hospital environment<sup>7</sup>. Nosocomial infections are most commonly spread by gram positive pathogen like *S.aureus*, enterococci and coagulase-negative staphylococci, and it is also caused by gram negative pathogen like *E.coli*, *P.aureginosa*, *klebsiella pneumoniae* and enterobacter<sup>8</sup>. The major problem in hospital is that pathogen acquired antimicrobial resistance, gram positive pathogens like methicillin-resistance *S.aureus* and vancomycin-resistant enterococci<sup>9,10</sup>. The major resistant gram-negative pathogens are *P. aeruginosa*, *Klebsiella*, and *Enterobacter* that harbor chromosomal or plasmid-mediated beta-lactamase enzymes<sup>11</sup>.

ICU has the higher rate of nosocomial infection than other wards. In ICU pneumonia is most commonly observed and in other wards UTI is observed with reported decline in the sensitivity of antimicrobials make prone for infectious disease<sup>12,13</sup>. The hands of the staff of hospital are the major reason of transmittance of microorganism from

one patient to another patient<sup>14</sup>. This transmission can be controlled by hand washing to prevent nosocomial infection<sup>15-17</sup>.

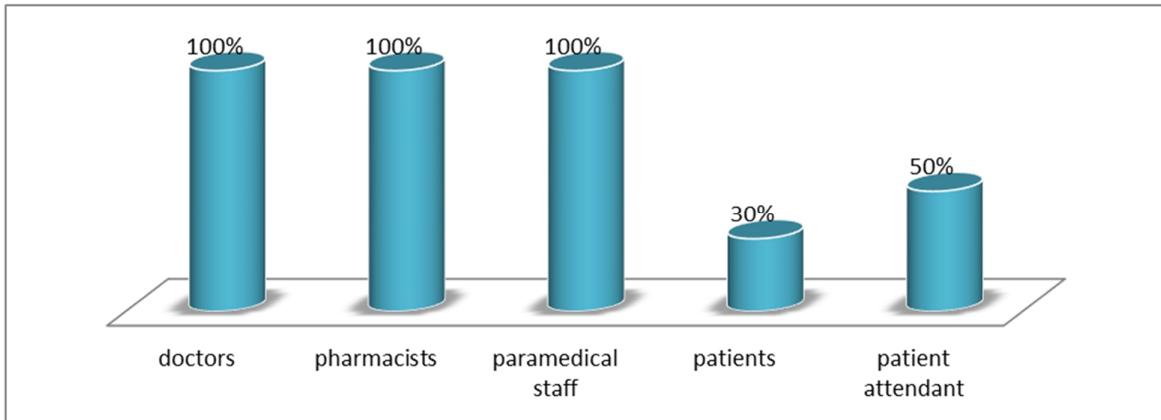
Hospital staff do not follow the preventive measures properly and do not wash their hands properly or prolong the duration of handwashing<sup>18</sup>. It was observed in a study that nurses don't wash their hand properly or avoid washing which result in contamination and increase the chances of diseases, it is due to the over workload on nurses and less availability of sanitization material<sup>19</sup>. It is observed that in many clinics and hospitals, especially in developing countries washbasins, soaps, spray, towels and sanitizers are not available<sup>20</sup>.

The objective of the study is to evaluate Knowledge, Practice and Awareness about Nosocomial Pathogens among different Healthcare practitioner particularly of intensive care unit in view of the fact to findout status about hygiene in our health care sector especially at critical centres.

#### METHODOLOGY

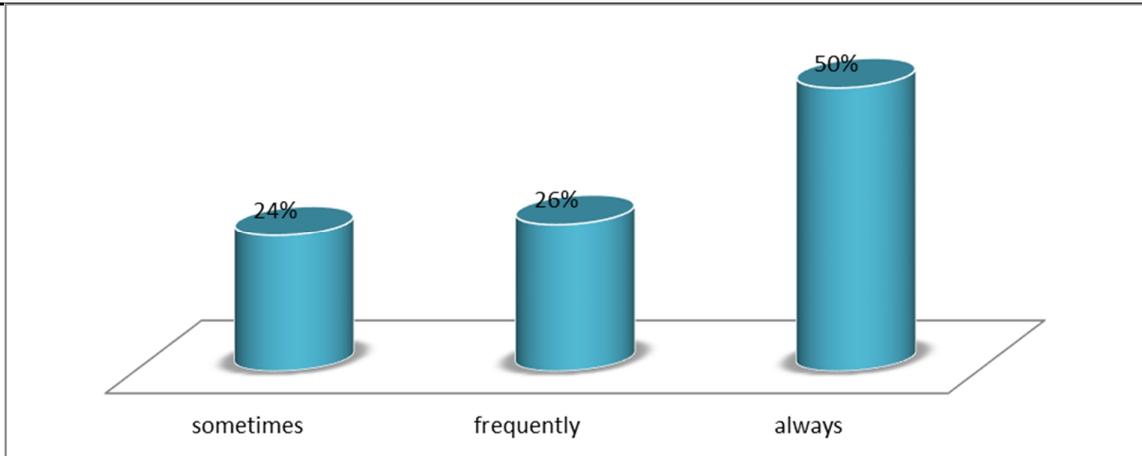
The study was conducted in different hospital to check the awareness about nosocomial infection among different healthcare practitioner and patient. The study was based on a questionnaire. The sample population was comprised of 20 doctors, 20 pharmacist, 20 paramedical staff, 20 patients and 20 patient attendants. They were asked to answer some simple questions to know their awareness about this issue. The questionnaire was based on question regarding to their observation on nosocomial infection, its transmission and necessary prevention for its control and they were also asked about the quality of sanitization in their hospitals, sterility of equipment used in ICU and their own personel hygiene.

RESULT



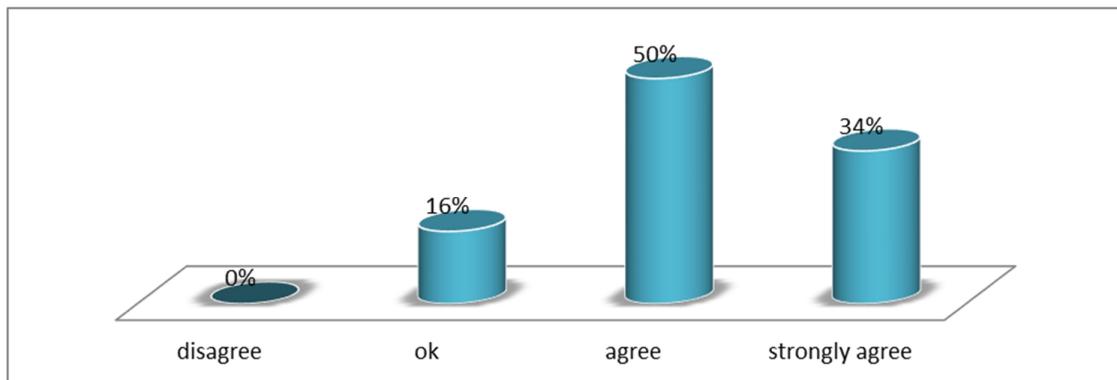
**Figure 1: Awareness about nosocomial infection among different healthcare practitioner**

The result shows that doctors, nurses, and paramedical staff have high percentage of awareness, but patients have least awareness about nosocomial infection that is only 30% and patient attendant have 50% awareness.



**Figure 2: Staff follows all five movement of hand hygiene**

50% of staff sometimes follow the hand hygiene, 26% frequently follow and 24% staff always follow the hand hygiene movement.



**Figure 3: Patient care equipment should be sterilized properly in ICU**

34% people strongly agree that patient care equipment should be sterilized in ICU, 50% agree and 16% say ok.

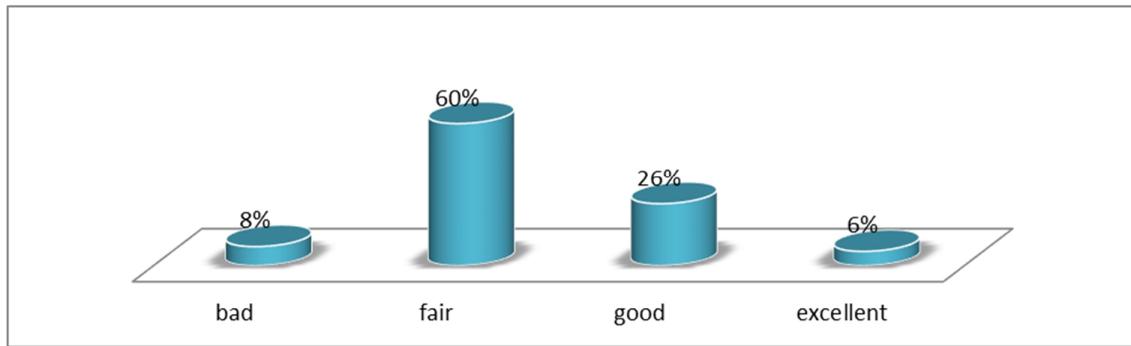


Figure 4: Quality of sanitization in hospital.

Only 6% hospitals have excellent quality of sanitization. 26% have good quality, 60% have fair quality and 8% have very bad quality of sanitization.

Table 1:

	disagree	OK	agree	Strongly agree
Hands are the most common vehicle of transmission?	2%	12%	42%	44%
Personal protective equipment is an effective barrier for infection control?	24%	-	44%	32%
Patient equipment should be sterilized properly in ICU?	-	16%	50%	34%

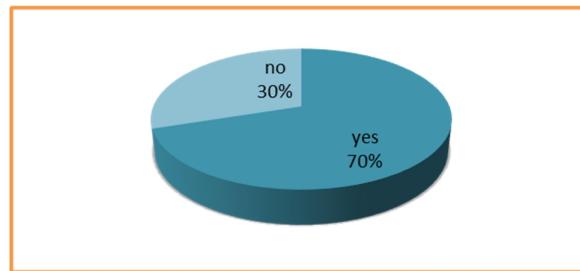


Figure 5: Awareness about preventive measures of nosocomial infection

70% people have awareness about the prevention of nosocomial infection, only 30% do not have awareness.

## DISCUSSION

According to the above table 1 most of the people think that hands are the most common vehicle of the transmission of nosocomial infection, because if the staff examine an infectious patient and do not wash their hand before the examination of other patient then infection transfers to the other patient. So hand sanitization is very important. It is observed that all of the staff member were not trained properly to control the infections, this is another reason for increasing rate of nosocomial infection. According to the survey 50% staff sometimes follow the hand hygiene movement, this careless behaviour or the overload of work on staff members make them to avoid hand washing which leads to increase rate of infections.

Patient equipment should be sterilized properly in ICU, most of the people agree with this statement according to our survey. Mostly the patient of ICU have high rate of nosocomial infection than in other areas of hospitals. The rate of infection in ICU is five to ten times higher than general wards. Mortality rate increases in ICU or severity of illness is due to: patient stays for prolong time period in hospitals, patient is immunosuppressed, use of antimicrobials, and excessive use of therapeutic exposures like nasotracheal intubation, endotracheal intubation, central venous lines, intravenous lines and urinary catheterization.

Personal protective equipment is an effective barrier for infection control, 32% people strongly agree, 44% people agree and 24% people disagree with above statement. In ICU, equipment should be sterilized properly to prevent infection, because the patient of ICU are

more sensitive than other wards and get easily attacked by pathogens, so they need more care.

Another reason of these infection is the hospital environment, if the hospitals are not cleaned properly the chances of infection increases. According to results the sanitization condition of hospitals are really bad and it increases the rate of infection. So, the sanitization or sterilization of ICU should be properly maintained to overcome these infections. Only 6% hospitals has excellent quality of sanitization and more than 50% hospital have bad quality of sanitization.

70% people know the preventive measure of nosocomial infection but 30% people do not have any awareness of prevention of nosocomial infection.

It is observed that the patient have least awareness about nosocomial infection, it is due to less awareness campaign or people avoid such type of campaign.

## CONCLUSION

From the above research we have concluded that patients have very less knowledge about the nosocomial infection. These infections spread due to bad sanitization quality of hospital environment or due to the careless behaviour of hospital staff. Staff should follow the hygiene measures, especially sanitization of hand is very necessary to prevent the infection.

Awareness campaign and training programs should be organized to prevent the nosocomial infection.

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