



International Journal of Innovative Research in Health Science

Published: September 2026

Volume 2, Issue 8, Pages 15-18

DOI: <https://doi.org/10.63349/ijirhs.202649>

Research Article

Assess The Knowledge on Material Management Among Staff Nurses at Government Rajaji Hospital, Madurai.

¹ S. Rajeswari, ² Thadathilhouse Srinivasan sreema, ² Chelliah Jothilakshmi, ² Johnbosco Mohammed Farook, ² Mathias Nirmal Jeyarani, ² Thangaraj Kalaierasi

¹ Assistant Professor, College of Nursing, Madurai Medical College, Madurai, Tamil Nadu, India.

² PG scholars, College of Nursing, Madurai Medical College, Madurai, Tamil Nadu, India.

Author Designation: ¹ Assistant Professor, ² PG Scholars

*Corresponding author: S. Rajeswari

Abstract:

Background: Material management is an essential component of hospital administration that ensures the availability and effective utilization of healthcare supplies and equipment. **Aim:** To assess the knowledge regarding material management among staff nurses working at Government Rajaji Hospital, Madurai. **Methods:** A quantitative research approach with a non-experimental descriptive design was adopted for the study. A total of 100 staff nurses were selected using a non-probability consecutive sampling technique. Data were collected using a structured knowledge questionnaire consisting of socio-demographic variables and questions related to principles of material management, inventory control, storage, distribution, and condemnation. Descriptive and inferential statistics were used for data analysis. **Results:** The findings revealed that 84% of the staff nurses had adequate knowledge and 16% had moderate knowledge regarding material management, while none had inadequate knowledge. Significant associations were found between knowledge level and age ($p = 0.009$), current working department ($p = 0.005$), and type of employment ($p = 0.008$). No significant association was observed with gender, educational qualification, clinical experience, experience in the present station, or source of knowledge. **Conclusion:** The study concluded that most staff nurses possessed adequate knowledge regarding material management. Regular educational programs and training initiatives can further enhance nurses' competencies and promote efficient utilization of healthcare resources.

Keywords: Knowledge, Material management, staff nurses

INTRODUCTION

Management involves planning, organizing, directing, coordinating, and controlling resources to achieve organizational objectives effectively. In healthcare settings, efficient management ensures quality patient care and optimal utilization of resources. Material management is a vital component of hospital administration, focusing on the procurement, storage, distribution, utilization, and control of materials and equipment required for healthcare services.

Drugs, consumables, instruments, and medical equipment are essential for patient care. Since material costs constitute a substantial portion of hospital expenditure, effective management is necessary to prevent shortages, wastage, and unnecessary expenses. Nurses, as major users of healthcare materials, play an important role in inventory management, proper storage, monitoring consumption, and promoting cost-effective care.

Effective material management also supports infection control and patient safety by ensuring the availability and appropriate handling of sterile supplies. However, gaps between theoretical knowledge and clinical practice may arise due to heavy workloads, inadequate training, and limited opportunities for continuing education. Therefore, improving nurses' knowledge of material management is essential for efficient healthcare delivery and quality patient care.

Poor inventory practices can result in stock-outs, wastage, increased costs, and adverse patient outcomes. Effective procurement and inventory management can improve operational efficiency and reduce healthcare expenditure.

In India, materials and supplies account for a significant share of hospital costs, while inadequate staffing, workload, and insufficient training may hinder their effective utilization.

Tamil Nadu's healthcare system involves complex inventory networks requiring skilled personnel and coordinated practices. Although nurses are closely involved in managing ward supplies and inventory records, limited information is available regarding their knowledge of material management practices, particularly in government institutions.

Since staff nurses directly influence the availability, utilization, and conservation of healthcare resources, assessing their knowledge is important. Identifying knowledge gaps can guide educational interventions, strengthen material management practices, and ultimately improve the quality and cost-effectiveness of patient care.

AIM

The study aimed to assess the level of knowledge on material management among staff nurses at Government Rajaji Hospital, Madurai.

METHODOLOGY

A quantitative, non-experimental descriptive design was used to assess material management knowledge among staff nurses at Government Rajaji Hospital (GRH), Madurai. The study variable was material management knowledge. The target and accessible populations comprised staff nurses at GRH, Madurai. Using non-probability convenience sampling, 100 staff nurses who met the inclusion criteria were selected.

Data were collected using a two-section structured questionnaire. Section A included sociodemographic variables, while Section B assessed knowledge of material management, inventory control, storage and distribution, and condemnation procedures using 30 questions. The tool showed good test-retest reliability ($r = 0.62$).

Data were collected through a WhatsApp-based questionnaire from March 10–13, 2026, after obtaining necessary authorization. Participants were informed about the study, assured anonymity, and allowed to withdraw at any time. Descriptive statistics and the chi-square test were used to analyze knowledge and its association with selected demographic variables. Ethical principles were maintained throughout the study.

RESULT

Table 1 indicates the socio-demographic attributes of the nursing staff. Most participants (43%) were aged 36 to 40 years, and 90% were female. Sixty-five percent of respondents possessed a Diploma in Nursing (GNM), while forty-four percent had over fifteen years of clinical experience. Concerning experience at the current station, 30% had been employed for 5 to 10 years. Approximately 42% were employed in general wards, whereas the majority, 89%, were permanent staff members. Over fifty percent of the nursing staff (52%) identified Continuing Nursing Education (CNE) as their principal source of knowledge regarding material management.

Table 2 depicts the distribution of staff nurses according to their level of knowledge regarding material management. The majority of the participants (84%) had adequate knowledge, while 16% demonstrated moderate knowledge. None of the staff nurses were found to have inadequate knowledge. The findings indicate that most staff nurses possessed a satisfactory level of knowledge regarding material management.

Table 3 shows the association between the level of knowledge regarding material management and selected socio-demographic variables among staff nurses. A statistically significant association was found between knowledge level and age ($\chi^2 = 11.550$, $p = 0.009$), current working department ($\chi^2 = 12.968$, $p = 0.005$), and type of employment ($\chi^2 = 9.669$, $p = 0.008$).

DISCUSSION

The study found that most staff nurses were aged 36–40 years (43%), female (90%), and held a Diploma in Nursing (65%). The majority had more than 15 years of clinical experience (44%) and worked in general wards (42%). Regarding knowledge on material management, 84% of the staff nurses had adequate knowledge, while 16% had moderate knowledge; none had inadequate knowledge.

A significant association was observed between knowledge level and age ($p = 0.009$), current working department ($p = 0.005$), and type of employment ($p = 0.008$). No significant association was found with gender, educational qualification, clinical experience, experience in the present station, or source of knowledge ($p > 0.05$).

CONCLUSION

The study concluded that the majority of staff nurses possessed adequate knowledge regarding material management. Knowledge levels were significantly associated with age, current working department, and type of employment. The findings highlight the importance of continuous education and training to strengthen material management practices. Enhancing nurses' knowledge can contribute to effective resource utilization, cost control, and

RECOMMENDATIONS

Regular training and Continuing Nursing Education (CNE) programs should be conducted to improve staff nurses' knowledge of material management. Hospital administrators should encourage participation in workshops and periodic assessments to strengthen material management practices. Further studies with larger samples and different settings are recommended to enhance the generalizability of the findings

REFERENCES

1. Ruman, R., Rani, S., & Anjum, F. Nurses' knowledge and perceived barriers toward the use of Hospital Information Systems among staff nurses in Uttar Pradesh: A descriptive cross-sectional study. *Journal of Nursing Informatics*. 10,22 (2025)
2. Sultana, S., Rahman, M., & Ali, K. Inventory management experiences in selected district hospitals in Asia: A descriptive study. *International Journal of Healthcare Management*. 44,10(2025)
3. Singh, A., Sharma, P., & Aggarwal, R. Evaluation of inventory control practices using ABC and XYZ analysis in a tertiary care cancer hospital. *Indian Journal of Hospital Administration*. 102,56(2025)
4. Sinha, R., & Singh, V. Pharmaceutical inventory practices using ABC-VED analysis in a tertiary care teaching hospital. *Journal of Pharmacy Practice and Research*. 44,6 (2025)
5. Kulkarni, S., Dudhgaonkar, S., & Uike, R. Effectiveness of ABC-VED matrix analysis in inventory control in a tertiary care hospital. *International Journal of Medical Sciences*. 11,5 (2025)
6. Kartikasari, D. Material planning and inventory control practices in a hospital nutrition unit in Indonesia. *Asian Journal of Health Services*. 26,65(2024)
7. Williams, L., Brown, T., & Smith, J. Knowledge and attitudes of nursing staff toward inventory management in hospitals. *Journal of Nursing Management*. 9,18 (2020)
8. Lee, H., & Park, J. Hospital supply chain management practices among healthcare professionals in South Korea. *Asia-Pacific Journal of Health Management*. 9,19 (2019)
9. Alvarez, M., Garcia, L., & Torres, P. Impact of computerized inventory systems in public hospitals. *International Journal of Medical Informatics*. 18,56 (2018)
10. Smith, A., & Jones, B. Inventory control systems and material management practices in hospitals. *Journal of Healthcare Administration*. 9,18 (2017)
11. Almalky, H., Alshammari, F., & Alqahtani, N. Nursing roles in medical inventory management: A systematic review. *Journal of Nursing Practice*. 10.18203/2349-3933 (2024)
12. Patel, K., & Desai, R. Nurses' knowledge and practices regarding inventory control and material requisition procedures. *International Journal of Nursing Education*. 7(2):48-52 (2023)

Table 1: Distribution of Staff Nurses According to Their Socio-Demographic Variables (N = 100)

S. No	Demographic Variables	Frequency (f)	Percentage (%)
1	Age		
a)	< 30 years	2	2.0
b)	31–35 years	16	16.0
c)	36–40 years	43	43.0
d)	≥ 41 years	39	39.0
2	Gender		
a)	Male	10	10.0
b)	Female	90	90.0
3	Educational Qualification		
a)	Diploma in Nursing (GNM)	65	65.0
b)	Post Basic B.Sc Nursing	1	1.0
c)	B.Sc Nursing	21	21.0
d)	M.Sc Nursing	13	13.0
4	Total Years of Clinical Experience		
a)	< 5 years	5	5.0
b)	5–10 years	21	21.0
c)	10–15 years	30	30.0
d)	> 15 years	44	44.0
5	Years of Clinical Experience in Present Station		
a)	< 5 years	23	23.0
b)	5–10 years	30	30.0
c)	10–15 years	26	26.0
d)	> 15 years	21	21.0
6	Current Working Department		
a)	ICU/CCU	21	21.0
b)	General Wards	42	42.0
c)	Emergency Wards	12	12.0
d)	Others	25	25.0
7	Type of Employment		
a)	Regular	89	89.0
b)	Contract	10	10.0
c)	Scheme	1	1.0
8	Source of Knowledge on Material Management		
a)	CNE	52	52.0
b)	Workshop	9	9.0
c)	Book	1	1.0
d)	Peer Group	33	33.0
e)	Social Media	5	5.0

Table 2: Frequency and percentage distribution of subjects according to their level of knowledge. N=100

Level of knowledge	(f)	(%)
Inadequate Knowledge	0	0.0
Moderate Knowledge	16	16.0
Adequate Knowledge	84	84.0

Table 3: Association Between Level of Knowledge and Selected Socio-Demographic Variables (N = 100)

S. No.	Socio-Demographic Variables	χ^2 Value	df	p-value	Inference
1	Age of Staff Nurse	11.550	3	0.009	Highly Significant
2	Gender	0.132	1	0.716	Not Significant
3	Educational Qualification	0.536	4	0.970	Not Significant
4	Total Years of Clinical Experience	0.397	3	0.941	Not Significant
5	Experience in Present Station	0.655	3	0.884	Not Significant
6	Current Working Department	12.968	3	0.005	Highly Significant
7	Type of Employment	9.669	2	0.008	Highly Significant
8	Source of Knowledge	6.400	4	0.171	Not Significant

* $p < 0.05$, S – Significant, N.S – Not Significant, $p > 0.05$

Cite this article as: Rajeswari et al. (2026). 'Assess The Knowledge on Material Management Among Staff Nurses at Government Rajaji Hospital, Madurai.' International Journal of Innovative Research in Health Science, 2(9), 15-18

Creative Commons (CC) License: ©2026 the Author(s). Open access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>)