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Knowledge and Practice on Hospital Acquired Infections of Tertiary Care Hospital at Dhaka City; Staff Nurse's Perspective

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Abstract:-

- ***Introduction:***

In hospital patients, infections continue to develop and may also be affected by hospital personnel despite progress in the field of public health and hospital care. Infection among hospitable patients is encouraged by many factors: reduced immunity among patients; increasing variety of medical procedures and invasive techniques that lead to potential routes for infection; and transmission among crowded hospital populations of drug-resistant bacteria, where low infect control practices can facilitate transmission. Nosocomial infections occur globally and affect developing countries as well as poor-resource countries. The major causes of death and increased morbidity include infections acquired in health care.

- ***Objective:***

To find out the Knowledge, Attitude and Practice of Staff nurses on Hospital Acquired Infections in tertiary care Hospital of Dhaka city.

- ***Method:***

The study was conducted by Cross sectional, descriptive quantitative research study design with 133 samples included with the inclusion criteria. Data were collected by face to face interviewed method.

- ***Results:***

Among of the participants, the majority of the nurses were Diploma in Nursing 64.4%, B.Sc. in Nursing 23.7% and MPH/M.Sc. were 11.9%. Distribution of the participants by level of knowledge on hospital acquired infections (n=133), Here the most of the participants had moderate 46% (n=61) knowledge about hospital acquired infections.

- ***Conclusion:***

Most of the nurses do not have a perfect knowledge about hospital acquired infection control. Therefore, it must be necessary that to learn the knowledge, control and prevention of hospital acquired infections. We also must be known how can use medical personnel about the prevention and control of HAIs according to world standards. Another way of gain knowledge from training, Presentation, academic courses, posters, and conferences.

Keywords:- *Knowledge, Attitude, Practice, Nurses, Hospital Acquired Infections, Tertiary Care Hospital, Dhaka City.*

I. INTRODUCTION

Hospital Acquired Infections is the major infection problems in the world. Its mainly occurs from hospital and infected intruments, infected cloths and blood related intruments. Hospital Acquired Infections are infections acquired which did not previously occur in the patient before admission to the hospital. The risk of health-care-associated infection in developing countries is estimated to be 2–20 times higher than that in resource-rich countries with an infected patient rate of over 25 percent. Hospitals in the Eastern Mediterranean and Southeast Asian regions report 11.8% and 10.0% respectively as the highest frequencies for nosocomial infections. In some hospitals, infection rates acquired by hospitals in Bangladesh may exceed 30%.

As HAIs are transmitted from health care workers, the most important way to prevent infection continues to be hand washing. Hand washing. Publications of the World Health Organization (WHO) highlight the hygiene of the hand as a key step in reducing nosocomial infections. Health facilities in Bangladesh are inadequately structured and include the lack of adequate sinks, hand-held bedside distributors and patient insulation facilities. Hospital waste management is another area that is neglected. In developing countries, the indiscriminate use of antibiotics also contributes to extremely high infections.

Any infection occurring during hospitalization is known to be the infection of a hospital. The report excludes the cases which at the time of hospital admission did not incubate or which were also referred to as Nosocomial infection. At the end of 48 hours after admission and within 30 days after the hospital was released, the infection occurred.

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The World Health Organization (WHO) defines hospital acquired infections as: 'infections not present or incubating at hospital admission acquired during the course of hospital care. Infection that occurs more than 48 hours after acceptance is generally considered nosocomial infections, rehabilitation facilities, clinics for outpatients or other clinical conditions such a disease can be acquired.

II. LITERATURE REVIEW

The research was conducted in four selected hospitals in Dhaka city, among 133 nurses. Another study found that the majority (74.0 percent) of respondents were female (24.7 ± 3.3 years of age). A larger proportion (88.0 percent) had a diploma in healthcare and a working history of less than one year (42.4 percent). Of the 30 score, 33.6% scored #20, which was deemed to be poor knowledge, 40.8% scored 21-25 as the average knowledge, and just 25.6% scored 26-30 as a good knowledge. Participation of training on infection control program was not associated with the knowledge level on nosocomial infection.

Most nurses (87%) were fairly informed, while only 4% had a good knowledge of preventive measurements of nosocomial infections. The results also revealed that most nurses (71%) had fair behaviour in relation to nosocomial infections, while 26% had good practice and only 3% had poor practice.

The level of contamination and increased operating time gradually increases the amount of wound infection. Overall, anemia (52%), malnourishment (44%), diabetes (38%), jaundice (30%), contaminated surgery (44%), smoking and obesity were risk factors for the development of the surgical wound infection. Escherichia coli (43%) followed by Staphylococcus auras (33%) and Pseudomonas aeruginosa were the predominant isolated organism (11 percent). Ceftriaxone still remains the most effective antibiotic although the incidence of resistance is rising.

III. METHODS

The study was conducted by Cross sectional, descriptive quantitative research study design with 133 samples included with the inclusion criteria. Data were collected by face to face interviewed method.

➢ *Sample Size Calculation:*

Sample was calculated by following formula
$n=z^2pq/d^2$

Where,
n= desired sample size
z = 1.96 (95% confidence interval)
p = Prevalence 8.7%

Here,
q = 1-p = 1-0.087= 0.913
d = 5 %

So,
$n = (1.96)^2 (0.087X\ 0.913)/ (0.05)^2$
=0.305/0.0025
=133

So, calculated sample size is 133.

IV. RESULT AND DISCUSSION

This study was conducted of hospital based selected Knowledge, Attitude and Practice among the Staff nurses on Hospital Acquired Infections of tertiary care Hospital at Dhaka city. In total 133 samples were selected purposively according to inclusion, exclusion criteria. They were interviewed with a specific pre-designed and pre-tested questionnaire and some information were gathered by document review. Collected data were cleaned edited and analysed with the help of software SPSS windows version 26.

➢ *Distributions of the Respondents of their Gender*

Among of the participants, the majority of the nurses were female 78.6% and male were 21.2%. (*n*=126) had completed primary education, while 26% (*n*=64) had completed high school and 14% (*n*=36) had completed graduate education. A small proportion of patients 8% (*n*=18) in the sample were illiterate**.**

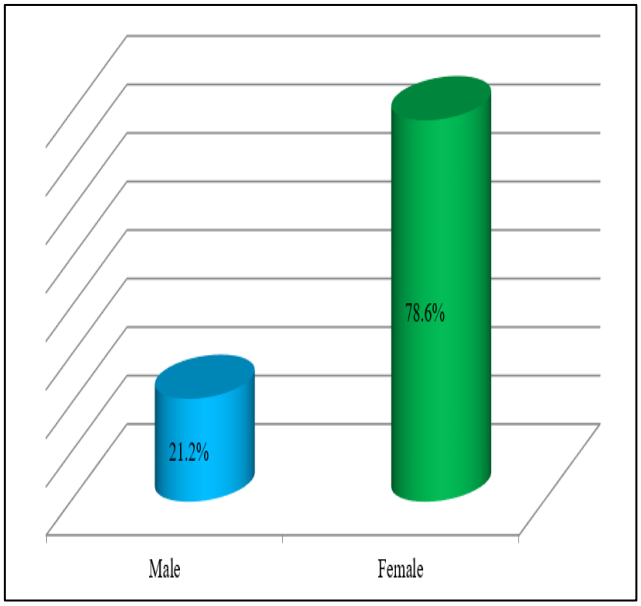

Fig 1: Distribution of the Respondents of their Gender (n=133)

➢ *Distribution of the Respondents of their Religion:*

Among of the participants, the majority of the nurses were Muslim 79.4%, Hindu were 17.5 and others were 3.9%.

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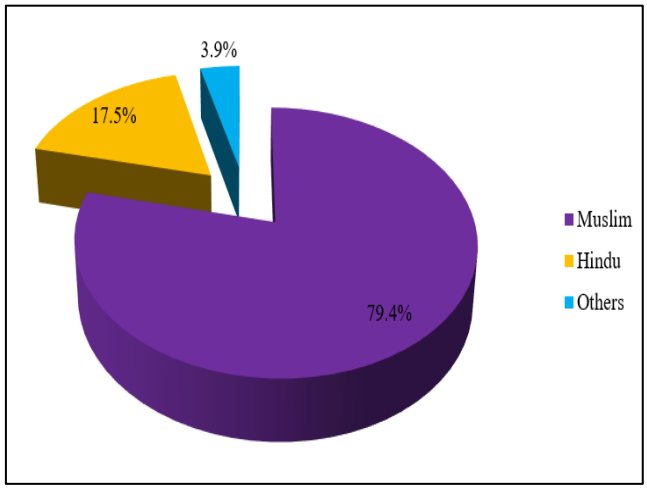

Fig 2: Distribution of the Respondents of their Religion (n=133)

➢ *Distribution of the Respondents of their Marital Status:*

Among of the participants, the majority of the nurses were Married 71.7% and Unmarried were 28.3%.

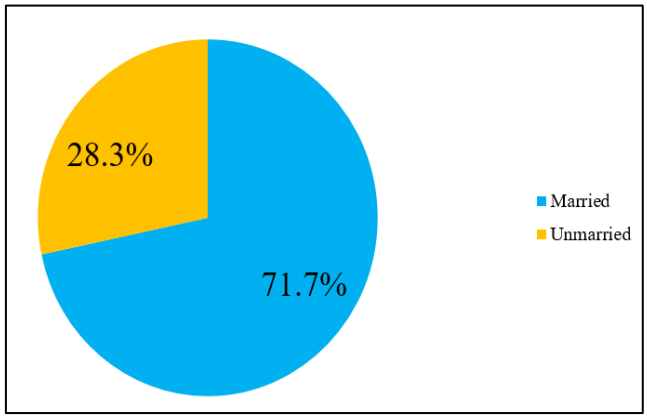

Fig 3: Distribution of the Participants of their Marital Status (n=133)

➢ *Distribution of the Respondents of their Educational Qualification:*

Among of the participants, the majority of the nurses were Diploma in Nursing 64.4%, B.Sc. in Nursing 23.7% and MPH/M.Sc. were 11.9%.

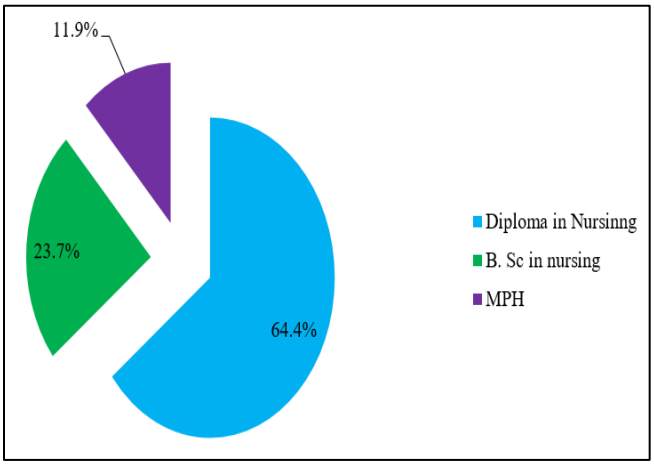

Fig 4: Distribution of the Respondents of their Educational Qualification (n=133)

➢ *Distribution of the Respondents of Knowledge on Hospital Acquired Infections (n=133):*

Table 1: Distribution of the Respondent's Knowledge on Hospital Acquired Infections

Statement	True answer N%	False answer N%
To provide Gloves for protection against acquiring/transmitting infection	5 (71.3)	38 (28.7)
Healthcare-associated pathogens can be found on normal, intact patient skin	22 (78.3)	111 (21.7)
Washing hands with soap or an alcohol based antiseptic decreases the risk transmission of hospital acquired pathogens	21 (79.2)	112 (20.8)
If hands are not visibly dirty, there is no need to wash my hands prior to patient contact	39 (29.2)	94 (70.8)
Use of an alcohol based antiseptic for hand hygiene is as effective as soap and water if hands are not visibly dirty	93 (69.7)	40 (30.3)
Gloves should be ware if blood or body fluid exposure	89 (66.7)	44 (33.3)
When using alcohol based antiseptics, I should keep rubbing my hands until dry	111 (83.3)	22 (16.7)
There is no need to wash hands before doing procedures that do not involve infections	36 (25.2)	99 (74.8)
Hand hygiene should be performed before and after direct patient contact	122 (91.7)	11 (8.3)
Wear the same pair of gloves for multiple patients as long as there is no visible contamination on the gloves	69 (52.2)	64 (47.8)

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➢ *Distribution of the Respondents by Level of Knowledge on Hospital Acquired Infections (n=133):*

Table 2: Distribution of the respondents level of knowledge on hospital acquired infections

Level of knowledge	Frequency	Percent
Excellent	7	5.3
Good	21	15.8
Moderate	61	45.9
Poor	44	33.1
Total	133	100.0

➢ *Distribution of the Respondent's Attitude on Hospital Acquired (n=133):*

Table-3: Distribution of the Respondent's Attitude on Hospital Acquired Infection

Statement	Agree	Disagree
Hand Hygiene agents are not always available	81 (60.9)	52 (39.1)
Clean towels to dry hands after washing are not always available	68 (51.3)	65 (48.7)
Gloves are always available when needed	87 (65.2)	46 (34.8)
Sinks are inconveniently located	61 (46.1)	72 (53.9)
Sinks are not available	105 (79.1)	28 (20.9)
Hand hygiene agents cause Irritation and dryness	103 (77.3)	30 (22.7)
Hand hygiene interferes with HCW-patient interactions	93 (69.6)	40 (30.4)
Its often forget to perform hand hygiene	109 (81.7)	24 (18.3)
Very low risk of acquiring infections from the patients	69 (52.2)	64 (47.8)
Perform hand hygiene, likely to transmit infections to the patients	91 (68.2)	42 (31.8)
Prevention of HAIs is a valuable part of HCWs role	119 (89.2)	14 (10.8)
Received training about the importance of hand hygiene Hand hygiene agents cause Irritation and dryness	97 (72.7)	36 (27.3)
The importance of hand hygiene is emphasized by clinical supervisors.	111 (83.5)	22 (16.5)
Feel uncomfortable reminding a HCW to perform hand hygiene	78 (58.7)	55 (41.4)

➢ *Distribution of the Respondent's Level of Attitude on Hospital Acquired Infections (n=133):*

Table 4: Distribution of the Respondent's Level of Attitude on Hospital Acquired Infections

Level of Attitude	Frequency	Percent
Positive	87	65.4
Negative	46	34.6
Total	133	100.0

➢ *Distribution of the Respondents Practice on Hospital Acquired Infection (n=133):*

Table 5: Distribution of the Respondents Practice on Hospital Acquired Infection

Statement	Always	Often
Before Patient Contact	69.6	30.4
After Patient Contact	78.3	21.7
If look or feel hand is dirty	75.1	24.9
After contact with blood or bodily fluids	91.8	8.2
Before caring for a wound	82.6	17.4
After caring for a wound	79.8	20.2
After removing gloves	61.6	38.4

➢ *Distribution of the Respondent's Knowledge of Practice on Hospital Acquired Infections (n=133):*

Table 6: Distribution of the Respondents Knowledge of Practice on Hospital Acquired Infections

Level of Practice	Frequency	Percent
Excellent	0	0.0
Good	16	12.1
Moderate	39	29.3
Poor	78	58.6
Total	133	100.0

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V. CONCLUSION

Most of the nurses do not have a perfect knowledge about hospital acquired infection control. Therefore, it must be necessary that to learn the knowledge, control and prevention of hospital acquired infections. We also must be known how can use medical personnel about the prevention and control of HAIs according to world standards. Another way of gain knowledge from training, Presentation, academic courses, posters, and conferences. It is also necessary to improve the knowledge of standard precautions, develop programs for HAI control, and hold training courses based on successful educational models.

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