

# KAP Study Towardsinfection Prevention & Control among Staff of Small Hospitals in Churu District of Rajasthan, India

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## Abstract

**Background:** Healthcare workers routinely interact with blood-borne microbes and different microorganisms and are at a risk of getting infection. These interactions may happen during surgeries, during clinical and nursing administrations, basic assessment or while taking care of hospital facility. Knowledge, Attitude & Practice (KAP) regarding infection prevention and control (IPC) may include hand hygiene, use of PPE, gloves, masks, face shields, use of sanitizers, bio-medical waste management for safe work environment in hospitals. With this backdrop a KAP study was conducted in small hospitals, having bed strength up to 50 beds, in Churu District of Rajasthan.

**Methods:** The study design is descriptive and cross-sectional and was conducted in 6 small hospitals (less than 50 beds) of Churu District. The study tool included scheduled Interview and questionnaire and was conducted in Feb. to June 2020. The sample size included 75 Healthcare Workers (doctors, nurses, and staff of hospitals). The sampling technique was multistage sampling. The percentage of correct answers were recorded. A score of less than 50% was considered poor, 50% to 70% as fair while 70% and above was considered good.

**Conclusion:** The information on the staff was discovered to be among reasonable and good i.e., in the range of 65-75%. The act of discarding waste material was less and was observed as 67%. It was seen that 87% of staff were hepatitis B inoculated. Regular training regarding infection prevention can increase the knowledge and standardised measure may be followed by healthcare workers and staff present in the hospitals.

**Key words:** Knowledge, Attitude, Practice, Infection, Prevention, Hospital, Healthcare, Staff.

## Introduction

Infection prevention and control (IPC) in hospitals deals with measures adopted by healthcare personnel to prevent infections which is an also an important patient safety issue. The measures adopted help to protect healthcare staff from pathogenic, contagious microbes including resistant bacteria and viruses<sup>1,2,3</sup>.

Hospital infections may include blood-borne infections, lung and skin infections, which are

all serious threat to hospital staff. IPC helps in protecting hospital staff, visitors, and patients against infections. It may involve hand hygiene, hand disinfection, use of PPE (gloves, face shields, masks, goggles), sharps safety, waste disposal etc<sup>4</sup>.

The staff should avoid wearing wristwatches, rings, or bracelets as they increase viral or bacterial load on hands resulting into infections. Hand hygiene may be performed before handling equipment,

before and after care of patients, patient examination, procedures and examinations, handling catheters/needles, or before and after administering injections. Hand washing should be done firmly including palms, fingers, thumbs, and wrists, preferably using dispenser soap for 20-30 seconds. Ethanol based hand disinfectants may also be used. Gloves may be used to reduce transmission of viruses, bacteria and other microorganisms by hands<sup>4,5</sup>.

Knowledge, attitudes and practice (KAP) regarding infection prevention precautions is very important in hospitals, as it prevents the healthcare staff from various infectious diseases.

Knowledge regarding IPC can be gained through trainings, readings, and is a mixture of comprehension, experience, and skill. Positive attitude results in thinking, empathising, and reacting that lead to practice of IPC measures. Thus knowledge, positive attitude and practice of IPC could be taken as three important elements which may save healthcare staff from life threatening infections<sup>6,7,8</sup>.

In small hospitals, there may be chances that infection prevention and control practices are not followed properly leading to unsafe work environment. Hence, with this backdrop this study was conducted to assess the KAP regarding IPC among staff (doctors, nurses, other professionals) in small hospitals in Churu district of Rajasthan, India<sup>9,10</sup>.

### **Materials and Methods**

The study design is descriptive & cross-sectional and was carried in 6 small hospitals (less than 50 beds) in Churu, District of Rajasthan. The study tool included scheduled Interview and questionnaire and the duration of the study was between March to June 2020.

The sampling technique included first selecting the departments (wards, Operation theatres, outpatient

departments, Labour room, Lab. etc.) and then selecting few units from those selected departments. The sample size included 75 Healthcare Workers which included doctors, nursing staff, paramedical staff and housekeeping staff.

The details of the questionnaire included elements on detail of hospital, age profile, years of experience, awareness about infection prevention and control (IPC), source of information regarding IPC, components of IPC like Hand Hygiene, use of PPE, Needle and sharp injury prevention, sterilization, bio-medical waste management, advantages of IPC and Hepatitis B vaccination.

Data was analysed, discrete variables were presented as frequencies, measures of central tendency and the knowledge score was determined based on percentage of correct answers. The score of less than 50% was considered poor, between 50–70% as fair and 70% and above was considered good. Due ethical considerations were taken in the study and anonymity was maintained for responses.

### **Results and Discussion**

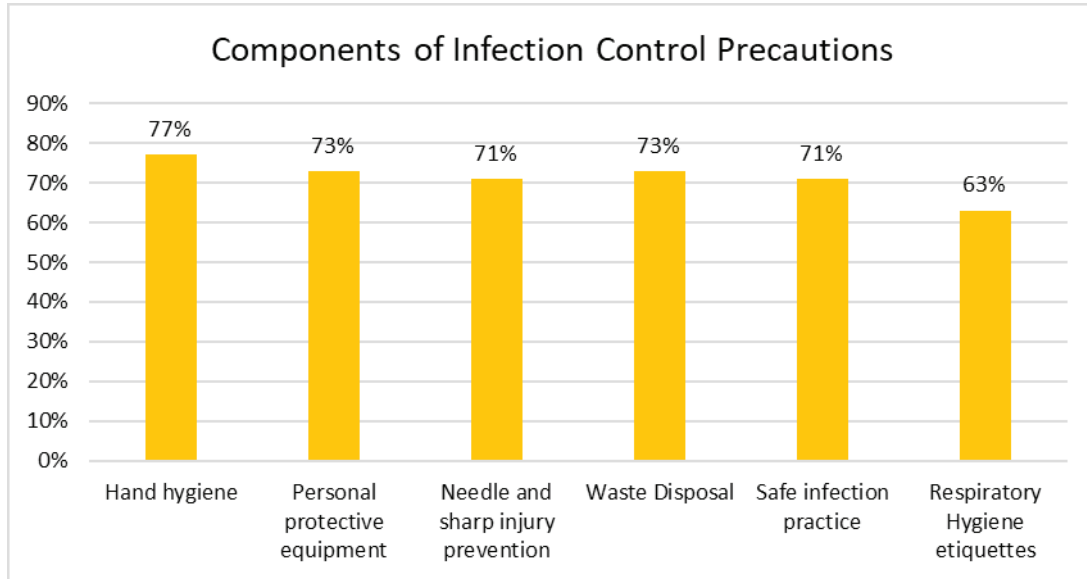
The respondent's socio demographic status like category, age, experience, was recorded. It included doctors (12%), Nursing Staff (35%), Paramedical Staff (29%) and housekeeping staff (24%). Majority of the staff was less than 40 years (84%), and less than 10 years of experience (79%).

**Knowledge of staff about the Infection Precautions:** The respondents were asked about awareness and sources of information regarding infection control practices. Majority (88%) were aware of Infection control precautions, except the housekeeping staff which were unaware of the same. The source of information of IPC was majorly from educational/instructive books & formal trainings (80%), apart from colleagues and other sources (20%).

**Infection control precautions:** The components may include hand hygiene, gloves, masks, sharps safety, use of disinfectants and waste disposal.

These components help prevent medical staff infections that can be transmitted from patient to medical staff, and vice versa. The knowledge about the components of infection control and prevention is shown in Figure 1.

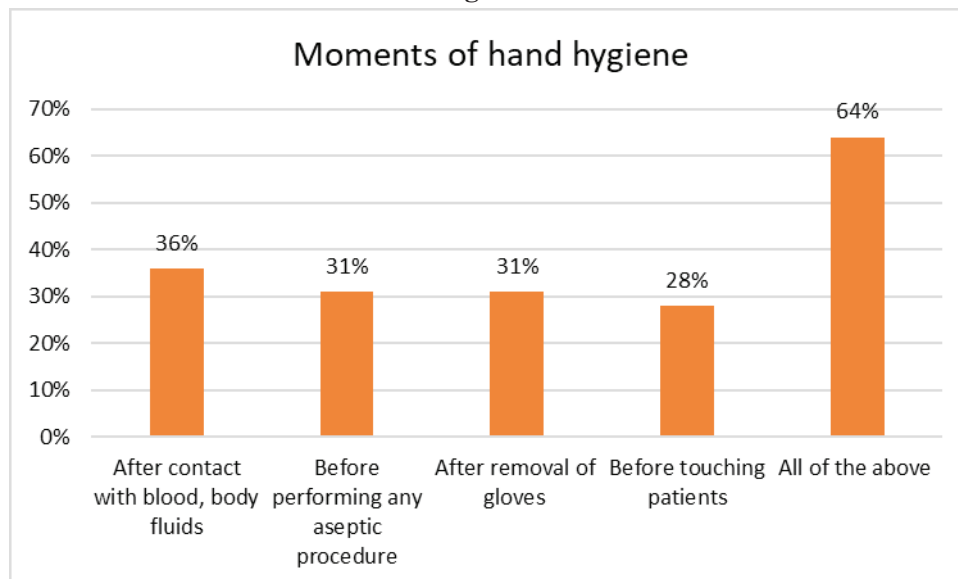
**Figure 1**



**Advantages of IPC<sup>11</sup>:** After data analysis, it was observed that the knowledge of the respondents regarding the advantages of infection control precautions was good (75%). The advantages included protection of healthcare workers and patients from various communicable diseases, and reducing hospital acquired infection.

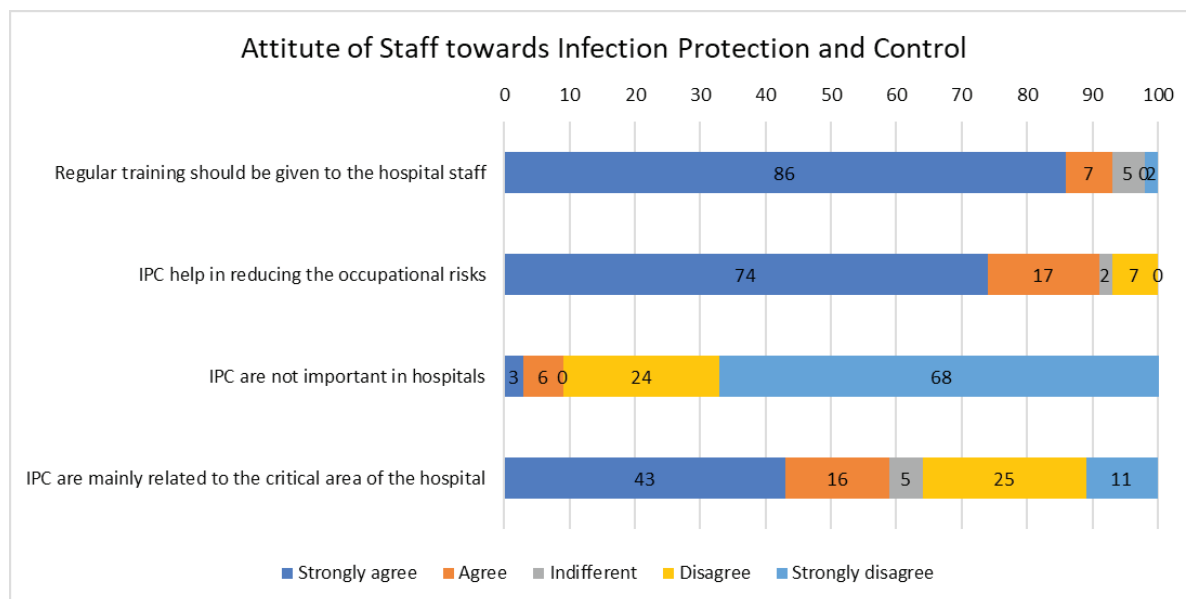
**Moments of health hygiene.** When the participants were asked about the moments of hand hygiene, they gave the replies as below in Figure 2.

**Figure 2**



From the above figure, awareness of the moments of hand hygiene was low among healthcare staff.

**Attitude of the staff regarding IPC:** It was assessed by asking the questions and the agreement/disagreement with the statements. The percent outcome has been given in Figure 3.



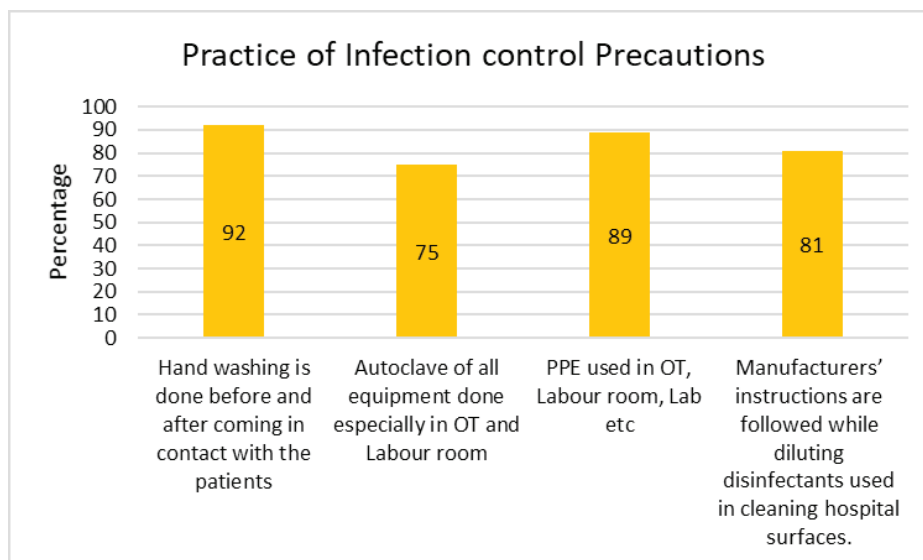
**Figure 3**

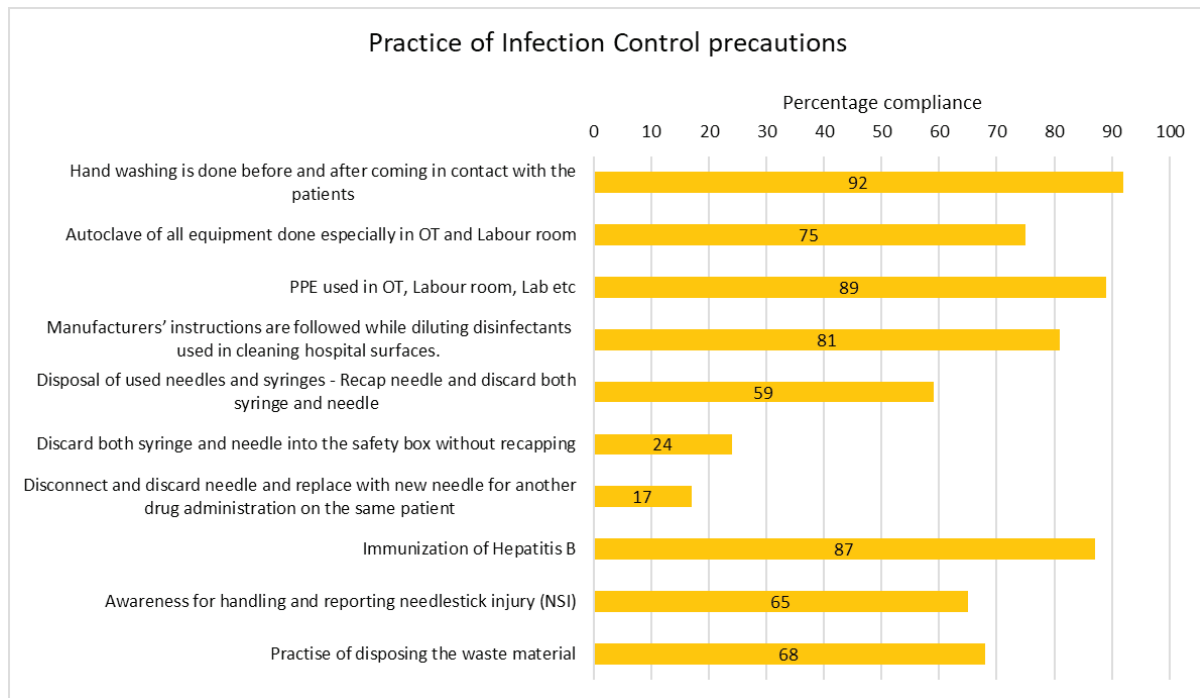
Interpretation: Most staff agree that regular training on IPC should be given in hospitals. The staff had positive attitude towards infection control preventive measures, and strong agreement that IPC helps in occupational risks associated with health workers.

### Practice of the Infection control precautions<sup>12, 13</sup>

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The practices of Infection control precautions among healthcare workers are shown in and Figure 4 and in Figure 5.





**Figure 5**

From the above figures it could be inferred that lower percentage of compliance was observed in disposal of used needles and syringes, which is very important in preventing healthcare associated infections among staff.

### Conclusion& Recommendations

The knowledge of the staff in the hospitals was between fair to good, and there were aspects of IPC that the staff was not aware. A positive attitude towards infection control and prevention was observed. It may be recommended that hospital staff be trained regularly so that they can take infection control preventive measures in routine patient care. Approximately 87% of people are immunized against hepatitis. Specific training programs related to the improvement of the guidelines and hospital guidelines can be arranged in the hospital. The Hospital Infection Control Committee can address the guidelines followed by the hospital.

**Conflict of Interest** – Nil.

**Source of Funding-** Self (part of academic research project).

**Ethical Clearance** –Informed consent, data security, privacy, and confidentiality were maintained. The name of hospitals and their staff details have not been disclosed.

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