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A STUDY TO KNOW ATTITUDE, KNOWLEDGE AND PRACTICES AMONG HEALTH CARE PERSONNEL ABOUT HOSPITAL ACQUIRED INFECTIONS IN A TERTIARY CARE HOSPITAL OF LAHORE

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Abstract:

Background: *Healthcare workers (HCWs) are at an increased risk of exposure in hospital obtained contaminations transmitted from blood-borne pathogens. This investigation expects to evaluate the learning, frame of mind and routine with regards to medicinal services hospitals towards emergency care procured diseases.*

Method*: A cross-sectional study is led among 191 personnel including (staff attendants, nursing understudy, lab professionals, OT collaborators, ward ladies, and sweepers) accessible upon the arrival of overview of Sir Ganga Ram hospital Lahore. The information was gathered utilizing a self-managed poll and broke down and evaluated through using Microsoft software.*

Results: *Majority (70.7%%) of the participants belonged to 18 to 25 years age group and were females (75.9%); mostly Staff Nurses (35.1%) followed by nursing students (31.9%). The present study showed that, 87.4% healthcare personnel have some knowledge about Hospital Acquired Infection (HAI). According to study participants, most common hospital acquired infections was urinary tract infections (60.5%) and nurses were the most susceptible (34.6%) group to HAI. Among participants, 94.8% believed that working in hospital exposed them to infectious diseases and 60.2% were willing to change their working environment to avoid hospital acquired infection. Most of the study participants (90.2%) washed their hands after handling the patients.*

Conclusions: *Knowledge about Hospital Acquired Infection is present among health care personnel but there is still lack of adequate quality control practice to prevent Hospital Acquired Infections. Importance of prevention of Hospital Acquired Infections should be emphasized among health care professionals by intensive IEC activities.*

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INTRODUCTION:

Demonstrated by the World Health Organization a Hospital Acquired Infection (HAI) is, "An infection picked up in a therapeutic facility by a patient who was yielded for a reason other than that infection which was the basic concern." These fuses sicknesses picked up in the centre yet appearing after discharge and moreover word related infections among staff of the facility". [1] At the end of the day, nosocomial defilements are those infections picked up in restorative centre or social protection organization unit that at first show up within 48 hours or progressively after emergency care affirmation or within 30 days after discharge following in-persevering care. [2]

These diseases are usually caused by bacteria or viruses and can be spread from health worker to patient or vice versa through contact - human contact with an infected surface, airborne transmission through droplets and/or aerosols and, finally, by common vehicles as food or water.

These infections are particularly important in developing countries where very little amount of resources are available for use for an unbearable number of patients. HAIs not only affect patient health and safety, but also the health care system as a whole. In addition to monetary resources, hospital acquired infections increase the number of days a patient spends in the hospital, requiring additional medical care and hours spent providing patient care. [3]

Developing countries were reported to have up to 20 times the risk of contracting a nosocomial infection compared with developed countries. [4] A prevalent survey in 2002 conducted by World Health Organization (WHO) in 55 hospitals of 14 countries showed an average of 8.7% of hospital patients had HAIs. [5]

Although infection is most prevalent in patients upon admission, health care workers also act as potential vectors for pathogenic agents. [6] Healthcare workers (HCWs) are at increased risk of occupationally acquired infections transmitted from both blood-borne pathogens, such as hepatitis B and C and human immunodeficiency virus, as well as respiratory pathogens, such as influenza, tuberculosis, diphtheria and varicella. [7-8] It is well recognized that the risk of transmission of pathogens when providing medical care and the reduction in the rates of the incidence of HAIs can be kept low through appropriate standardized prevention procedures. [8] However, it has been reported that many such infections are caused by pathogens transmitted from one patient to another by way of HCWs who have not washed their hands between patients or HCWs who do not practice control measures such as use of hand disinfection, glove use etc. [9] There are still nurses who have misconceptions about HIV detection from human biological specimens, such as oral secretion, urine, tears and sweat. [10]

Infection control is a key component of practice for all healthcare professionals, not only for their health but also to reduce nosocomial infections and thus improve patient safety. [11] Hand hygiene by healthcare staff has been reported to be of vital importance in the control of infection. [12] Considering the lack of information regarding students' knowledge of the preventive measures necessary to limit the spread of nosocomial infections, this study was done to assess the knowledge, attitude and practice of health care professionals towards hospital acquired infections.

METHODS:

A hospital based cross sectional study was carried out among health care personnel working in Sir Ganga Ram Hospital, Lahore. The study included 191 randomly selected health care personnel available on the days of survey. The study period was one calendar month (February 2018). The study involved health care personnel from different segments of Sir Ganga Ram Hospital, Lahore, like staff nurses, nursing students, lab technicians, OT assistants, ward girls and sweepers. The study involved health care personnel who were willing to participate in this study and available during the survey. Doctors and internees were not included among the selected health care personnel due to operational infeasibility. Health care personnel having evening duty and night duty were not included in study for feasibility. A predesigned, pretested, semi structured questionnaire was used to collect the required information. Questionnaire was translated into local language for convenience of the study participants. The questionnaire was validated by experts of department of Community Medicine. Questionnaire involved two parts; first part included questions regarding socio-demographic characteristics of the participants and the second part involved questions related to knowledge, attitude and practice about hospital acquired infection. The questionnaire was validated by conducting one pilot study among small group of health care personnel different from the study population before commencing the original research work.

The collected data was entered in Microsoft office excel sheet 2007 meticulously. Data was analysed and represented in frequency and percentage in the form of appropriate tables and charts. A well explained written consent was taken from all the participants before commencement of the study. Consent was translated into local language for better understanding of the study participants about the study. The ethical permission to conduct the study was obtained of Ganga Ram Hospital before conducting the actual study.

RESULTS:

A hospital based cross sectional study was carried out among 191 health care personnel (doctors, nurses, interns, lab technicians, ward girls, ward boys and sweepers) in the month of April 2018.

The survey showed majority of the study participants were from 18 to 25 years age group (70.7%), females (75.9%), Hindu (94.8%), general (48.7%) and were from nuclear families (82.7%). Majority of study participants were Staff Nurses (35.1%) followed by nursing student (31.9%) (Table 1).

The present study showed that, 87.4% healthcare personnel have knowledge about Hospital Acquired Infection (HAI). According to study participants, most common hospital acquired infections was urinary tract infections (60.5%) followed by respiratory tract infections (35.3%), and nurses were the most susceptible (34.6%) group to HAI followed by sweepers (31.9%). Among the study participants, 84.3% had knowledge about prevention of hospital acquired infection. Hand washing was the most common method to prevent hospital acquired infections (66.5%) followed by personal protective equipment (22.4%) and use of antibiotics (6.8%). Present study showed, 87.4% of the study participants knew about recognised sources of hospital acquired infections. Most common recognised sources of hospital acquired infections was mattresses and pillows (39.5%) followed by white coat (24.6%), nurse uniform (22.2%), thermometer (16.2%), mobile phones (13.2%) (Table 2).

Table 1: Distribution of study participants according to sociodemographic characteristics (n=191).

Sociodemographic characteristic	Frequency	%
Age group (years)		
18 to 25	135	70.7
26 to 33	41	21.5
34 to 41	9	4.7
42 to 50	6	3.1
Gender		
Male	46	24.1
Female	145	75.9
Religion		
Hindu	181	94.8
Muslim	5	2.6
Christian	3	1.6
Buddhist	2	1.0
Caste		
General	93	48.7
OBC	40	20.9
SC	41	21.5
ST	17	8.9
Occupation		
Staff nurse	67	35.1
Nursing student	61	31.9
Lab technicians	12	6.2
Ot assistants	11	5.8
Ward girl	7	3.7
Sweeper	3	1.6

Others	30	15.7
Education		
Up to primary	5	2.6
Up to lower secondary	12	6.2
Up to upper secondary (12th pass)	96	50.3
Graduate	78	40.9
Type of family		
Nuclear	158	82.7
Joint	33	17.3

Regarding attitudes about Hospital acquired infections (HAIs), 94.8% of healthcare professionals believe that working in hospital exposed them to infectious diseases and 73.8% participants thought all patients are potentially contagious. Among the study participants, 64.4% believe that HAIs may get transmitted through unsterile needles and sharp objects and 63.9% believe that their family members may get infected through them. The present study showed, 45.5% of the study population thought precautionary measures taken against hospital acquired infections hamper their ability to do their jobs whereas 41.4% disagree to this statement. Among the study participants, 60.2% were willing to change their working environment to avoid hospital acquired infection (Table 3).

Table 2: Knowledge of study participants about hospital acquired infections (n=191).

Knowledge about hospital acquired infections	Frequency	%
Knowledge about commonly found infections		
Yes	167	87.4
No	24	12.6
Commonly seen hospital acquired infection*		
Urinary tract infection	101	60.5
Respiratory tract infection	59	35.3
Surgical wound infection	9	5.4
Reproductive tract infection	6	3.6
Blood borne infection	9	5.4
Skin and soft tissue infection	4	2.4
Gastrointestinal infection	3	1.8
Most susceptible group to hospital acquired infections		
Nurse	66	34.6
Sweeper	61	31.9
Doctors	23	12.0
Ot assistants	11	5.8
Lab technicians	19	9.9
Others	11	5.8
Knowledge of methods to prevent HAIs		
Yes	161	84.3
No	30	15.7

Methods to prevent hospital acquired infections*		
Hand washing	107	66.5
Personal protective equipment	36	22.4
(apron, mask covers, shoe covers, gloves etc.)	11	6.8
Use of antibiotics vaccination	4	2.5
Isolation of infected patients	7	4.3

Knowledge of any recognized sources of hospital acquired infections

Yes	167	87.4
No	24	12.6
Recognised sources of infections*		
Mattresses and pillows	66	39.5
White coat	41	24.6
Nurse uniform	37	22.2
Thermometer	27	16.2
Mobile phones	22	13.2
Bed side curtains	17	10.2
Stethoscope	12	7.2
Others	5	2.9

(*multiple response included)

Nurses, lab technicians, ward boys, and nursing students and other health workers in Ganga Ram Hospital, Lahore.

Table 4: Practice of study participants about hospital acquired infections (n=191).

Practice about hospital acquired infections	Frequency	Percent
Practices of using of the reusable instruments		
Yes	170	89
No	21	11
Practices of using of pre-sterilized instruments		
Yes	118	61.7
No	46	24.1
No response	27	14.2
Covering of nose and mouth during Sneezing		
Yes	174	91.1
No	17	8.9
Use of mask before approaching a patient		
Yes	133	69.6
No	58	30.4
Washing of hands after handling every patient		
Yes	176	92.1
No	15	7.9

Touching of eyes, nose and mouth while handling Patients

Yes	159	83.2
No	32	16.8

Practice of cleaning of white coat or nursing uniform regularly after hospital duty

Yes	123	64.4
No	28	14.7
No response/ Not applicable	40	20.9

Exposure of study participants to patient's blood, vomit or other bodily fluids

Yes	86	45.0
No	105	55.0

The survey showed majority of the study participants were females (70.5%) which is almost similar to a study conducted by Yassi A, in British Columbia consisting of greater percentage of females (82%) [13].

The present study showed that, 87.4% healthcare personnel have some knowledge about Hospital Acquired Infection (HAI) which is almost similar to a study done by Ocran Irene in Ghana, where they found 88.7% Health Care Workers (HCWs) had some knowledge of HAIs.[2] Urinary tract infections (60.5%) followed by infections of respiratory tract (35.3%) were known as the two common hospital acquired infections according to study participants which differ from a study conducted by Ankit SM in Gujarat where 98.8% of study participants unanimously acknowledged respiratory tract infection to be the most common HAI [3]. Among the study participants, 84.3% had knowledge about prevention of hospital acquired infection which is slightly lower than a contemplate done by Ogonia D, in Nigeria (91.6%).14 Hand washing was the most widely recognized strategy to avert clinic gained diseases (66.5%) trailed by close to home defensive gear (22.4%) and utilization of anti-toxins (6.8%). In the utilization of defensive hindrances, Ojulong J, in Namibia showed up, 42% of all respondents gave right answer concerning usage of hand gloves for each and every technique, when there was a threat of connection with the blood or with the fluid of body, when there is the chances of any risk of a cut and when human administrations workers have a cutaneous lesion [15]. Paudyal P, among Nepalese restorative administrations pros found poor adherence with wearing guarded dress including cautious overskirts (33%) or cover (47%) in conditions passing on a high peril of sprinkle blood or body fluid.16 Regarding air about Hospital secured defilements (HAIs), 94.8% of social insurance experts trusted that working in clinic presented them to irresistible sicknesses which is higher than an examination led by Marranzano M et al, in Sicily where just 54% of individuals trust that working in emergency clinic may open them to infections.[10] Irene O, in Ghana appeared, 67.6% health awareness labourers (HCWs) trusted medical clinic specialist didn't shield them from HAIs but rather trusted one can secure himself or herself by washing hands with cleanser (57.1%)[2]. The present investigation appeared, 45.5% of the examination populace thought careful steps taken against medical clinic obtained diseases hamper their capacity to carry out their responsibilities which is higher than an investigation directed by Yassi A, where 27% of respondents felt that prudent steps meddle with their capacity to do their job.[13] Kamulegeya An, in Uganda discovered, absence of gloves for hands (53.2%) and the use of glove not being a typical practice on the ward (28.7%) were the most generally referred to purposes behind not wearing gloves.

The present investigation appeared, 61.1% of the examination populace utilized pre-sanitized instruments which are a lot higher than an examination directed by Irene O, in Ghana where just 25.4% were utilizing pre-cleaned medicinal instruments.[2] Studies demonstrate that human services labourers hands are the primary wellspring of HAI transmission, and in this way, hand washing via parental figures is the most vital method in averting HAIs.[18] Present examination

demonstrated that, 90.2% of the investigation members washed their hands in the wake of taking care of the patients which is higher than an examination done by Ogoina D et al, in Nigeria (58.5%) and Paudyal Pet al, among Nepalese human services specialists (70%).14,16 Mohammad zadeh M et al, in Iran found, the most elevated right conclusion (87.5% of respondents) was to an inquiry regarding washing of hands after unplanned connection with blood, fluids and emissions of patients.

The present study showed majority of the health care personnel have knowledge about hospital acquired infection but there is still lack of adequate quality control practice to prevent hospital acquired infection. The study emphasizes on the need for adequate knowledge and maintenance of proper hygiene by heath care personnel especially nurses in reducing the incidences of HAIs. The study also highlights use of different preventive methods such as hand-washing, disposal of wastes, sterilization of instruments, use of protective equipment's like apron, gloves, masks, shoes etc. practiced by health care workers while working in the hospital. Most of the health care personnel are willing to change their working environment instead of following standard precautions against Hospital Acquired Infection. The fear of getting infected from patients may compromise quality health care service to patients. Importance of information education communication to prevent Hospital Acquired Infection should be emphasized among health care personnel.

Conflict of interest: None declared

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