Investigation on Infection Management in 156 Primary Medical Institutions

Yuguang Wang, Ruipeng Song, Yancai Jia
Department of Infection Management, The Third People's Hospital of Henan Province, Zhengzhou 450006, Henan, China
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Abstract: Objective: It's to understand and analyze the current status of nosocomial infection management in primary medical institutions. Methods: Through on-site investigation and analysis, the existing problems in nosocomial infection management in primary hospitals were identified, and countermeasures were analyzed and explored. Results: Effective management of infections in primary hospitals requires attention from hospital leadership, leveraging the role of infection management personnel, strict adherence to various systems, norms, and national standards, and ensuring the active participation of personnel to ensure smooth progress in infection management at the grassroots level. Conclusion: Primary hospitals should enhance infection control, focusing on establishing systems, providing training, standardizing operations, and implementing comprehensive monitoring. This is crucial for the survival and development of hospitals.
***Keywords*:** primary medical institutions, infection management

1. Introduction

According to the requirements of the National "Hospital Infection Management Standard" and the relevant assessment standards of the Hospital Infection Control Quality Control Center of the Health Commission of Henan Province, members of the Infection Control Group of a tertiary hospital were commissioned by the Zhengdong New District Administration Bureau to conduct a survey on the current situation of hospital infections in a total of 156 grassroots medical institutions in Zhengdong New District starting from May 2022.

2. Objectives and Methods

2.1 Survey Objects

The surveyed units include 6 primary hospitals, 14 community health service centers, and 136 private outpatient facilities, including 86 dental clinics and 50 private medical aesthetic institutions, totaling 156 medical institutions.

2.2 Survey Objectives

The purpose of this survey on the current status of hospital infection control in 156 medical institutions in Zhengdong New District is to understand the implementation of the "Hospital Infection Management Standard" in grassroots medical units in Zhengdong New District, in order to better carry out hospital infection control work.

2.3 Survey Methods

Members of the Quality Control Assessment Group of the Zhengdong New District Administration Bureau and the Infection Control Group, consisting of full-time infection management personnel from tertiary hospitals, conducted inspections based on a uniformly designed scoring sheet for the requirements of the Hospital Infection Management Standard. The inspections covered nine items: hospital infection organizational management, hospital infection control system, infection control professional knowledge training, accuracy of seven-step handwashing, sterilized instrument management, ultraviolet lamp intensity monitoring, disinfection supplies management, pressure steam sterilizer monitoring, and monitoring of the effectiveness of surface, air, and hand disinfection. The inspections were conducted according to the ranking of hospital levels, and the qualification rates of inspection items for grassroots medical institutions are shown in Table 1.

3. Results and Discussion

From Table 1, it can be observed that private institutions, such as medical aesthetic institutions and dental clinics, generally have lower qualification rates in the entire infection control supervision project. Among them, dental clinics scored below the average in disinfection supplies management, sterilization equipment monitoring, and disinfection effectiveness monitoring. Medical aesthetic institutions also scored lower in these three areas. During the actual inspection process, the focus of disinfection supplies management was mainly on checking whether disinfectants or sterile item containers

Table 1. Qualification Rates of Inspection Items for Medical Institutions at Each Level (%)

Hospital Type	Organizational Management	Infection Control System	Infection Control Training	Correctness of Handwashing	Sterilized Instrument Management	Ultraviolet Lamp Monitoring	Disinfection Supplies Management	Pressure Steam Sterilization Monitoring	Surface, Air, and Hand Disinfection Effectiveness Monitoring
Primary Hospital	83.3	66.7	50	66.7	66.7	83.3	100	50	66.7
Community Health Center	85.7	92.8	85.7	78.5	71.4	92.8	85.7	57.1	71.4
Medical Aesthetic	52	50	32	60	52	56	80	40	46
Dental Clinic	46.5	34.8	34.8	46.5	50	69.7	44.1	32.5	34.8

were labeled with information such as name, concentration, opening (usage) time, and expiration date. The problems mainly concentrated on the absence of written opening time for disinfectants or incorrect expiration dates. For instance, the expiration period for iodine tincture disinfectant is 7 days, but approximately half of the private institutions manage it with a 30-day expiration period. Some institutions continue to use expired disinfection products.

For the monitoring of sterilization equipment, overall inspections revealed unsatisfactory performance. Various levels of institutions use different types of independent sterilization equipment, with approximately half of private institutions opting for pre-vacuum steam sterilizers. However, the personnel in charge lack professional knowledge regarding the use of pre-vacuum steam sterilizers. They are unfamiliar with the sterilizer operation process, do not prioritize sterilizer monitoring, and believe that the sterilizer can be used simply by turning it on after power supply, even when the sterilizer has exceeded the manufacturer's recommended service life. This can significantly impact the sterilization effectiveness qualification rate and pose safety risks. It is hoped that this issue will receive attention.Pre-vacuum (including pulsating vacuum) steam sterilizers should undergo a Bowie-Dick (BD) test with an empty chamber before each sterilization cycle. Only after passing the BD test can the sterilizer be used. If the BD test fails, the cause should be promptly identified for improvement. After passing the monitoring, the sterilizer can be used [1]. However, most institutions using pre-vacuum (including pulsating vacuum) steam sterilizers do not perform BD tests. Biological monitoring is conducted by only a few institutions, with many unaware of biological spore monitoring or failing to conduct timely monitoring for various reasons. Some institutions even fail to conduct monitoring once a year. Biological monitoring should be conducted at least once a week [2], as it directly influences the assessment of sterilization equipment effectiveness. The low frequency of monitoring indicates that most institutions do not understand the importance of this indicator and do not prioritize it. Some institutions are aware of biological monitoring but do not know where to conduct it.

The monitoring of environmental surfaces, air quality, and hand hygiene disinfection effectiveness among medical staff is also concerning. Most institutions fail to conduct quarterly monitoring, with some never having conducted the aforementioned monitoring or failing to collect samples for retesting after initial failure. Some institutions are unclear about the classification of their own institution's air disinfection effectiveness for different environments, merely filling in numerical values. However, the hospital hygiene standards [3] clearly categorize hospital environments into four classes.

Other low-scoring items are mainly concentrated in the inadequacy of hospital infection management systems and insufficient training. In many medical aesthetic institutions and dental clinics, the content of hospital infection management systems is often vague, with a lot of content copied from the internet without tailoring it to the specific circumstances of their own institution. Additionally, the roles and responsibilities within the infection control system are often not clearly defined, leading to ambiguity in responsibilities and difficulties in holding individuals accountable for issues. Moreover, most private institutions either do not provide hospital infection knowledge training or the training is inadequate, as evidenced by infrequent training sessions, lack of training records, absence of personnel attendance information, and no assessment records or training materials.

4. Conclusion

In summary, through the investigation of the current situation of hospital infection control in 156 medical institutions, we have come to realize that the issue of hospital infection control in grassroots medical institutions cannot be ignored. It is imperative to rectify the situation where institutional leaders prioritize economic interests over hospital infection management, lack awareness of infection control in daily work, and lead to many weaknesses in hospital infection control. It is necessary to further strengthen the training of medical staff on relevant knowledge of infection control, deepen the learning, supervision, and implementation of hospital infection management standards. Additionally, there is a need to enhance the management awareness and professional knowledge of management personnel at all levels of medical institutions, while

increasing supervision efforts to promote rectification. This will ensure comprehensive improvement in infection control work across all levels of medical institutions in our city.

References

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