

Infection Control Among Health Care Assistants

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Hospital-based personnel and other persons who provide health care outside hospitals may acquire infections from or transmit infections to patients, other personnel, household members, or other community contact (Sepkowitz, 1996). Health Care Assistants (HCAs) / Ward Attendants play an important role in providing basic patient care and performing disinfectant duties to keep health care settings as clean as they can. However, the significant roles of ward attendants in infection control have been underestimated and the teaching skills for holding an infection control workshop for them have not been reported in health care education. Literature lacks information about how to structure infection control courses, and conduct such courses for Health Care Assistants (Chan Zenobia, 2006).

The role of the Health Care Assistant emerged primarily to support the professional nurse and to undertake perceived non-nursing duties under the direction and supervision of qualified nurses. While they represent a substantial proportion of the health care workforce, the growth of their role has taken place without regulation, clear boundaries, or systematic education and training (Mckeena et al, 2004).

Health care workers (HCWs) are at the front line of patient care delivery. It is essential that they are appropriately trained and competent in the skills required to deliver the fundamentals of care. There is also a need for HCWs to have access to continuing professional development that offers a career pathway (Arblaster et al, 2004). Making sure ward attendants have a degree of competence can in turn help raise the standard of patient care (Ashby et al, 2003).

The purpose of conducting this study was to assess the knowledge of ward attendants related to infection control and also to develop, and conduct structured teaching programme related to infection control in order to improve their knowledge which will help in prevention and control of infection in the hospital.

Objectives

The objectives of this study were to :

- i. Assess the pre-test (preliminary) knowledge of experimental and control group of ward attendants with respect to variables i.e. age, sex, work experience, area of work.
- ii. Find out the effectiveness of structured teaching programme with respect to percentage distribution

of ward attendants in experimental and control groups, according to their pre-test and post-test knowledge score regarding infection control.

Methodology

Research Design: Quasi experimental research approach was used in the study, which lacked in randomisation.

Research Tool: Final tool consisted of 3 parts:

Part I consisted of sample characteristics;

Part II had 50 multiple choice type questions and each correct answer carried one mark. Six broad categories of Infection and disease, Universal precautions, Assisting nurses in doing procedures, Transmission of infection to community, Dusting and segregation of hospital wastes, Sterilisation and disinfection.

Part III consisted of building up of an extensive self structured teaching programme regarding infection control based upon all the above written aspects of infection control.

Criterion measures: Knowledge scores were - Excellent (>80), Good (61-80), Average (41-60), Below average (<40).

Sample size: Sample comprised 60 ward attendants, 30 for experimental and 30 for control group.

Sampling technique: Purposive sampling method. Initially

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matching was done for all sample characteristics but ultimately only sex and work experience could be matched.

Pilot study: Reliability of the tool was established by Split Half Technique and was calculated by Karl Pearson co-efficient of co-relation and Spearman Brown. The reliability of tool was found to be 0.8 and hence the tool was highly reliable. Validity of tool was calculated by square root of reliability and came out to be 0.89, hence the tool was valid.

Data collection: First day, pre-test from both the groups (experimental and control) was taken. Next day self structured teaching programme regarding infection control (including demonstrations) was administered to only the experimental group and subsequently the post-test was taken on the third day from both the groups (experimental and control). The post-test was taken from both the groups after giving a gap of one day to assess the memory retention of ward attendants.

Data analysis: The data analysis was done by calculating the percentage, mean, standard deviation, coefficient of correlation and 't' value.

Results

As per the first objective, the pre-test knowledge score of ward attendants in experimental and control group was statistically non-significant at $p > 0.05$ level as evident by their pre-mean knowledge scores as per the following age-groups i.e. 21-30 years (26.5, 26.75), 31-40 years (26.5, 24.83), 41-50 years (26.3, 23.50) years and sex i.e.

males (27.16, 24), females (24.5, 25.4). The pre-test knowledge score of ward attendants in experimental and control group was statistically non-significant at $p > 0.05$ level as evident by their pre-mean knowledge scores as per the following years of experience i.e. <1 year (25.5, 25.0), 1-5 years (28, 26.2), 6-10 years (26.7, 26.33), 11-15 years (24.6, 23.25), >15 years (26, 23.53) and areas of work i.e. General Wards (25.1, 24.5) and Critical Care Units (27.3, 24.1). Hence it can be concluded that there is no effect of age, sex, work experience and area of work on the knowledge of ward attendants regarding infection control.

As for the second objective, the percentage distribution of ward attendants in experimental and control groups according to pre-test knowledge score was excellent i.e. >80 (3.3%, 0%), good 61-80 (13.3%, 13.3%), average 41-60 (73.3%, 70%) and below average <40 (10%, 16.6%). After the structured teaching programme (post-test knowledge scores) the percentage distribution of ward attendants in experimental and control group was excellent i.e. >80 (83.3%, 0%), good 61-80 (16.6%, 10%), average 41-60 (0%, 70%) and below average <40 (0%, 20%). Hence it can be concluded that structured teaching programme made good impact to raise the knowledge of ward attendants in experimental group.

Discussion

As for the 1st objective i.e. finding the relationship of effectiveness of structured teaching programme with selected variables i.e. age, sex, work experience, area of work, no statisti-

cally significant effect of these variables at $p > 0.05$ level was found on the knowledge score in both experimental and control groups. Regarding nursing assistants/health care assistants, very few studies are available in literature, nevertheless we obtained a few results from related studies on nurses, and other health care assistants.

Similarly, Yassi Annalee et al (2007), indicated that no relationship of individual factors was found between compliance of health care workers and infection control although a strong co-relation was found between both environmental and organizational factors affecting compliance of health care workers towards infection control.

Analysis of 2nd objective revealed that that majority of ward attendants (83.3%) had excellent knowledge in experimental group and in control group; 70 percent ward attendants had average knowledge level which indicated that effect of structured teaching programme on infection control was very effective in improving knowledge of experimental group. The above findings are similar to those reported by Sile A Creedon (2008). It revealed that a significant shift (32%) occurred in health care workers' compliance with hand washing guidelines (pre-test 51% / post-test 83%, $p < 0.001$) following the interventional hand hygiene programme. Similarly, significant changes were also found in relation to health care workers' attitudes, beliefs and knowledge ($p < 0.05$). In yet another study done on student nurses in China, after being given training about

blood-borne pathogens, they scored significantly higher than the standard education group on both knowledge ($p < 0.001$) and behaviour ($p = 0.002$) (Wang et al, 2003). Although students in the experimental group were not observed to practice UP significantly more frequently than those in the control group, they were less likely to experience needle stick/sharp injuries (OR = 0.29; 95% CI 0.11, 0.74; $p=0.004$).

Implications and Recommendations

1. Nursing service administration: Ward sisters should ensure that universal precautions be followed by all categories of health care personnel including ward attendants. Infection control team should conduct periodical surveillance to ensure rigid application of infection control strategies by ward attendants and proper grievance redressal forums be held by nurse administrators in case of any dispute or non-compliance by anyone.

2. For Community health nursing: The sound health of workers of the hospital is a must to ensure proper disposal of ser-

vices to its clients. Regular medical check-ups by medical board be undertaken along with timely bacterial surveillance of their hands, nasal swabs, by the hospital's microbiology department. Ward attendants' personal hygiene should be ensured by ward sisters apart from meticulous observation of their nails, hands (for open sores) in order to ensure that hospital infections are not transmitted to community in which they dwell and vice versa.

Similar studies can be undertaken to assess the practices of ward attendants regarding infections control. Need of the hour is to check the knowledge as well as practices of nurses towards compliance of infection control practices in government including municipal hospitals.

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Dr. (Mrs) Molly Babu, Senior Lecturer and Head of department of Obstetrics and obstetrical nursing, R.A.K College of Nursing has been awarded the degree of Doctor of Philosophy from the University of Delhi at the Convocation held on 20th March 2010 after approval of her thesis on "A STUDY TO DEVELOP AND EVALUATE NURSING STANDARDS ON ANTENATAL CARE IN TERMS OF KNOWLEDGE AND PRACTICE OF NURSING PERSONNEL, MATERNAL AND FOETAL OUTCOME AND SATISFACTION OF ANTENATAL MOTHERS IN A SELECTED HOSPITAL IN DELHI", under the guidance of her supervisors, Dr.Asha Sharma, Ex-principal and Dr.R.G Mathur, Ex-senior Lecturer of R.A.K College of Nursing, New Delhi