

# Assessment of Knowledge and Attitude of Staff Regarding Hospital Acquired Infection in Gorakhpur, District Uttar Pradesh

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## ABSTRACT

**Background:** Nosocomial infections are known as "Hospital acquired infections". A nosocomial infection can be defined as: "An infection acquired in hospital by a patient who is admitted for a reason other than infection.

**Objective:** To assess the knowledge and practice of the staffs in hospital care.

**Method:** A descriptive study was conducted in 4 private hospitals of Gorakhpur, District of Uttar Pradesh from 1<sup>st</sup> January to 30<sup>th</sup> June 2019 with pre-tested interview schedule for collecting the data. Simple random sampling method was used for selecting the respondents and Gorakhpur district was selected purposively. Data collection was carried out from selected hospitals.

**Results:** In this study a sample of 246 respondents were selected, 73.2 per cent respondents aged between 20-30 years, were 90.65 per cent were females & 9.3 percent were male, this shows that number of females were more as compared to the males. Maximum 98.4 per cent of the respondents belonged to Uttar Pradesh.

**Conclusion:** It was concluded in the present study that the following measures can help in reducing hospital borne infection like hand washing which is the most convenient way for minimizing the hospital borne infection, and the poor practices of hand washing increases the chances of infection. Personal protective equipments (PPE) minimize exposure to hazards that can cause serious workplace injuries and illness.

**Key words:** Hospital acquired infection, nosocomial infection

## INTRODUCTION

An infection occurring to the patient in a hospital or other healthcare facility where the infection was not present or incubating at the time of admission. This includes infections acquired in the hospital but appearing after discharge, and also occupational infections among staff of the facility." WHO (2002).The word "nosocomial" is a Greek word. The prefix "noso-" comes from "nosus" meaning disease and "comial" comes from "komeion" meaning to take care off.

A nosocomial infection is strictly and specifically an infection "not present or

incubating prior to admittance to the hospital, but generally occurring after 48 hours of admittance."Hasiam (2018). "Nosocomial infections stated as occurring within 48 hours of hospital admission, 3 days of discharge or 30 days after operation. NI (Nosocomial infections) is observed 1 in 10 patients admitted to hospital." Although hospitals now have infection control policies but still those infections occur frequently, the amount of patient deaths and suffering from hospital acquired infections is particularly high. Nosocomial infections are different from non-nosocomial infections because they are

contracted by patients or staff in a hospital setting. Other infections are attained elsewhere outside of a hospital, Inweregbu et.al. (2005).

Nosocomial infections are becoming an increasingly important issue in public health, as there is an increasing amount of bacteria resistant to antibiotics. In an article by the BBC Walsh (2013), Dame Sally Davies describes this issue as a "ticking time bomb" and warns that "routine operations could become deadly in just 20 years if we lose the ability to fight infection." In England, Wales and Northern Ireland, 99,000 cases of blood stream infections were reported in 2011-12, and E. coli alone accounted for 36% of the cases compared with just 1.6% due to the hospital superbug MRSA, Davies (2013).

**Objective:** To assess the knowledge and practice of the staffs in hospital care.

## MATERIALS AND METHODS

A descriptive study was conducted in 4 private hospitals through predesigned and pretested interview schedule for data collection in Gorakhpur District of Uttar Pradesh.

**Study Population:** As the researcher belongs to the same area. In the present study 246 respondents were belongs to the same area and private hospitals were selected because private hospitals can offer more personalized care and treatment to patients.

### Sample size:

Sample size was calculated by the following formula,  $N = z^2 pq / e^2$

Where N =desired sample,

z= standard normal deviate usually set at 1.96 which corresponds to a confidence interval of 95%,

p=80% or .80,

q= 1-p=1-0.80 =.20

Confidence level (z) =1.96 %,

Permissible error (e) = 0.05

According to formula,

Sample size (N)=  $z^2 pq / e^2$

Sample size (N) =  $1.96 * 1.96 * .80 * .20 / .0025$

N= 245.86

Therefore Sample size (no. of respondent) is 246.

Data collection tools and techniques: A pre-tested interview schedule was used to collect the data.

## RESULTS

Study revealed that knowledge of the staffs about word infection was 100%. and the present finding showed that 68.7 % had knowledge regarding HAI known as NI and 88.6% had knowledge of HAI are bloodstream infection. 47.2% staffs had no knowledge about wearing same ICU slippers in washroom and 88.2% of the staff knows about urinary catheter insertion only when it is indicated and 43.9% had knowledge about incineration is the best method for disinfection.

Table 1- Knowledge of the staff

Knowledge about the word infection	Frequency	Percentage (%)
Yes	246	100

### 1.1 Knowledge of the staff about the word Infection

Table 1.1 Shows that 100% staff had knowledge about word infection.

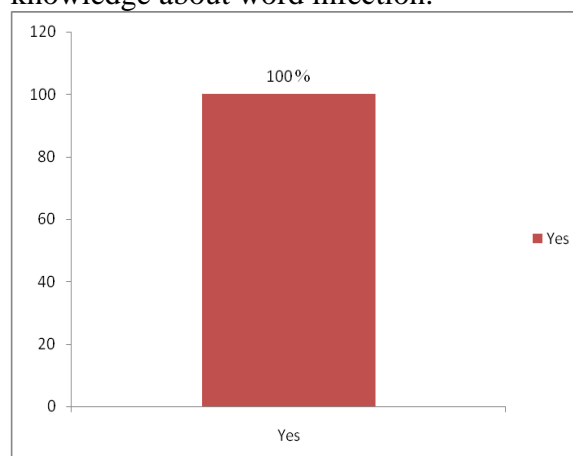


Fig 1.1 Staff knowledge about the word Infection

Table 1.2 Knowledge of the staff regarding HAI (hospital acquired infection)

Known as nosocomial infection		
HAI known as nosocomial infection	Frequency	Percentage (%)
Yes	169	68.70
No	62	25.20
Don't know	15	6.10
Total	246	100

Table 1.2 Shows that maximum 68.7% staff had knowledge about the HAI Known as NI (nosocomial infection) and minimum 6.1% don't know about the HAI (Hospital acquired infection).

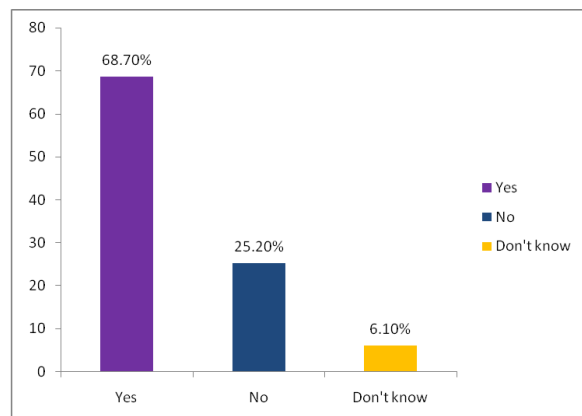


Fig 1.2 Knowledge of staff regarding HAI known as nosocomial infection

Table 1.3 Knowledge of the staff regarding common Hospital acquired Infection (HAI) are blood stream infection

Hospital acquired infection knowledge	Frequency	Percentage (%)
Yes	218	88.60
No	28	11.40
Don't know	23	9.30
Total	24	100

Table 1.3 Shows that maximum 88.6% staff had knowledge about the HAI are blood stream infection and minimum 9.3% staff doesn't know About HAI is the blood stream infection.

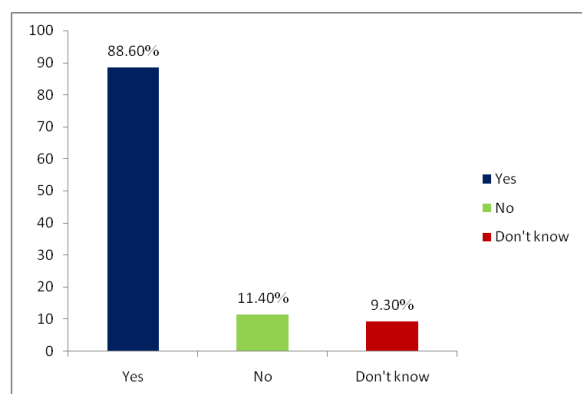


Fig 1.3 Knowledge of staff regarding common HAI is blood stream infection

## 2-Practice of the staff

Table 2.1 Knowledge of the staff regarding not wearing same ICU slippers In washroom

Wearing ICU slippers in washroom	Frequency	Percent age
Yes	72	29.3
No	116	47.2
Don't know	58	23.6
Total	246	100

Table 2.1 Shows that maximum 47.2 % staffs had no knowledge about Wearing same ICU slippers in washroom and minimum 29.3 % staff Have knowledge.

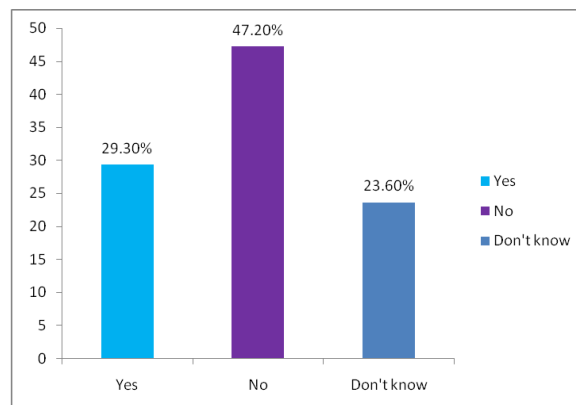


Fig 2.1 Knowledge of the staffs regarding wearing same ICU slippers in Washroom.

Table 2.2 single most important measures for preventing HAI is using Urinary catheter when indicated

Knowledge of Color coded bins	Frequency	Percent age
Yes	217	88.2
No	20	8.1
Don't know	9	3.7
Total	246	100

Table 2.2 Shows that maximum 88.2% staffs agreed on preventing HAI is using urinary catheter when indicated and minimum 3.7% staffs don't know about it.

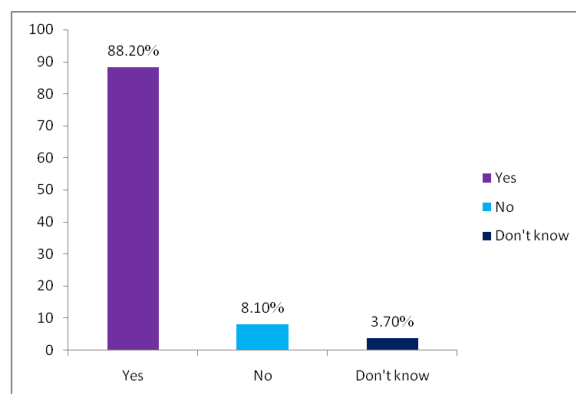


Fig 2.2 single most important measures for preventing HAI is using Urinary Catheter when indicated

Table 2.3 Incineration is the best method of disinfection for hospital Waste disposal

Incineration method	Frequency	Percent age
Yes	108	43.9
No	95	38.6
Don't know	43	17.5
Total	246	100

Table 2.3 Shows that maximum 43.9% staffs agreed on incineration is

The best method for disinfection and minimum 17.5% don't know about it.

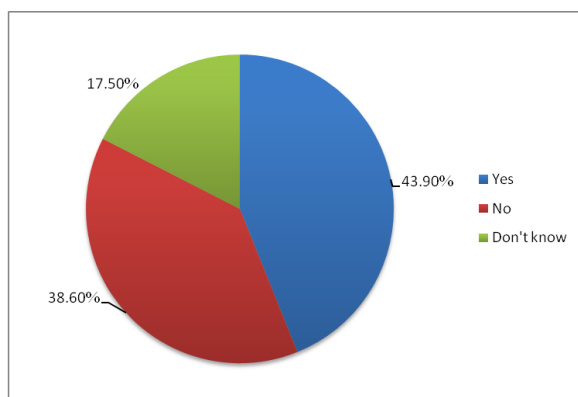


Fig 2.3 Incineration is the best method of disinfection for hospital Waste disposal.

## DISCUSSION

In this study a sample of 246 respondents were selected 100 per cent respondents had knowledge regarding word infection. In the present study it was observed that knowledge of staffs regarding hospital acquired infection was 88.6 per cent. Similar finding was done by Sharif *et.al.* (2016) he stated in his study that majority 86.5 per cent were females and the knowledge of nurses was 74.5 per cent which shows that it was comparatively good. Finding also showed that 88.6 per cent had practice about sterilization process and 88.2 per cent known about urinary catheter insertion only when indicated and 11.4 per cent had poor knowledge about sterilization process; similar study was done by Sarani *et.al.*(2016) revealed that 43per cent of the participants in this study had poor knowledge, 42 per cent had average practice, and 37 per cent had a moderate attitude about hospital infection.

### Recommendation:

- Hand washing is the basic recommendation for staffs to decrease the nosocomial infection.
- Knowledge of preventive measures of person-to-person transmission, which includes hand hygiene.

- Single use of gloves can also decrease the number of bacteria.
- Personal protective equipment (gloves, gown, mask) are necessary for staffs to use at every surgical and non-surgical procedure that helps to reduce the number of microorganism.
- Safe injection practices are also a part of practice which is important for bacteria reduction.
- Knowledge of preventive measures of transmission from hospital environment, which involves routine hospital cleaning safe waste handling and disposal.
- Reprocessing of patient care equipment, and safe linen handling.
- Practices on nosocomial infection control measures include - Sterilization of instruments that kills the most of the microorganism.
- Isolation of patients also helps to reduce the number of bacteria.
- Refresher courses and training programs on infection control measures should be systematically planned and regularly conducted for staff nurses so as to help them increase and maintain their knowledge.

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## REFERENCES

1. Ahmad Ghashghae, Masoud Behzadifar, SamadAzari, et. al. Prevalence of nosocomial infections in Iran: A systematic review and meta-analysis , Med J Islam Repub Iran. 2018; 32: 48. Published online 2018 Jun 11. doi: 10.14196/mjiri.32.48
2. Aimee K. Zaas, Xiaoyan Song, Pamela Tucker, Trish M. Perl, Risk Factors for Development of Vancomycin-Resistant Enterococcal Bloodstream Infection in Patients with Cancer Who Are Colonized with Vancomycin-Resistant Enterococci, Clinical Infectious Diseases, Volume 35, Issue 10, 15 November 2002, Pages 1139–1146, <https://doi.org/10.1086/342904> Published:15 November 2002.
3. Ajit Subhash Baviskar, Khalid Ismail Khatib, Deepali Rajpal, and Harshad

- Chandrakant Dongare, Nosocomial infections in surgical intensive care unit: A retrospective single-center study. *Int J Crit Illn Inj Sci* v.9(1); Jan-Mar 2019 PMC6423928
- Alireza Sharif, Azizollah Arbabisarjou, Abbas Balouchi, Sudabeh Ahmadidarrehshima, and Hamed Haddad Kashani, Knowledge, Attitude, and Performance of Nurses toward Hand Hygiene in Hospitals. *Glob J Health Sci*. 2016 Aug; 8(8): 57–65. Published online 2015 Dec 17. doi: 10.5539/gjhs.v8n8p57.
  - Anirban Hom Choudhuri, Mitali Chakravarty, Rajeev Uppal. Epidemiology and characteristics of nosocomial infections in critically ill patients in a tertiary care intensive care unit of Northern India. Year : 2017 | Volume : 11 | Issue : 4 | Page : 402-407.
  - Anne Mette Koch, Roy Miodini Nilsen, Hanne Merete Eriksen, Rebecca Jane Cox, and Stig Harthug, Mortality related to hospital-associated infections in a tertiary hospital; repeated cross-sectional studies between 2004-2011. *Anti microbe Resist Infect Control*. 2015; 4: 57.
  - Burcin Ozer, Cagla Ozbakis Akkurt, Nizami Duran, Yusuf Onlen, Lutfu Savas, Selim Turhanoglu Evaluation of nosocomial infections and risk factors in critically ill patients. *Med Sci Monit*. 2011; 17(3): PH17–PH22. Published online 2011 Mar 1. doi: 10.12659/MSM.881434.
  - Cornelius Remschmidt, Christin Schroder, Michael, Petra Gastmeier, Christine Geffers, and Tobias Siegfried Kramer, Continuous increase of vancomycin resistance in enterococci causing nosocomial infections in Germany – 10 years of surveillance. *Antimicrob Resist Infect Control*. 2018; 7:54. Published online 2018 Apr 24.
  - Farideh Kouchak and Mehrdad Askarian, Nosocomial Infections: The Definition Criteria. *Iran J Med Sci*. 2012 Jun; 37(2): 72–73.
  - Gamil Alrubaiee, Anisah Baharom, Hayati Kadir Shahar, Shaffe Mohd Daud & Huda Omar Basaleem. Knowledge and practices of nurses regarding nosocomial infection control measures in private hospitals in Sana'a City, Yemen. Article number: 16 (2017)
  - Haque M, Sartelli M, McKimm J, Abu Bakar M, Health care-associated infections - an overview. *Infect Drug Resist*. 2018 Nov 15; 11:2321-2333. doi: 10.2147/IDR.S177247. Collection 2018.
  - Iliyasu G, Dayyab FM, Abubakar S, Inuwa S, Tambuwal SH, Tiamiyu AB, Habib ZG, Gadanya MA, Sheshe AA, Mijinyawa MS, Aminu A, Adamu MS, Mande KM, Habib AG. Laboratory-confirmed hospital-acquired infections: An analysis of a hospital's surveillance data in Nigeria. *Heliyon*. 2018 Aug 2;4(8):e00720. doi: 10.1016/j.heliyon.2018.e00720. Collection 2018 Aug.
  - Kirtil I, Akyuz N. Precautions Taken by Nurses about the Prevention of Hospital-Acquired Infections in Intensive Care Units. *Pak J Med Sci*. 2018 Mar-Apr; 34(2):399-404. doi: 10.12669/pjms.342.14610.
  - Linchuan Wang, Kai-Ha Zhou, Wei Chen, Yan Yu & Si-Fang Feng. Epidemiology and risk factors for nosocomial infection in the respiratory intensive care unit of a teaching hospital in China: A prospective surveillance during 2013 and 2015. Published: 12 February 2019
  - Joshi M, Kaur S, Kaur HP and Mishra T: Nosocomial infection: source and prevention. *Int J Pharm Sci & Res* 2019; 10(4): 1613-24.

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