

Awareness, Attitude And Practices Towards Hospital Infection Control Among Doctors And Nurses In Obstetrics And Gynecology Department Of Tertiary Care Hospital.

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Abstract

Background: *hai is a global burden.⁽²⁾ it is mandatory that every person associated with providing health care should have proper training , proper knowledge and follow proper practice in order reduce the burden of hai. ⁽³⁾*

Materials and methods: *cross sectional descriptive study done at goa medical college for 3 months (1st august 2024 to 1st november 2024) with a structured questionnaire in the department of obg.*

Results: *in this study we had 70 participants, 42.85% belonged to age group of 20- 25 years. 70% participants were doctors. 95.71% study participants have good knowledge about hospital acquired infections.*

Conclusion: *refresher trainings, courses, hospital standard operating procedures (sops) play important role in making every health care worker even the new recruit aware of infection control policies. However surveillance also needs to be kept on hospital acquired infections (hai) and the appropriate authority needs to be notified timely so that necessary regulations can be formulated and performed effectively.*

Keywords: *awareness, attitude, practices, hospital acquired infections, obstetrics and gynaecology.*

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I. Introduction

Hospital acquired infection refers to an infection which occurs in a patient in a hospital or any health care facility who was not having the infection or was not in the incubation period at the time of admission. This constitutes infections acquired in the hospital which appear after discharge, and also occupational infections among staff of the facility.⁽¹⁾ HAI is a global burden.⁽²⁾ It is mandatory that every person associated with providing health care should have proper training , proper knowledge and follow proper practice in order reduce the burden of HAI. ⁽³⁾ People working in health care settings are predisposed to various occupational hazards such as biological, chemical, ergonomic, physical, violence and stress.⁽¹⁾ Also they are at risk of acquiring blood borne pathogens like hepatitis B virus, hepatitis C virus, and human immunodeficiency virus (HIV) especially those who are exposed to blood and body fluids and handling sharps via needle stick injuries while giving care to the patients.⁽¹⁾ According to the reports, out of 35 million health care workers through out the world , about 2 to 3 million experience needle stick injuries per year which contributes to about 40- 65% of all hepatitis B virus and hepatitis C virus, and 4.4% of HIV.⁽⁴⁾ Hospital wide prevalence of HAI in developed countries is 5 to 15% in hospitalised patients in wards and as many as 9 to 37 % in patients admitted in ICU. ⁽⁵⁾ HAI rates are 5.7 to 19.1 % times greater in low and middle income countries. ⁽⁶⁾ It is noticed that the burden of HAI in developing countries remains under reported or even not known, as HAI is quite complex and surveillance to inculcate interventions require expertise and also resources.⁽⁷⁾ This study was performed to assess about the awareness, attitude and practices towards HAI among doctors and nurses in department of OBG, Goa Medical College.

II. Materials And Methods

Study setting-Tertiary care/ hospital based study

Type of Study-Cross sectional, descriptive study

Study duration- three months 1st August 2024 to 1st November 2024

Study setting: Hospital based study in Dept. of OBG at Goa Medical College, a tertiary care Hospital

Study Participants:

Inclusion criteria –Study included all faculty members, Senior residents, Junior Residents, other medical doctors and medical interns and staff nurses posted in the Dept. of OBG, Goa Medical College who gave consent to participate in the study.

Exclusion criteria – Doctors and nurses who declined to give consent to participate in the study

Tools of Study: Pre-designed semi-structured validated study. Proforma administered to all study participants by the investigators upon their informed consent and approval from IEC Committee of Goa Medical College.

This is cross sectional descriptive type of study on selected 70 doctors and nursing staff of Department of Obstetrics and Gynecology, Goa Medical College, from 1st August 2024 to 1st November 2024.

All participants in the study voluntarily gave their consent before being enrolled. The study population was given questionnaire (Pre-designed semi-structured study Proforma). The proforma was designed in English language, as all were well versed with English. The information obtained through the questionnaires included age, gender, work experience ,work profile , awareness and practices question about HAI. The questionnaire tools were prepared on HAI guidelines provided by the World Health Organization (WHO) and Centre for Disease Control (CDC). The tools were pre-tested before data collection and proper approval was obtained from the Hospital Ethical committee for research, of Goa Medical College, prior to the study.

Statistical analysis:

The statistical analysis of data was performed by using SPSS version22. Data was tabulated in tables and figures and expressed in percentage.

III. Results

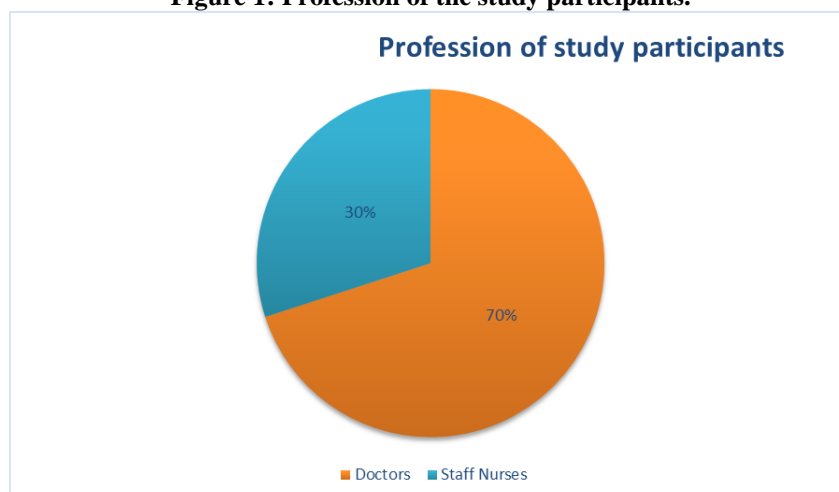
In our study, there were total of 70 participants which included doctors (48 (68.57%)(Consultants, Junior Residents, Senior Residents and interns)) and Staff nurses (22 (31.43%)). Majority of the participants belonged to age group between 20- 25 that is 30 (42.85%), followed by age group between 26 -30 years and > 41 years that is 12 (17.14%) and 11 (15.71%) respectively as depicted in table no 1. Majority of the study participants were females that is 57 (81.43%) and males were 13 (18.57%).

Table No. 1: Age distribution of the study participants

Age Group (Years)	Number(n)	Percentage (%)
20- 25	30	42.85%
26- 30	12	17.14%
31- 35	8	11.43%
36- 40	9	12.86%
>41	11	15.71%

As seen in table 1, 42.85% participants belonged to age group between 20- 25 years, 17.14% belonged to age group between 26- 30 years , 15.71%, 12.86% and 11.43% belonged to age groups between >41 years, 36- 40 years and 31-35 years respectively.

Figure 1: Profession of the study participants.



As seen in figure 1, 70% participants were doctors and 30% were Staff Nurses.

Table 2: Years of experience of the study participants

S. No.	Years	Number (n)	Percentage (%)
1.	1- 5	37	52.86%
2.	6 - 10	20	28.57%
3.	> 10	13	18.57%
Total		70	100%

As seen in table 2, majority of the study participants (52.86%) were having work experience between 1- 5 years, 28.57% and 18.57% were having work experience of 6- 10 years and >10 years respectively.

Table 3: Staff knowledge about standard precautions and safety precautions.

S. No.	Questions	Response	
		Correct (n)(%)	Wrong(n)(%)
1.	Infectious patient must be isolated?	70 (100)	0 (0)
2.	Those who are suffering from disease should be kept away from work until completely recovered	67 (95.71)	3 (4.29)
3.	Do you always wash hands or use hand rub after removing gloves?	66(94.29)	4(5.71)
4.	Hand washing with soap and water is sufficient	63(90)	7(10)
5.	Can we control droplet infection by face mask?	67(95.71)	3(4.29)
6.	Proper bed spacing is one of the preventive measure for droplet infection	65(92.86)	5(7.14)

As seen in table 3, the responses of participants on standard precautions and safety precautions, more than 90% participants gave correct responses.

Table 4: Responses of study participants in regards to precautions.

S. No.	Questions	Response	
		Correct (n)(%)	Wrong(n)(%)
1.	Hospital staff should regularly change their aprons and outer clothing	70(100)	0(0)
2.	Hospital staff should be careful about personal hygiene	70(100)	0(0)
3.	Vaccines to be taken before joining of hospital	46(65.71)	24(34.29)
4.	Number of shots in full course of Hepatitis vaccine	38(54.29)	32(45.71)
5.	Categorising of exposure of infection to the staff include non intact skin exposure	68(97.14)	2(2.86)

As seen in table 4, the responses of the study participants about the precautions majority of the study participants gave correct responses for 3 out of 5 questions (>97%). 2 questions that is vaccines to be taken before joining the hospital and number of shots in full course of hepatitis vaccine , the correct responses were given by 65.71% and 54.29% participants respectively.

Table 5: Responses of study participants in regards to knowledge about mode of transmission and general knowledge of Hospital Acquired Infections.

S. No.	Questions	Response	
		Correct (n)(%)	Wrong(n)(%)
1.	The most common route of infection is through air	53(75.71)	17(24.29)
2.	The causative agent of Corona virus	70(100)	0(0)
3.	Is influenza virus transmitted through food	65(92.86)	5(7.14)
4.	Which of the following is transmitted through blood? (HIV/ Hepatitis A)	70(100)	0(0)
5.	Is there vaccine for Influenza virus	65(92.86)	5(7.14)
6.	Is it possible to cure from Influenza	64(91.43)	6(8.57)
7.	Common HAI in hospital are blood stream infections	60(85.71)	10(14.29)

As seen in table 5, more than 75% study participants gave correct responses about the mode of transmission and general knowledge of Hospital Acquired Infections. 100% study participants gave correct response to causative agent of Corona virus.

Table 6: Responses of study participants in regards to practices followed in regards to HAI

S. No.	Questions	Response	
		Correct (n)(%)	Wrong(n)(%)
1.	Do you inform your higher authorities in case of HAI ?	70(100)	0(0)
2.	Do you notify HAI after death of person?	70(100)	0(0)
3.	Do you notify HAI after patient deteriorates?	56(80)	14(20)
4.	Do you use prophylactic antibiotics after catheterization?	56(80)	14(20)

5.	Do you wash hands after each surgery?	70(100)	0(0)
6.	Do you wash hands after each examination?	60(85.71)	10(14.29)
7.	Do you use handrub/ wash hands after removing gloves?	70(100)	0(0)
8.	Do you recap needles?	60(85.71)	10(14.29)
9.	Do you cut needles after use?	56(80)	14(20)
10.	Do you discard sharps in puncture proof container?	66(94.29)	4(5.71)
11.	Do you cover spill of blood with hypochlorite?	67(95.71)	3(4.29)
12.	Do you clean spill with soap and water?	60(85.71)	10(14.28)
13.	Do you do second cleaning of spills?	56(80)	14(20)
14.	Do you remove catheter after 48 hours?	70(100)	0(0)
15.	Do you document catheter insertion and removal date?	56(80)	14(20)
16.	Do you keep urinary bag below the level of bed?	70(100)	0(0)
17.	Do you use common slippers for washroom, Operation theatre/ labor room?	60(85.71)	10(14.28)
18.	Do you ensure that used linen is not shaken to prevent dissemination?	66(94.29)	4(5.71)
19.	Do you ensure that soiled linen is put in bleach, washed, dried before sending to laundry	60(85.71)	10(14.28)

As seen in table 6, majority of the study participants (more than 80% correct responses) followed correct practices in regards to HAI.

IV. Discussion

Hospital Acquired Infections is a crucial aspect in health care setting. Hence its very essential that every person working in a health care setting should have a proper knowledge about the same so as to contribute towards infection control.

The responses on knowledge and awareness of the study participants on HAI shows that nearly all of the study participants have good knowledge regarding standard precautions and safety precautions. 100% study participants said that infected patient must be isolated and 95.71% study participants said that those who are suffering from disease should be kept away from work until completely recovered. 95.71% of the study participants said that we can control droplet infection by wearing face mask and 94.29% study participants say that they wash their hands or use hand rub after gloves. At the same time, 90% of the study participants, believe that washing hands with soap and water is sufficient. Our findings are similar to the study done by Jafar Ebrahim et al⁽⁴⁾ in which it stated that more than 90 % of laboratory staff and nurses had good knowledge about standard precautions and safety precautions. Also our findings are also similar to the study done by Hema Gogia et al⁽⁷⁾ in which 96.15% doctors and 98.18% nurses had good knowledge about the standard precautions and safety precautions and study done by Shilpa Vishwakarma et al⁽⁸⁾ which stated that 88.6% of the staff had good knowledge . Study done by Sodhi et al⁽⁹⁾ revealed that more than 90% of nurses had a very good knowledge of infection control. In study done by Chan et al⁽¹⁰⁾ they found that 56% of nurses had a very good knowledge about infection control and 79% of study participants had a good practice in relation to standard precautions of infection control. Suchitra et al⁽¹¹⁾ opined that a continuous training program for all health care workers has to be developed.

Hand hygiene is very much essential for infection control, however for various reasons adherence to hand hygiene recommendations remains low among the health care workers.

Adhering to the standard practices is important for prevention of HAI. In our study, 95% of the study participants had good knowledge regarding hand hygiene and personal hygiene. Our findings are similar to the study done by Nasirudeen et al⁽¹²⁾ in which they stated that 66.3% of health workers had good practice and 48.9% of the study participants had good knowledge about hand hygiene. Our findings are also similar to study done by Ebrahim et al⁽⁴⁾ which stated that 97.75% laboratory and 98.75% nursing staff had good knowledge about the hand hygiene and personal hygiene and also similar to study done by Purshottam et al⁽¹³⁾ which stated 68 % study participants had good practice and knowledge about hand hygiene.

In our study, 65.71% of the study participants were of the opinion that Hepatitis B vaccine should be taken before joining the hospital, however only 54.29% of the study participants were aware of the full course of vaccine. This results are similar to the study done by Manali Shah et al⁽²⁾ in which 60% of the study participants were aware of the immunization schedule of hepatitis B vaccine. Here we realize the importance of training sessions and necessary hospital protocols to bring about the awareness.

In our study, 91.22% of study participants had average knowledge about the mode of transmission and general knowledge of Hospital Acquired Infections. Our findings are similar to study done by Ebrahim J. et al⁽⁴⁾ which stated 87.5% of study participants had average knowledge.

In our study, 100% study participants said that higher authorities are being informed in case there is HAI. Our study, we had better results because we have HAI policy in place for our department of Obstetrics and Gynaecology.

We observed in our study that 86.67% of study participants followed correct practice of needle disposal. Our findings are similar to the study done by Racheal et al⁽¹⁴⁾ which reported 77.23% of the study participants

being aware about correct practice of needle disposal and Hema Gogia et al⁽⁷⁾ which stated 92.31% of the doctors and 90.91% of staff nurses knew about the correct practice of needle disposal.

In our study we found that 95.71% of the study participants knew how to do spill management. We had such higher percentage of study participants being aware of the spill management as we have departmental protocols about the spill management and ongoing training program for the same. Our findings are similar to the study done by Hema Gogia et al⁽⁷⁾ which documented 88.46% doctors and 72.73% of nurses who participated in their study were aware of spill management.

In our study, 93.33% of the study participants answered correctly the questions related to practices followed while using catheter. Our results are similar to study done by Hema Gogia et al⁽⁷⁾ in which 88.46% doctors and 92.73% nurses who participated in the study were aware about the correct practices of handling catheter.

90% of the study participants in our study followed correct practice of handling infected linen. Our findings are similar to study done by Hema Gogia et al⁽⁷⁾ which reported 84.62% doctors and 90% of the staff nurses who participated in their study were aware about handling infected linen.

V. Conclusions

From our study we conclude that majority of health care workers are having good knowledge about the HAIs however infection control practices needs to be put in practice. Refresher trainings and courses play important role in making everyone aware about the infection control practices and also SOPs of the hospital needs to be in place so that new recruiters are also aware about the infection control practices. It is essential to have continuous surveillance of hospital acquired infections in vulnerable areas and the appropriate authority needs to be notified timely so that necessary regulations can be formulated and performed effectively. This is essential as appropriate measures can be taken on time. Continuous monitoring, assessment and supervision of the clinical work and performance of different levels of health workers with help to tackle with the problem in multidimensional way.

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