**ABSTRACT**

**Introduction:** The issue of healthcare-associated infections has always been one of the most important public health problems in many countries throughout the world, contributing to morbidity, mortality and additional cost. To improve hygiene behaviour of nursing staff training sessions and increasing the educational facilities for recognition and control of infection has been recommended.

**Material and methods:** A Three day training course was conducted which included lectures on important topics of hospital infection control. A pre-test was conducted on the first day of the session. A post-test was then conducted on the last day of the session using the same proforma. The test questions were then assessed and score was given.

**Results:** The data from our study indicates that the current state of nurses' knowledge related to hospital acquired infection is poor, particularly in concepts of standard precautions and sterilization and disinfection. But the knowledge of hand hygiene was known by 45% of nursing staff. Considerable improvement was noticed in post test score of all the seven aspects of infection.

**Conclusion:** Training sessions and workshops conducted at regular intervals of time and updating health care worker will help to control the spread of nosocomial infections and providing a better patient care.

**KEYWORDS:** health care associated infection, nurses, training, knowledge and practices

**Impact of training on knowledge and practices of nurses regarding hospital infection control practices in a tertiary care hospital in central india**

---

**Table 1 .Scores in relation to different aspects of Infection control**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Questions category</th>
<th>Pre-test (%)</th>
<th>Pre-test (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Concept of standard precautions</td>
<td>35</td>
<td>68</td>
</tr>
<tr>
<td>2</td>
<td>Hand hygiene</td>
<td>45</td>
<td>71</td>
</tr>
<tr>
<td>3</td>
<td>Safe injection practices</td>
<td>37</td>
<td>67</td>
</tr>
<tr>
<td>4</td>
<td>Sterilization and disinfection</td>
<td>29</td>
<td>64</td>
</tr>
<tr>
<td>5</td>
<td>Spill management and PEP</td>
<td>39</td>
<td>69</td>
</tr>
<tr>
<td>6</td>
<td>OT sterilization</td>
<td>38</td>
<td>72</td>
</tr>
<tr>
<td>7</td>
<td>Microbiological sample collection and transport</td>
<td>42</td>
<td>74</td>
</tr>
</tbody>
</table>

The data from our study indicates that the current state of nurses knowledge related to HAI is poor, particularly in concepts of standard precautions and sterilization and disinfection. But the knowledge of hand hygiene was known by 45% of nursing staff. Some of them were
knowing the recommended period of disinfectant but were not knowing the exact five movements of hand washing. The knowledge regarding safe injection practices and OT sterilization were also not enough to nursing staff but improvement was noticed in post test score of all the seven aspects of infection.

**Discussion:** The results of present study highlighted some facts on the knowledge and practices regarding knowledge and practices of hospital infection control amongst the participants who represented the nursing staff of a tertiary care centre. In the pre-test we could assess the basic knowledge and attitude of the nurses on the topic prior to training which was utilized further during lectures as a focusing tool. The post-test served as the result of training session i.e how much knowledge was gained by the participants during the training. And as per our expectation the result of training was good.

Hand hygiene is the simplest and the most important but seems to be the most neglected step in prevention of hospital infection. During discussion in the training session with the participants, it was found that frequency of hand washing per shift was not acceptable and there was very low level of compliance with hand washing , particularly before touching the patient and also in between examination of two patients. And the reasons mentioned leading to non-compliance with hand hygiene were hectic duty schedules, inadequate hand washing facilities in or near the patient care area, non-availability of soap or disinfectants, busy working hours, Understaffing/overcrowding, patient care being priority, wearing of gloves, low risk of acquiring infection from patients .Chandak et al 2011 also reported the same factors mentioned by the nursing staff for non compliance for hand hygiene. However, a good hand hygiene knowledge and compliance was seen in some studies. 8,9,10,11

Knowledge in sterilization and disinfection procedure was quite low. Though the participants were aware of the difference between sterilization and disinfection, commonly used hospital disinfectants but knowledge regarding correct application of disinfectants on equipments, various methods of OT sterilization was poor. There was a lack of concept of correct use of disinfectants on instruments. This knowledge of nursing staff regarding sterilization and disinfection in the present study is in accordance with the Jain M et al and Sadeghi N et al.12

In safe injection practices, participants reported faulty practices in handling multi dose vials, intravenous fluids, insulin vials and syringes, recappping of needles, disposal of syringes. This knowledge of nursing staff regarding safe injection practices in our study coincides well with other studies.12,13,14

Participants though well versed with spill management techniques and reportedly followed acceptable practices in this regard. They showed a low understanding for the appropriate use of PPE. Compliance with barrier nursing techniques was found but the use of eye goggles, change of gowns in I.C.U and before exit from the operation theatre was not satisfied. Similar findings were reported by Chandak et al 2011.11

Surprisingly the knowledge of sample collection and transport in nursing staff was not very poor in the present study whereas Chandak et al 2011 reported poor knowledge regarding the same.11

**Conclusion:** We observed that knowledge of the participants in prevention of hospital acquired infections improved significantly after three days training session in the present study. The participants showed an improved understanding of importance of this concept in the post-test. This indicates that such a training programme is essential for improving the infection control practices.

It is observed in many other studies also that training sessions and workshops conducted at regular intervals of time and updating HCW with newer concepts in patient care, along with induction courses of newly joined staff, will help to control the spread of nosocomial infections and providing a better patient care.

**Bibliography**