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Review

Overview of the central sterilization supply department, an integral part of the hospital

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Abstract

Introduction: The central sterile supply department (CSSD) is an integrated unit in a hospital that facilitates the sterilization process. Sterilization destroys all bacteria, viruses, spores, and other microorganisms from the surface of medical devices and supplies, including fluids, which cause the spread of infection when used during patient care. This department sterilizes reusable medical devices, linen, and surgical instruments by physical or chemical methods.

Methodology: We adopted a systematic literature review method for this study. There are few comprehensive studies on the CSSD. This extensive review of CSSD is based on information retrieved from scientific databases (Google Scholar and Web of Science) and grey literature from organizations. All publications on safe and feasible methods of disinfection and sterilization processes in hospitals were reviewed. Information on workflow, responsibilities, infection prevention control (IPC) protocols, physical requirements, staffing requirements, and any special equipment used in the process of sterilization were reviewed.

Results: About 300 articles were identified and relevant articles were selected for this review. The information was summarized to guide optimal standard settings for sterilizing reusable items in the CSSD. Special emphasis was given to identifying any unique methods or resource-demanding techniques of disinfecting and sterilizing, and any predefined layout that may facilitate maximum IPC and hygiene.

Conclusions: This comprehensive review of the literature may serve as a guide for hospital IPC.

Key words: sterilization; disinfection; decontamination; infection prevention control; reusable; unidirectional.

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Introduction

Sterilization is the process of destroying all bacteria, viruses, spores, and other microorganisms from the surface of reusable articles or fluids, that cause the spread of infection while reusing these items for patient care [1,2]. The central sterile supply department (CSSD) is the central place within a hospital where sterilization is done [3,4]. This department sterilizes surgical instruments; items made of stainless steel, plastic, and rubber; reusable medical devices; and linen; making them safe for use in patient care.

The CSSD consists of three zones (red, blue, and green). Contaminated items like stainless steel surgical instruments; items made of glass, plastic, rubber, silicon; and reusable medical devices from various departments are received in the red zone. The linens are sent to the laundry and later received in the clean zone [5,6].

The materials received in the red zone are sorted as per their material specification for chemical and physical cleaning. Physical cleaning includes scrubbing and pressure jet washing, and chemical cleaning includes soaking in detergent solution and disinfectants [7,8]. The washer-disinfector unit is automated to facilitate the cleaning and disinfecting process [9–11]. In addition, the ultrasound instrument cleaner cleans the stainless-steel surgical instruments with high-frequency sound waves.

Next, these cleaned and disinfected items are moved to the blue (clean) zone for a quality control check. There is a strict barrier between the red and the blue zones [12]. Movement of personnel and materials is restricted from the red to the blue zone, and vice-versa. There is a dry heating cabinet that ensures that all the materials are properly dried. During quality control, each item is carefully checked for any damages, fixtures, movements, sharpness, and viability [13]. Items that fail the quality check are rejected and discarded. The remaining move to the next step of packing.

The Spaulding classification is widely accepted for the decontamination of goods that are classified as critical, semi-critical, and non-critical devices, based on their risk of spreading infections [14]. Critical devices are used for invasive procedures and need to be sterilized [16,18]. Semi-critical items are used for

noninvasive procedures and undergo the highest level of disinfection. The non-critical items are meant for use with intact skin contact only and undergo disinfection.

The next step in the blue zone is packaging based on the sterilization method and the specific item under consideration [19–21]. Heat sealing and medical crepe paper wrapping are done based on the type of item that is sterilized. The heat-sensitive items like rubber, plastic, silicon, and tubes are subjected to low-temperature sterilization; and items that can withstand high temperature and pressure, including mostly metallic instruments and linen, are subjected to high-pressure steam sterilization. High-pressure steam sterilization is done by steam autoclaves [22] and cold-temperature sterilization is done by a chemical or gaseous medium such as plasma or ethylene oxide sterilizers.

Once the sterilization process is completed, the materials are removed from the autoclaves and stored in sterile storage, which is marked as a sterile zone (green zone). The sterile storage is maintained at controlled temperature and humidity for prolonged storage of sterilized goods.

When there is a demand for any of these items, the sterile goods are dispatched in a closed transport trolley with detailed labels which include their sterilization date and process code. They are then unpacked at the department for application in patient care.

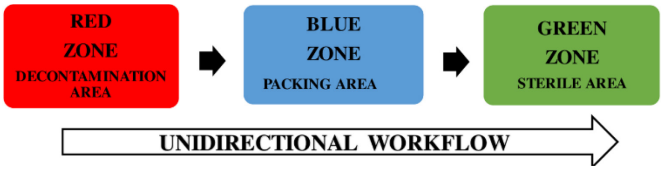
Objective of the review

The major objectives of this review are to 1) describe the proper layout design of the CSSD for unidirectional workflow; 2) outline the processes for strict adherence to infection prevention control (IPC) protocol; 3) ensure process awareness among the staff of the CSSD; and 4) identify any unique processes or resource-demanding techniques of disinfecting and sterilizing with a predefined layout design.

Research methodology

We adopted a systematic literature review method for this study. There are few comprehensive studies conducted on CSSD. This extensive review of CSSD is based on information retrieved from scientific databases (Google Scholar and Web of Science) and grey literature data from organizations. All publications on safe and feasible methods of disinfection and sterilization processes in hospitals were reviewed. Information on the workflow, responsibilities, IPC protocol, physical requirements, staffing requirements, and any special equipment used in the process of sterilization were reviewed.

Figure 1. Unidirectional work flow.



Hospitals are high-risk areas for the spread of infection, and the patients are at risk of hospital-acquired infections (HAI) during hospital visits or inpatient stays [23,24]. The CSSD is an integral unit within a hospital where reusable items are sterilized to reduce the risk of the spread of pathogens. Proper layout and planning with strict adherence to the tasks performed in this department can prevent the spread of nosocomial diseases and HAI when using reusable medical devices and surgical instruments for patient care.

The CSSD has a delineated unidirectional workflow (Figure 1) that uses specialized equipment and requires a well-coordinated team [25]. The quality of sterilization is determined by the unidirectional layout, efficiency of the staff, and strict adherence to the IPC protocol.

Sterility assurance level 6 (SAL6) is a quality assurance measure and is defined as the probability of 1 non-sterile device out of 1,000,000 [26]. The sterilization equipment should meet the sterility assurance level (SAL6 or greater) for the invasive products, while lesser sterility (SAL3 to SAL5) criteria are required for disinfectors.

We reviewed information on the workflow (Figure 1), responsibilities, IPC protocol, physical requirements, staffing requirements, and any special equipment used in the process of sterilization. We identified about 300 articles, and based this review on only relevant articles. We summarized the information to outline optimal standard settings for sterilizing reusable articles in the CSSD. Through this review article, we put much effort into identifying any unique methods or resource-demanding techniques of disinfecting and sterilizing, in addition to the pre-defined layout that facilitates the highest level of IPC and hygiene.

Equipment used in the CSSD

Red zone or decontamination zone

The red zone or decontamination zone should have wash sinks of various sizes with mechanical and chemical cleaning facilities, including force jet water wash, and a mix of hot and cold water. In addition, a trough for soaking the instruments, force jet air

cleaning, and drying facilities are needed. This zone also requires a fully automated washing and disinfecting unit and an ultrasound instrument cleaner. The movement of materials and personnel from this zone to other zones is strictly regulated.

Wash sinks

These are stainless steel troughs designed for the manual cleaning of contaminated instruments with hot and cold-water pressure jet facilities. Cleaning is done by brush, and high jet water and air facilities. The troughs are used for soaking the instruments in chemical agents.

Washer disinfector

Washer disinfectors are used for automated cleaning and disinfection of instruments and medical devices. There are different preprogrammed decontamination cycles based on the loading cart designed for various loads. The temperature of this cleaning and disinfection unit can go up to 80 °C, and can maintain this temperature for at least 60 seconds. The disinfector can be used for a series of cleanings with detergent, disinfectant, and a lubricant solution as applicable to the load.

Ultrasonic instrument cleaner

The ultrasonic instrument cleaner cleans bloodstains and micro dust in minute areas and parts of the surgical instruments by the process of cavitation which is produced by high-frequency sound waves to penetrate every hole and recess. Typically, a sound wave of 40 kilohertz agitates the liquid or solvent and removes particulates by cavitation and implosion.

Blue zone or clean zone

The blue zone has all the facilities for inspecting the decontaminated items coming from the red zone. The items pass through a quality check and then they are sorted and packed accordingly based on their sterilization temperature; and the sterilization agent such as steam, hydrogen peroxide, or ethylene oxide. This area includes a control and quality check desk, heat sealing machine, gauze cutting unit, and dry heat cabinets. The packed items are moved to sterilizers in a clean trolley and loaded into the respective sterilization units. Batch monitoring and various process challenge devices, and labels are assigned to the load for proper identification of satisfactory positive completion of the sterilization process.

Dry heating cabinet

The dry heating cabinet is used to remove water and/or solvent residue. It may be an atmospheric dryer or a vacuum dryer type, with continuous or intermittent drying programs that make sure that there is no desirable surface modification or physical damage to the parts.

Control inspection table

The quality of all the instruments is checked at this table. The instruments or devices that are disassembled during decontamination and cleaning, are reassembled at this point. This table also includes a magnifying glass with a high beam of light for thorough inspection of the instruments for cracks, broken parts, functionality checks, sharpness, dents, stiffness, alignments, proper cleaning and decontamination, and no stains. If any fault is identified, the materials are sent for reprocessing for decontamination or repair or condemnation as per the fault observed.

Sorting and packing table

After clearing the inspection desk, the materials are assembled as per the receipt cards. The instruments and medical devices are then packed to maintain their sterility until the endpoint of patient care. This step is done at the sorting and packing table. The packing technique and material should allow the sterilant (to be used later) to come in contact with the surface of the instruments and devices. The packing materials include textiles, pouches, non-wovens, and rigid containers.

Heat sealing machines

Rotary heat-sealing machines are used to seal clear-view pouches and sterilization bags. The sealing machines are feed-type, microprocessor controlled for temperature and sealing width, and designed for ease of operation.

Gauze cutting machine

The gauze-cutting machine is bench-type and made of stainless steel with sharp cutting blades to cut the gauze reels to the required sizes. The blades should be able to cut with lint-free edges.

Worktable

The worktable is made of stainless steel and ergonomically designed to accommodate various accessories, paper holders, baskets, and drawers. Custom-made tables with the possibility of two workable sides are also used.

Sterilizers

The sterilization units are ideally differentiated by the nature of the sterilization agent and temperature. The heat-sensitive materials are sterilized by chemical or low-temperature methods.

The low-temperature sterilizer is a plasma sterilizer or an ethylene oxide sterilizer, which uses chemical agents like hydrogen peroxide and ethylene oxide respectively.

A high-pressure bulk steam sterilizer uses high-pressure steam as the sterilization agent. It uses saturated steam with high-pressure holds for a specific time, temperature, and pressure, to kill all bacterial spores and microorganisms. Metal instruments are sterilized by steam or dry heat sterilization. Steam sterilizers are of two types: pre-vacuum evacuated types and gravity displacement types.

Green zone or sterile zone

The green zone is where all the materials from the respective sterilizers are unloaded and stored in sterile racks after the sterilization process. The storage room humidity and temperature are controlled with a hygrometer and room heaters, to ensure the longevity of sterile storage. Sometimes ultraviolet lighting is also provided for storage areas.

Hygrometer and temperature regulator

The hygrometer and temperature regulator maintain the humidity and temperature as per the recommended level for safe storage of sterile items, which prolongs their storage life.

Ultraviolet light source

Ultraviolet light sources are used in the sterile storage to maintain sterility during the storage period due to their strong bactericidal effect.

Quality performance monitoring devices

All the work performed at the CSSD is supervised. [27–32] The policies and procedures outlined in the standard operating procedures (SOP) are strictly followed by all personnel responsible and accountable for disinfecting, sterilizing, and handling sterile supplies. The workflow and equipment from the decontamination area to the sterile storage are periodically monitored and recorded [33,34].

The wash sinks are checked for any leakage in their chemical and solution holding capacity. The proper mix of hot and cold water with high jet pressure guns is inspected. The equipment is checked to ensure that there is no dripping and kink on the hoses, and all orifices are cleaned and free of any salt deposit that may create blockages leading to inadequate water dispensing. The water quality is measured to check for the amount of dissolved salts. A water sample is taken for microbial testing periodically. If the water quality is found to be not within acceptable limits, a water treatment plant is recommended.

The ultrasound instrument cleaner is periodically checked for its performance. The performance testing is done with sonic meters. Another way of testing its performance is by aluminum foil, which produces a uniform penetrated hole in its optimum performance. It can also be tested with a clear vial filled with a blue-colored solution with glass beads, which will change its color to yellow if it is functioning correctly. Washer disinfectors are tested for their cleaning and disinfecting efficiency with a soil test kit, BioTrace Protect, and protein test kit.

Temperature control, fans, indicators, thermostat cut-off, and timer functions of dry heating cabinets are tested periodically. Heat sealing machines are tested for their peeling/tensile pull-apart function once the two surfaces are bonded. The bond should have sufficient strength to undergo the sterilization process and transport. The gauze-cutting machine is checked for the sharpness of the blade and lint-free cutting of the gauze bundles, the wobble of the shaft, belt tightness, and smoothness and soundlessness of the driving motor.

The control and inspection tables are checked for clarity of the magnifying glass and the light source. The packing and worktables are checked for any sharp corners or rust, and whether they are soundproof. In addition, the smoothness of the surfaces, and the slides of drawers and storage accessories fixations are checked. Packing is done based on the sterilization process load, and batch monitoring labels are affixed. These labels have a batch number, date, time, and serial number of the sterilization unit.

The sterilization process is monitored by physical, chemical, and biological indicators [35]. The physical indicators include pressure gauges, temperature indicators, and program indicators. A printer output from the sterilizer with all the process details is available for maintaining records [36,37]. The chemical indicator tapes change color once the duration and intensity of the sterilization process are sufficient. The biological indicators consist of a measured count of specific microorganisms with high resistance that persist after sterilization, which are observed under a microscope after being kept in culture for 24, 42, and 72 hours.

The hygrometer, and the temperature regulator heating ventilation and air conditioning (HVAC) are periodically tested for their performance according to the manufacturer's recommendations [38]. HVAC systems are checked for their air purity and the HEPA filters are periodically replaced. A positive airflow is maintained from the clean areas [39].

It is always advisable to consult the building architect of the hospital for designing the CSSD at the time when the hospital is being built. Factors like ease of accessibility within the building, and the centralized location of the CSSD are important. Table 1 lists the space requirements for a CSSD based on the number of beds in the hospital. Table 2 lists the CSSD physical infrastructure attributes and standards that are recommended for each zone of the CSSD.

It is the responsibility of the management to equip the CSSD with the latest technology, which in turn depends on the financial ability of the healthcare facility to invest in these capital infrastructures. However, the CSSD should be designed based on the workflow and with strict adherence to the IPC protocols. Some basic equipment needed for a CSSD is listed in Table 3. Table 4 lists some of the commonly used performance tests for the sterilizers, and Table 5 lists the water feed requirements for the type of steam generators used for the sterilizers.

Table 1. Space requirement as per hospital bed size for the central sterile supply department (CSSD).

No. of beds	Space requirements
75–99	0.92 m^2 per bed
100–149	0.83 m^2 per bed
150–199	0.74 m^2 per bed
200–249	0.74 m^2 per bed
250–299	0.69 m^2 per bed
> 300	0.65 m^2 per bed

Roles and capabilities of the personnel

A CSSD should be staffed by skilled personnel [40–42]. In addition to the SOP [43,44], clinical knowledge and a positive attitude towards best practices are essential [45–48]. The duties and responsibilities of the CSSD staff are summarized below.

The red zone personnel need to be very cautious not to get hurt or cut while receiving the contaminated items. They need to maintain proper records of materials that are received. Proper personal protective equipment (PPE) should be worn at all times during the

Table 2. Zone-wise surface area with physical attributes of the central sterile supply department (CSSD).

Area	Space	Description	Standards recommended
Red zone	35% of the surface area	Floors	Smooth, anti-skid and robust, marble/granite
		Furniture and fixtures	Stainless steel
		Relative humidity	45 ± 5%
		Ventilation	6–10 air changes per hour
		Lighting	Well-lit and emergency backup facility in case of power failure
Blue zone	35% of the surface area	In addition to the above red zone description and standards	
		Physical barrier	Between red and blue zone
		Air pressure	Positive air pressure in the clean zone
Green zone	20% of the surface area	In addition to the above red and blue zone description and standards	
			Humidity and temperature-controlled storage rooms
Support area	10% of the surface area	In addition to the above red, blue, and green zone descriptions and standards	
			Stainless steel materials, fire resistant, ergonomically designed

Table 3. Zone-wise equipment list of the central sterile supply department (CSSD).

S. no.	Red zone	Blue zone	Green zone
1	Contaminated goods receiving counter	Dry heating cabinet	Storage racks
2	Wash sinks, soaking sinks	Control inspection table	Temperature and humidity controller, UV light
3	Ultrasound instrument cleaner	Gauze cutting, heat sealing machine	Despatcher counter
4	Washer disinfector	Storage cupboards and racks, transport trolleys, work tables, packing tables and sitting stools	Despatch recorder
5	High jet water spray	Chemical and consumable storage, batch monitor devices, quality and performance check devices, chemical indicators, biological indicators	
6	Hot and cold mixer taps	Distillation plant, autoclaves for hot and cold sterilization, safe drinking water dispenser	
7	Compressed air supply guns	Administrative office, recreation room	
8	Trolley wash guns		
9	Personal protective equipment (PPE) kit, first aid kit, fire alarm, and fire extinguishers in all zones		
10	Intra-communication channel with information technology access between all the zones, emergency lamps, exit routes highlighter at all zones		

Table 4. Quality performance check chart of Autoclaves in the central sterile supply department (CSSD).

Name of the sterilizer	Physical monitoring	Chemical indicators and location	Biological indicator
Steam sterilizer	Temperature: 134 °C Holding time: 4-7 mints Pressure: 2 Bar OR Temperature: 121 °C Holding time: 15 mints Pressure: 1.2 Bar	Class I (exposure control tape): Outside every set Class II (BD, Bowie Dick test pack): 1st cycle of the day Class III (single variable): inside the pack Class IV (multiple variable): inside the pack Class V (integrating indicator): inside the pack Class VI (emulating indicator): inside the pack Each pack except Class II	*Geobacillus Stearothermophilus*
Gas sterilizer Ethylene oxide (ETO)	Every cycle Temp: 37 °C Relative humidity > 60% Pressure: 0.8–1.8 Bar Holding time: 3 hours at 37 °C and 1 hour at 55 °C Every cycle	Class I: outside every set Class III: Inside the pack Class IV: Inside the pack Class V: Inside the pack Each pack	Every cycle *Bacillus atrophacus*
Plasma sterilizer Hydrogen peroxide (H_20_2)	Temperature: 50 °C Pressure: (500 mtorr) Time: 1 hour Every cycle	Class I: Outside every set Class III: Inside the pack Each Pack	*Geobacillus Stearothermophilus* Every cycle

Table 5. Water feed quality for different types of steam generator for autoclaves in the central sterile supply department (CSSD).

Type of steam generators	Water feed characteristics	Recommended condition	Maximum condition
Carbon steel steam generators	Temperature °C	As supplied (25 °C)	60 °C
	Alkalinity (mg/L)	50–180	350
	Total dissolved solids(mg/L)	50–150	250
	pH	7.5–8.5	7.5–9.0
	Total silica (mg/L)	0.1–1.0	2.5
	Resistivity (2) (Ohm cm)	2000–6000	26,000
Stainless steel generator	Requires deionized water > 1 megohm.cm		
For vacuum device	Temperature °C	4–16 °C	21 °C
	Alkalinity (mg/L)	50–180	350
	Total dissolved solids(mg/L)	50–200	500
	pH	6.8–7.5	6.5–9.0
	Total silica (mg/L)	0.1–1.0	2.5
	Resistivity (2) (Ohm cm)	2000–26000	5,00,000

decontamination process [49]. The use of gloves, masks, caps, gowns, and eye protection is recommended during manual cleaning. During the use of ultrasound and high jet cleaning methods, a proper ear muffler is needed to protect from high-frequency sound waves and compressed air sounds that may cause ear damage. The chemical soaking needs to be done with a high level of caution while handling the chemicals, and knowledge of its dilution and soaking time in various solvents is required [50,51]. Proper dismantling techniques of various surgical and medical devices requires training. Proper disposal of biomedical waste as per the guidelines needs to be followed. The manufacturer recommendations can be a quick guide for these processes.

The blue zone personnel should wear clean apparel, gloves, caps, masks, and proper PPE while using the dry heating cabinet, heat sealing machines, and gauze cutting machines; and should be cautious while using these types of equipment. Performance checks of sterilizers need to be done daily and recorded promptly [52]. Any maintenance issues should be discussed with the biomedical engineering department and with the service engineers if the servicing is contracted to a service provider.

The green zone is the sterile zone where the workers need to wear sterile clothing while handling the sterilized items. Proper environmental conditions should be maintained in this area and clear records of items received and dispatched should be maintained [53,54]. The sterilized goods are transported to the requesting department in a closed trolley and care is taken to preserve their sterility until the packaging is opened for use in patient care.

The supervisor should have the following traits. He/she needs to be very vigilant and ensure that all the protocols are followed as per the guidelines. He/she should be able to manage the coordination of the sterilizing process; should be able to develop clinical standards, and encourage best practices within a

collaborative and multidisciplinary framework by coordinating the clinical, managerial, educational, and nursing research functions of the CSSD; should coordinate the workflow between receiving, disinfecting, and sterilizing processes following best practice principles and within the permissible medical standards and ethics; should be able to give expert advice and recommendations regarding the practices, policies, and procedures; should provide regular reports on functioning of CSSD to the infection control team and management; should provide leadership in contemporary practice and promote an environment conducive to innovation and change; should be able to manage the financial, physical, and human resources of the CSSD within the allocated budget; should regularly review staff performance, training, and development needs [55,56] should actively participate in and contribute to the organization's quality, safety and infection control process; and should be able to allocate duties within the capacity, qualification, and experience of persons in the department.

Discussion

Very limited information is available regarding the design, infrastructure, and functioning of CSSDs. Many factors need to be considered while building a CSSD and a comprehensive guide for setting up a CSSD is unavailable. This study explains the unidirectional workflow that needs to be adopted in a CSSD with clear demarcation of zones that should be color-coded based on their level of cleanliness. Staff play a significant role, and their strict adherence to IPC protocols and the physical layout requirements facilitate maximum decontamination and prevent the spread of infectious diseases from the CSSD [58,59]. The equipment plays a vital role in the sterilization process and in reducing the turnaround time of surgical instruments and expensive reusable medical devices.

The process of sterilization renders the reusable items free from all viable microorganisms so that they are safe to use in patient care. As per European standards, a medical device is considered to be sterile if it reaches a sterility assurance level of 10^{-6} colony forming units (CFU) when it undergoes a validation process. Cleaning and decontamination involve physical cleaning and the use of an automated washer disinfector where the items are cleaned and disinfected up to a level that is safe for use but does not destroy bacterial spores [60]. The department should be provided with adequate safe and clean air, water, and proper lighting.

Emergency exit routes and electrical safety provisions such as high-pressure supplies shutoff valves should be indicated clearly for use in case of any emergency. The emergency exit routes should be marked with fluorescent or illuminated arrows, and fire alarms and extinguishers should be available in all the zones. Relevant PPE kits and first-aid kits should be made available in all the zones [61]. A proper communication system should be set up for communication between the zones. Housekeeping and fumigation of the department need to be done at regular intervals. Adequate staff should be employed based on administration and human resource planning. The biomedical waste generated during the process of sterilization needs to be carefully disposed of, based on legal guidelines [62,63]. The maintenance of the equipment should be done by the biomedical engineering department, and occasionally by the manufacturers based on maintenance contracts.

Limitations

This study is based on published and unpublished material that the authors were able to access. However, it is possible that additional information in the form of publications, unpublished data, and interview-based findings, were missed and could have been relevant to this review. There is a risk of missing important evidence from unpublished sources and there is no previous research in a similar area that can be compared. This review aimed to summarize information that is relevant to the development of CSSD layout design, and staff awareness about special equipment and IPC protocols.

Conclusions

This review outlined the basic requirements of the physical attributes of the CSSD department and its layout with zonal equipment knowledge and quality assurance [64–66]. The CSSD not only reduces the spread of nosocomial infections [67,68] but also reduces the cost of purchasing expensive reusable medical supplies. The CSSD setup is planned by taking into consideration many factors such as hospital bed size, numbers and types of surgical procedures per day, size of the institution, space availability, and location within the facility [69]. It is best to plan for the CSSD when the hospital is being built so that it can have a centralized location and sterilized materials can be quickly delivered where needed.

Advancement in the field of sterilization has resulted in many hi-tech autoclaves that can be operated with the touch of a button. The latest cold sterilization

technologies such as plasma sterilizers are available. The spread of infection through reusable medical devices can be prevented with proper infrastructure and SOPs. The CSSD personnel should strictly adhere to IPC practices. Continuous training and performance appraisal of the staff will improve the functioning of the CSSD [70].

This review summarized all the information regarding CSSD that was accessible to the authors. Still, there is scope for additional details about the design, prerequisites, work culture, equipment, and financial evaluation that could add value when setting up and organizing the CSSD in a healthcare facility. It was concluded that knowledge about sterilizers and the latest decontamination techniques should be updated regularly to ensure the quality of the sterile equipment and supplies for use in patient care. The study provides systematic information about optimal standard settings for the sterilization of reusable articles in CSSD and also serves as a guide for hospital IPC.

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Conflict of interests

No conflict of interests is declared.

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