WHIOCE PUBLISHING PTE. LTD.
PROVIDING
FIRST-CLASS SCIENTIFIC INFORMATION
FOR TOP SCHOLARS

2025 Volume 10, Issue 3
Advances in Precision Medicine
ISSN: 2424-9106 (Online)
ISSN: 2424-8592 (Print)

Study on the Influence of Implementing Detail Management on Nursing Quality and Nursing Satisfaction in the Disinfection Supply Room

Aihua Chen*
Xuzhou Tongshan maternal and Child Health Hospital, Xuzhou 221100, Jiangsu, China

**Author to whom correspondence should be addressed.*

Abstract: *Objective:* To explore the influence of detail management on nursing quality and nursing satisfaction in the disinfection supply room (CSSD). *Methods:* The study period was selected from August 2023 to August 2024, and 92 pieces of CSSD instruments (artificial abortion kit instruments) in our hospital were selected as the research subjects, which were divided into the study group and the control group according to the random grouping method, with 46 pieces in each group. The control group received routine management, and the study group received detailed management. The nursing quality, professional skills, and satisfaction of medical staff in each group were evaluated, and the occurrence of adverse events of devices in each group was analyzed. *Results:* the scores of nursing quality, professional skills of medical staff and satisfaction of medical staff in the study group were at a higher level, and the incidence of adverse events was at a lower level; the difference was more significant than that in the control group ($P < 0.05$). *Conclusion:* Detail management plays an important role in CSSD, which can comprehensively improve the quality of nursing, reduce the risk of adverse events, and has positive significance in improving the professional skills and satisfaction of medical staff.
Keywords: Detail management; Disinfection and supply room; Nursing quality; Nursing satisfaction

Online publication: September 26, 2025

1. Introduction

CSSD is one of the indispensable departments in the hospital. Its responsibilities are the recovery, cleaning, disinfection and sterilization of hospital instruments, which play an important role in ensuring the sterility of instruments and dressings. The work quality and management efficiency of the Department can affect the treatment effect and prognosis of patients, and have a direct impact on the overall medical level of the hospital. Therefore, improving the management quality of CSSD has become an important research topic [1]. The CSSD function is not only for the disinfection and sterilization of devices, but also covers the management and distribution of medical devices. Each work link has an important connection with hospital infection control, patient safety, and satisfaction. With the improvement of medical quality standards, CSSD is facing more stringent management requirements, and the disadvantages of the traditional decentralized management mode are gradually revealed, such as improper management links, poor management skills, decentralized management mode, insufficient resource integration, and low work efficiency. Therefore, it is urgent to choose a scientific and high-

quality management. Detail management pays attention to the refinement of intervention measures. It can divide the work according to the CSSD work content and the responsibilities of the medical staff. It can use more effective and high-quality measures for management, which is of positive significance to improve the quality of CSSD work and the satisfaction of medical staff. In this paper, 92 pieces of CSSD devices in the hospital were analyzed, and the implementation value of detail management was evaluated.

2. Data and methods

2.1. General information

The research period was from August 2023 to August 2024. The subjects of the study were 92 pieces of instruments selected from the CSSD in the hospital. They were randomly divided into a study group (n = 46) and a control group (n = 46). All instruments were abortion kit-related instruments, and there was no difference between the two groups ($P > 0.05$). During the study period, there were no changes in CSSD managers, a total of 4, all female, with an average age of (39.00 ± 3.82) years old, ranging from 30 to 48 years old. The working hours ranged from 1 to 7 years, with an average of (4.00 ± 0.72) years.

2.2. Research criteria

Inclusion criteria: (1) The processing data of the included devices are complete without loss or damage; (2) The study was supported by the hospital ethics committee; (3) CSSD managers have professional qualification certificates and have received professional training and assessment.

Exclusion criteria: (1) Devices lost during the study; (2) Devices to be eliminated; (3) Severely damaged, deformed, and without a production license or certificate.

2.3. Method

The control group implemented routine management and carried out management work according to the hospital rules and regulations. The specific content involved the recovery, cleaning, disinfection, sterilization, etc. of the equipment. The equipment was reasonably stored and distributed according to the type of equipment, and the relevant records of the equipment were improved to ensure accurate tracking.

The research group implements detailed management, specifically as follows:

(1) Build a detailed management team

Organize the hospital CSSD staff to carry out systematic training, comprehensively learn CSSD and detail management related knowledge, and the head nurse of the department acts as the team leader to ensure that all members master CSSD management knowledge and operation skills. At the same time, organize the importance of CSSD work of staff, promote the improvement of safety awareness and prevention awareness, and ensure that the management work is carried out in strict accordance with the standards. The staff conducted an in-depth analysis of the existing problems and formulated higher-quality management measures based on the current situation to promote the improvement of nursing quality.

(2) Receiving and inventory details

Refine the access standards to ensure that all devices meet the use specifications and quality standards. After the device is sent to CSSD, a special person is responsible for receiving the device, analyzing the appearance of the device to ensure that there is no damage, corrosion, etc., and verifying whether the accessories are complete according to the device list to ensure normal use. The receiving and counting work is completed by experienced personnel to ensure the seamless connection of all work links.

(3) Detailed workflow

Classify the management according to the device model, optimize the management for the disinfection and

cleaning process, divide the work area in detail and mark it, such as the inspection area, recycling area, cleaning area, guarantee area, sterilization area, and carry out the work in strict accordance with the process. In case of sharp objects, warning signs shall be made, and they shall be recycled and cleaned separately. If there is a cavity in the instrument, it is necessary to clean it with a high-pressure water gun, and then take aseptic hemostatic forceps to clamp the articles after completion, to minimize contact with the instrument. In the process of removing bacteria, intervention should be carried out in strict accordance with the standards. After completion, packaging should be carried out according to the device type, and attention should be paid to the implementation of aseptic requirements.

(4) Quality supervision

Regularly organize the testing staff to carry out professional knowledge training, covering quality testing standards, testing methods, and relevant laws and regulations, to ensure that the inspectors master the latest industry trends and technologies. Carry out in-depth analysis and Discussion on the case, comprehensively improve the inspectors' understanding of the importance of quality monitoring, and promote the enhancement of work risk awareness and responsibility. According to the CSSD work of the hospital, the quality inspection standard operating procedures were formulated to promote the standardization of the inspection process and comprehensively improve the reliability and consistency of the inspection work. The testing work shall be recorded in detail, including the testing personnel, testing date, testing results, and handling opinions, and a complete traceability system shall be established according to the actual situation.

2.4. Observation indexes

(1) Quality of care

The CSSD self-designed questionnaire (100 points, the reliability and validity of the scale and Cronbach's α coefficient are 0.824 and 0.829, respectively), and the score is directly proportional to the quality of management.

(2) Professional skills of medical staff

A self-made questionnaire (100 points) was used to score, and the score was in direct proportion to the professional skills of the medical staff.

(3) Satisfaction of medical staff

The hospital's self-made questionnaire was used to evaluate the satisfaction of medical staff for device management, and the score was proportional to the satisfaction.

(4) Occurrence of adverse device events

It involves device defects, incomplete information records, and device classification errors.

2.5. Statistical treatment

The research data were comprehensively processed and analyzed by SPSS 23.0 software. The measurement data and counting data were expressed by "(± s)" and "[n/(%)]", respectively. The differences between groups were tested by "t" and "*P*" respectively, and $P < 0.05$ proved that the differences were significant.

3. Results

3.1. Nursing quality assessment

Table 1 shows that the score of nursing quality in the study group is higher, and the difference is more significant than that in the control group ($P < 0.05$).

Table 1. Nursing quality assessment (mean ± standard deviation, points)

Time	Device acceptance	Disinfection and sterilization	Instrument cleaning	Instrument packaging	Standard operation	Environmental management	Device management
Research group (n = 46)	93.24 ± 2.26	92.49 ± 2.09	94.75 ± 2.75	94.14 ± 2.64	93.65 ± 2.37	92.53 ± 2.52	94.39 ± 2.37
Control group (n = 46)	91.59 ± 2.41	90.64 ± 2.27	92.47 ± 2.48	92.75 ± 2.36	91.48 ± 2.43	90.33 ± 2.26	91.43 ± 2.29
t value	3.387	4.066	4.175	2.662	4.335	4.408	6.091
P value	0.001	0.000	0.000	0.009	0.000	0.000	0.000

3.2. Analysis of professional skills of medical staff

Table 2 shows that the score of professional skills of medical staff in the study group is higher, and the difference is more significant than that in the control group ($P < 0.05$).

Table 2. Analysis of professional skills of medical staff (mean ± standard deviation, points)

Group	Processing flow	Sterilization packaging	Theoretical knowledge	Cleaning and disinfection	Information traceability
Research group (n = 4)	94.97 ± 2.41	92.69 ± 2.64	94.78 ± 2.36	92.54 ± 2.68	94.42 ± 2.36
Control group (n = 4)	90.62 ± 2.36	90.43 ± 2.36	90.25 ± 2.42	90.46 ± 2.53	90.08 ± 2.64
t	2.579	2.970	2.680	2.854	2.451
P	0.041	0.024	0.036	0.029	0.049

3.3. Satisfaction analysis of medical staff

Table 3 shows that the satisfaction score of medical staff in the study group is higher, and the difference is more significant than that in the control group ($P < 0.05$).

Table 3. Satisfaction analysis of medical staff (mean ± standard deviation, points)

Group	Feasibility of management mode	Device processing efficiency	Risk Management	Work flow	Work environment
Research group (n = 4)	95.42 ± 2.25	95.36 ± 2.17	93.53 ± 2.36	96.36 ± 2.47	95.27 ± 2.35
Control group (n = 4)	90.47 ± 2.52	90.58 ± 2.31	91.27 ± 2.52	91.47 ± 2.74	90.37 ± 2.42
t	2.930	3.016	2.467	2.651	2.905
P	0.026	0.023	0.004	0.038	0.027

3.4. Analysis of adverse events of devices

There were 4 (8.70%) cases of adverse events in the control group. The incidence of adverse events in the study group was lower than that in the control group ($\chi^2 = 4.181$, $P = 0.040$).

4. Discussion

CSSD plays an important role in the prevention and control of nosocomial infection. The main responsibilities of the Department are to recycle, wash, disinfect and supply hospital-related equipment. With the rapid development of medical technology, the clinical demand for medical devices is increasing, and the workload of CSSD is also increasing. Based on the characteristics of CSSD work, if the management personnel do not operate in accordance with the relevant standards, it is very easy to cause the failure of equipment disinfection and sterilization, which will increase the risk of nosocomial infection and threaten the safety of medical staff and patients [2]. Based on the analysis of the CSSD routine management work, it is found that the traditional management work mainly depends on the static standard procedures, and the dynamic monitoring and feedback mechanism is significantly insufficient, which is difficult to adapt to the current CSSD working environment and needs. In addition, the routine management work focuses on implementation, and no effective supervision mechanism has been established, leading to the related problems that cannot be solved in time [3]. Based on the lack of conventional management, how to promote the quality of CSSD management has become one of the key projects of hospital management.

In this paper, the nursing quality score of the study group was higher, and the difference was more significant than that of the control group ($P < 0.05$). The main reason for the analysis was that the routine management work was mainly carried out according to the CSSD standard, which was contrary to the actual medical work. According to the latest nursing standard in China, the central position of patients should be fully highlighted during nursing, the people-oriented policy should be strictly implemented, and patients should always be taken as the service subject, to provide higher quality nursing services. The detail management not only emphasizes the operation technology and service technology standards, but also uses the personalized and humanized service concept, which fully highlights the moral, cultural, and spiritual implications of nursing staff [4]. Based on the characteristics of CSSD in the hospital, through the construction of a detailed team and the systematic training and learning for all members, the management staff's work quality can be improved, the ability of cleaning, disinfection and sterilization can be effectively improved, and the control of relevant work processes and systems can be strengthened, which is conducive to the improvement of nursing quality.

In this paper, the score of professional skills of medical staff in the study group was higher, and the difference was more significant than that in the control group ($P < 0.05$). The main reason for the analysis was that detailed management involved more detailed operating procedures, which could provide clearer work guidance for medical staff, and effectively reduced the operation inconsistency caused by personal understanding differences by refining each operation step. According to the characteristics of the equipment, the cleaning, disinfection, and other work processes are refined, special management is carried out for weak links, and the nursing and management operations are standardized, which can improve the professional skills of the staff[5].

In this paper, the satisfaction score of medical staff in the study group was higher, and the difference was more significant than that in the control group ($P < 0.05$). The main reasons were analyzed as follows: the detailed management measures optimized the workflow, reduced repeated steps or unnecessary operations, and promoted the improvement of the efficiency of device management through the rational division and division of regions, which could avoid the cross-over situation, reduce the workload of medical staff, and then improve the satisfaction [6]. The detail management measures emphasize the collaborative intervention between staff. By strengthening the quality supervision, it can ensure the seamless connection of all links, avoid the waste of time, and solve the existing problems in time [7].

In this paper, there were no adverse events during the device management in the study group, and 4 (8.70%) adverse events occurred during the device management in the control group. The incidence of adverse events in the study group was lower, which was more valuable than that in the control group ($P < 0.05$). The main reasons for analysis were that compared with the conventional management measures, the detailed management established a more standardized and high-quality detection procedure, reduced the impact of human factors on the management quality, strictly controlled the device management link, ensured the traceability of the operation process, and therefore reduced the risk of adverse events [8].

5. Conclusion

In conclusion, the use of detail management in CSSD plays an important role in improving the quality of care, reducing the risk of adverse events, and improving the professional skills and satisfaction of medical staff.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang X, 2024, Effect of Detail Management under Process Reengineering on Prevention and Control of Nosocomial Infection in Disinfection and Supply Room. Jiangsu Health Management, 35(11): 1582–1585.

[2] Liu S, 2024, Study on the Impact of Detail Management on the Management Quality and Device Treatment Status of Disinfection and Supply Room. China Medical Device Information, 30(4): 163–165.

[3] Song Y, 2024, Effect of Detail Management on Improving the Nursing Quality of Disinfection Supply Room. China Urban and Rural Enterprise Health, 39(2): 34–36.

[4] Jiang Q, Hu A, 2023, Application Value of Detail Management in Nursing Management of Disinfection and Supply Room. Modern Diagnosis and Treatment, 34(23): 3608–3610.

[5] Cui X, 2023, The Application Effect of Nursing Quality Control Management in Disinfection and Supply Room and Its Influence on the Comprehensive Quality of Nursing Staff and the Qualified Rate of Cleaning, Disinfection and Sterilization Items. Clinical Medical Research and Practice, 8(9): 146–130.

[6] Wang Y, 2022, Effect of Refined Quality Control Management Mode on the Qualified Rate of Disinfection and Sterilization of Surgical Instruments and the Incidence of Risk Events in the Disinfection and Supply Room. China Medical Device Information, 46(20): 177–179.

[7] Zheng K, Chen H, Lin H, et al., 2022, Effect of Detail Management Intervention on the Quality of Nursing Management and Equipment Treatment in Disinfection and Supply Room. Tibet Medicine, 43(2): 76–78.

[8] Tian Y, Zheng W, Guo H, 2022, Analysis of the Impact of Implementing Detail Management on Nursing Quality and Nursing Satisfaction in Disinfection Supply Room. Modern Hospital, 22(2): 232–235.