

Knowledge, Attitude and Practice Regarding Sterilization among Staff in Central Sterile Supply Department of Brims Bidar: A Hospital Based Study

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ABSTRACT


Background: For a hospital to discharge its duty properly to safe guarding human life and to decrease in the incidence of nosocomial infections with corresponding increase in the mortality, length of stay and cost, it is necessary for a hospital to have a good CSSD set-up and an efficient working staff with adequate knowledge and practice of sterilization techniques. Moreover, the fatal disease AIDS became so powerful and spread worldwide, the demand for proper procedures for hospital infection control has gained momentum enormously. Diseases such as Hepatitis B & C, known to be transmitted through contaminated surgical instruments, there is a need to adopt stricter guidelines for disinfection and sterilization.

Objective: The purpose of this study was to know the knowledge, attitude, and practice regarding sterilization among health-care staff working in Central sterile supply department (CSSD) of Bidar Institute of Medical Sciences (BRIMS) Teaching hospital, Bidar, Karnataka.

Methods: The study is a descriptive, observational and hospital based which was carried out in BRIMS Teaching hospital Bidar. The tools include observation check list and questionnaire. Data was analyzed by SPSS 20.0.

Conclusion: We conclude that our hospital CSSD staff are having adequate knowledge and positive attitude and are highly practicing sterilization methods. We recommend every hospital to conduct such studies to assess the knowledge of their staff regarding sterilization and disinfection techniques on regular basis to prevent the nosocomial infections.

Keywords: Attitude, CSSD staff, Knowledge, Practice, Sterilization.

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INTRODUCTION

It is mandatory to carry out adequate sterilization procedures in the hospital for safe guarding human life. Because despite stupendous advances in the medical field, hospital acquired infection remains the most serious concern. Sterilization is the process by which the probability of occurrence of the viable microorganism in a medical product is reduced to less than 10^{-6} . Sterilization is the condition that is difficult to achieve and hard to prove.

Sterilization is now an essential pre requisite for certain procedures and devices. Now a days there are several new techniques of sterilization and newer innovations in equipment's of sterilization. However, it is not economically feasible to plant sterilization equipment in all departments of hospital.

"Central Sterile Supply Department" (CSSD) is a service which caters to the needs of a hospital for the supply of sterilized material to the all

departments of the hospital. The department involves in the activities of receipt, cleaning, assembly, sterilization, and distribution of sterilized materials and equipment after conducting bacteriologically safe sterilization practice under controlled conditions with proper technical supervision in a minimum cost.¹

So Central Sterile Supplies Department was established to centralize the sterilization procedures under a trained professional. CSSD setting will save nursing time, sterilization process being more effectively controlled throughout the hospital. Sterilization therefore plays a very important role in task of providing quality care to the patients and the CSSD ensures optimum availability of sterilized products. This study was conducted with objective to know the knowledge, attitude, and practice regarding sterilization among health-care staff working in our hospital.

MATERIALS AND METHODS

Participants: The descriptive, observational, hospital based cross sectional study was carried out in BRIMS teaching hospital, Bidar after obtaining permission. All the staff (n=26) including males and females, working in CSSD department of the hospital was included after obtaining free, written, voluntary informed consent.

Tools and technique: The tools include observation check list and questionnaire.

Questionnaire: Questionnaire was prepared to study the staff attitude and knowledge towards use of sterilization techniques. It was prepared on the basis of information obtained from the review of literature on the topic. There were separate questions for attitude and knowledge. Both have two parts. Part one has questions on demographic factors and second part contains 16 and 14 statements of knowledge and attitude questions respectively.

The following criteria was used to grade the knowledge/attitude.

1. Complete knowledge/ complete positive attitude/always practice- 100%
2. Very good knowledge/highly positive attitude/very high practice-80% to 99%
3. Good knowledge / moderately positive attitude/high practice-60%-80%

4. Average knowledge/neutral attitude/moderate practice-40%-60%
5. Poor knowledge/moderately negative attitude /poor practice-20%-40%
6. Very poor knowledge/ high negative attitude/very poor practice- 1% to 20%

OBSERVATION

The activities of CSSD were observed and sterilization techniques were noted with the help of check list.

DATA ANALYSIS

Data was analyzed by SPSS 20.0.

RESULTS

Results were presented in table no Table: 1 shows question wise percentage score of knowledge. Table-2 shows question wise percentage score of attitude. Table 3 shows question wise percentage score of practice.

Table no: 1 Question wise percentage score of knowledge

Sl no	Question	Total	%	Remarks
1	Do u know about sterilization	26	100	Complete knowledge
2	What is CSSD and its importance	26	100	Complete knowledge
3	Do u know autoclave and its principle	26	100	Complete knowledge
4	Do u know about fumigating gas	26	100	Complete knowledge
5	Do u know about ETO gas	18	69	Good knowledge
6	ETO gas is used for	22	85	Very Good knowledge
7	What are common equipment used for sterilization	26	100	Complete knowledge
8	Do u know different methods used in sterilization	20	77	Good knowledge
9	What are temperatures used in hot air oven	26	100	Complete knowledge
10	To kill spores which temperature we should use	26	100	Complete knowledge
11	Do you know what are biological indicators	20	77	Good knowledge
12	What is Fumigation time	26	100	Complete knowledge
13	Do you know when autoclave should be used/ should not be used	26	100	Complete knowledge
14	Name some disinfectants	26	100	Complete knowledge
15	What is infection	26	100	Complete knowledge
16	What are dangers of infections	26	100	Complete knowledge

Table 2: Question wise percentage score of attitude

Sl no	Question	Total	%	Remarks
1	Sterilization is effective in killing microorganisms	26	100	Complete positive attitude
2	Need of updating staff knowledge regularly	26	100	Complete positive attitude
3	Need to maintain records in CSSD	26	100	complete positive attitude
4	Proper handling of sterilization equipment	26	100	complete positive attitude
5	Conducting regular inventory check	26	100	complete positive attitude
6	Precautions during fumigation	26	100	complete positive attitude
7	Equipment should be checked regularly	26	100	complete positive attitude
8	Need of imparting knowledge about sterilization	26	100	complete positive attitude
9	Staff should be made aware of safety techniques	26	100	complete positive attitude
10	Fumigation is an effective sterilization technique	26	100	complete positive attitude
11	Indicators used to ensure proper sterilization of articles is essential	20	77	highly positive attitude
12	Importance of labeling articles processed in CSSD	21	81	highly positive attitude
13	Double wrapping of equipment is needed	19	73	highly positive attitude
14	Knowledge about steam sterilization	26	100	complete positive attitude

Table no: 3 Question wise percentage score of practice

Sl no	Question	Total	%	Remarks
1	Staff maintaining aseptic techniques	24	92	Very high practice
2	Proper inventory present	26	100	always practice
3	Steam sterilization temperature is maintaining	26	100	always practice
4	Equipment in the autoclave packed in double lining	26	100	always practice
5	Maintaining holding time in autoclave and hot air oven	26	100	always practice
6	Fumigating CSSD at proper intervals	26	100	always practice
7	Using biological and chemical indicators	26	100	always practice
8	Safety measures are taking	26	100	always practice
9	Maintaining different records in the department	26	100	always practice
10	Proper handling of equipments	26	100	always practice

DISCUSSION

Sterilization and disinfection in hospitals is a significant concern for both the medical and the general community. There has been an increase in many infectious diseases such as Acquired Immunodeficiency Syndrome (AIDS) and Hepatitis B because of inadequate sterilization.^[2,3,4,5] Kane, A. et al revealed that approximately 8-6 million HBV, 2.3-4.7 million HCV and 80000 to 160000 HIV infections may result every year from unsafe injections.⁶ Very few studies have been done in India quoting the importance of CSSD in the prevention of infections and control. Basu, Debabrata, et al conducted a study regarding the operation of CSSD in a 167 bed oncology centre in the eastern part of India and documented the importance of CSSD in control of nosocomial infections.⁷ our study assessed the knowledge of CSSD staff in our hospital regarding use and implementation of sterilization techniques. As per our study findings and results, the staff is having very good knowledge and are having high positive attitude towards use of sterilization techniques and are efficiently practicing the sterilization techniques. Positive correlation exists between attitude and practice. The staff of our CSSD is well trained and has scientific rationale behind principle. Our hospital also conducts regular training classes to update the knowledge of CSSD staff regarding new sterilization techniques.

LIMITATIONS

Major limitation of our study was low sample size. We haven't compared male and female responses.

CONCLUSION

We conclude that our hospital CSSD staff are having adequate knowledge and positive attitude and are properly practicing sterilization methods which will play a very important role in the decrease of nosocomial infections and deadly infections like HIV, Hepatitis and HCV. We recommend every hospital to conduct such studies to assess the knowledge and practice of their CSSD staff regarding sterilization techniques and to improve the working

qualities of the health care workers of CSSD on regular basis to prevent hospital acquired infections effectively.

CONFLICTS OF INTEREST: None declared.

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