

Assessing Nursing Informatics Knowledge Among Staff Nurses in A Tertiary Care Hospital, Madurai

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Abstract

Background: The integration of digital technology in healthcare has increased the importance of nursing informatics in clinical practice. However, differences in knowledge levels among nurses may affect its effective utilization.

Methodology: Non experimental (descriptive) research design was used. 100 subjects were selected by Non- probability (purposive) sampling technique. The study was conducted at GRH Madurai. Data was collected by using structured questionnaire.

Findings: Among 100 samples, Majority of the subjects 53 (53%) had adequate knowledge, 47 (47%) had moderately adequate knowledge, and none had inadequate knowledge.

Conclusion: The study concluded that majority of the subjects 53 (53%) had adequate knowledge. Chi-square analysis showed that there was statistically significant association between level of knowledge and age ($\chi^2 = 10.41$, $p = 0.03$) and educational qualification ($\chi^2 = 14.0$, $p = 0.02$).

Keywords: Nursing informatics; Staff nurses; Knowledge; Digital health;

Introduction

Health care delivery systems worldwide are rapidly evolving due to advancements in information and communication technology. The increasing complexity of patient care, rising expectations for quality and safety, and the demand for cost-effective health services have necessitated the integration of technology into all aspects of health care. Information technology has become an essential component of modern health systems, enabling accurate documentation, efficient communication, timely decision-making, and improved patient outcomes.

Nursing informatics is a specialized field that integrates nursing science, information science, and computer science to manage and communicate data, information, knowledge, and wisdom in nursing practice. According to the American Nurses Association, nursing informatics supports nurses and other health-care providers in decision-making across roles and settings by using information structures,

processes, and technology. It facilitates evidence-based practice, enhances patient safety, improves documentation quality, and supports quality assurance and research activities.

In hospital settings, staff nurses interact daily with various informatics tools such as electronic patient records, laboratory and diagnostic systems, medication administration records, patient monitoring systems, and hospital information systems. These technologies assist nurses in recording patient data accurately, retrieving information quickly, coordinating multidisciplinary care, and ensuring continuity of care. Proper utilization of nursing informatics can reduce documentation errors, prevent medication mistakes, improve communication among health-care professionals, and enhance overall patient safety.

Need for the Study

Assessing the knowledge of nursing informatics among staff nurses is essential to identify existing gaps and training needs. Such assessment provides valuable information to nurse educators, administrators, and policymakers for planning targeted educational interventions, structured teaching programmes, and in-service education. Understanding the level of knowledge also helps in formulating strategies to improve informatics competency, thereby enhancing nursing performance and patient care outcomes.

In the context of rapid digitalization of health care, continuous assessment and strengthening of nursing informatics knowledge is crucial for professional development and quality assurance in nursing practice.

Objectives of the Study

- To assess the level of knowledge regarding nursing informatics among staff nurses.
- To associate the level of knowledge regarding nursing informatics among staff nurses with their selected socio demographic variables.

Research Hypothesis

H₁: There is a statistically significant association between the level of knowledge regarding nursing informatics among staff nurses with their selected socio demographic variables.

Methods

Design

A quantitative descriptive research design was adopted.

Setting

The study was conducted at Government Rajaji Hospital, Madurai.

Sample and Sampling Technique

A total of 100 staff nurses were selected using purposive sampling Technique.

Data Collection Tool

Data were collected using a structured questionnaire consisting of demographic variables and knowledge-related questions.

Data Collection Procedure

Formal permission was obtained from the Dean, Principal, Subject Coordinator, and the concerned facu-

lty in charge prior to data collection. The study was conducted over a period of four weeks from [insert date] to [insert date]. The purpose and nature of the study were explained to all participants, and written informed consent was secured from each staff nurse who volunteered to participate. Confidentiality of the collected data was assured and maintained throughout the study.

A structured questionnaire was used to collect the data. The questionnaire was administered in a self-report format, and participants were given adequate time to complete it. The researcher remained available to clarify any doubts or queries raised by the participants. Upon completion, the questionnaires were collected and checked for completeness. Data were then compiled, coded, and entered into a master sheet for analysis.

Results

S. NO	DEMOGRAPHICVARIABLES	N	(%)
1	Age		
	25- 35	34	34%
	36-45	43	43%
	46-55	23	23%
2	Gender		
	Male	3	3%
	Female	97	97%
3	Educational qualification		
	GNM	80	80%
	B. Sc Nursing	15	15%
	Post Basic B.Sc Nursing	3	3%
	M.Sc Nursing	2	2%
4.	Years of clinical experience		
	Less than 1 year	0	0%
	1-5 years	24	24%
	6-10 years	45	45%
	More than 10 years	31	31%
5.	Current working department		
	Medical ward	43	43%
	Surgical ward	26	26%
	ICU	24	24%
	OPD	2	2%
	Others	5	5%
6.	Previous exposure to nursing informatics/ computer training		
	Yes	37	37%
	No	63	63%

- **With the view of age**, majority of the study subjects, 36-45 years were 43(43%), 25- 35 years were 34(34%), 46-55 years were 23(23%).
- **With regards to gender**, majority of the study subjects, 97(97%) were Females and 3(3%) were

males.

- **While considering the educational qualification**, majority of the study subjects, were GNM 80(80%), 15(15%) were completed B.Sc (Nursing), were Post Basic B.Sc Nursing 3(3%) and were completed M.Sc(Nursing) 2(2%).
- **While dealing with Years of clinical experience**, majority of the study subjects, were 6-10 years 45(45%), were more than 10 years 31(31%), were 1-5 years, 24 (24%) were no less than 1 year 0 (0%).
- **According to the Current working department**, majority of the study subjects, 43(43%) were medical ward, 26(26%) were surgical ward, 24(24 %) were ICU, 2(2%) were OPD and were other departments 5(5%).
- **While considering the Previous exposure to nursing informatics/ computer training**, majority of the study subject were 63(63%) no computer training, and 37(37%) were computer training.

The findings revealed that 53% of participants had adequate knowledge, while 47% had moderate knowledge. None of the participants demonstrated inadequate knowledge.

The majority of participants were female (97%) and had GNM qualification (80%). Most participants had 6–10 years of clinical experience.

Chi-square analysis showed that there was statistically significant association between level of knowledge and age ($\chi^2 = 10.41$, $p = 0.03$) and educational qualification ($\chi^2 = 14.0$, $p = 0.02$).

Discussion

The first objective of the study was to assess the level of knowledge on nursing informatics among staff nurses at GRH, Madurai.

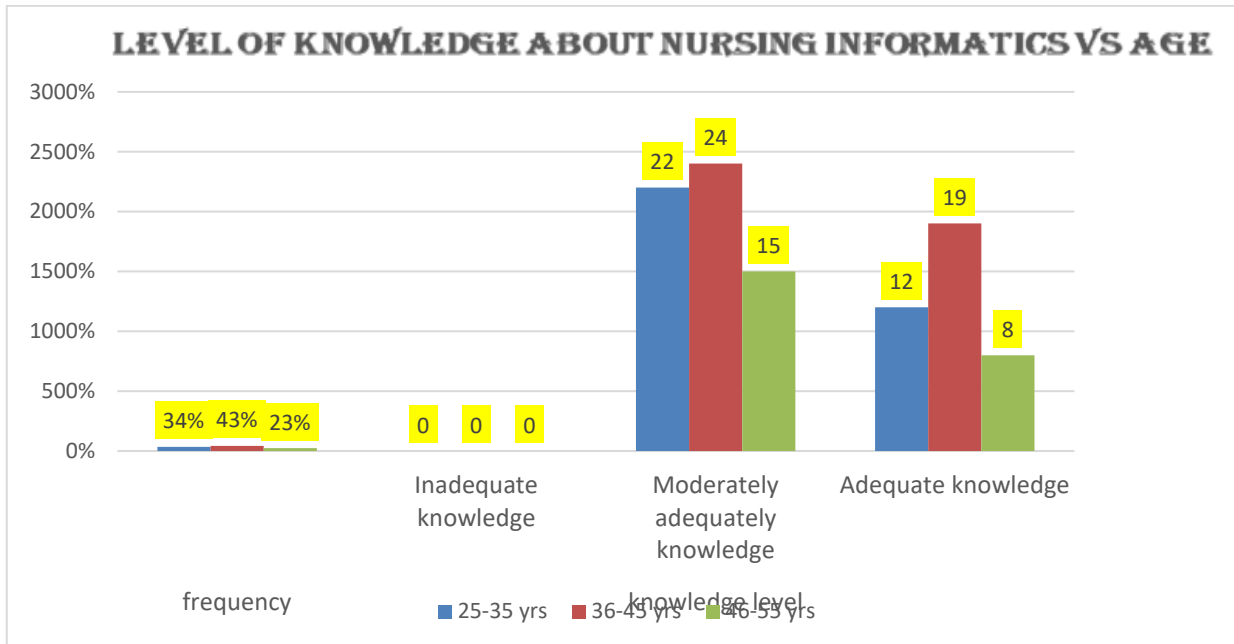
The findings of the present study revealed that among the 100 participants, majority of the staff nurses 53 (53%) had adequate level of knowledge, while 47 (47%) had moderate level of knowledge and none of them had inadequate level of knowledge regarding nursing informatics.

This indicates that most of the staff nurses have a basic understanding of nursing informatics, but still require further training to improve their knowledge and application of informatics in clinical practice.

The second objective of the study was to examine the association between staff nurses' level of knowledge of nursing informatics and selected socio-demographic variables.

Chi-square analysis showed that there was statistically significant association between level of knowledge and age ($\chi^2 = 10.41$, $p = 0.03$) and educational qualification ($\chi^2 = 14.0$, $p = 0.02$).

Association between the level of knowledge regarding nursing informatics among staff nurses and their age.



The above bar diagram shows that association between the level of knowledge about nursing informatics on age.

Chi square analysis revealed that there was a statistically significant association between staff nurses' level of knowledge and their age. (e.g. 36-45 years) ($\chi^2 = 10.41, p = 0.03$).

Association Between Level of Knowledge About Nursing Informatics on Educational Qualification

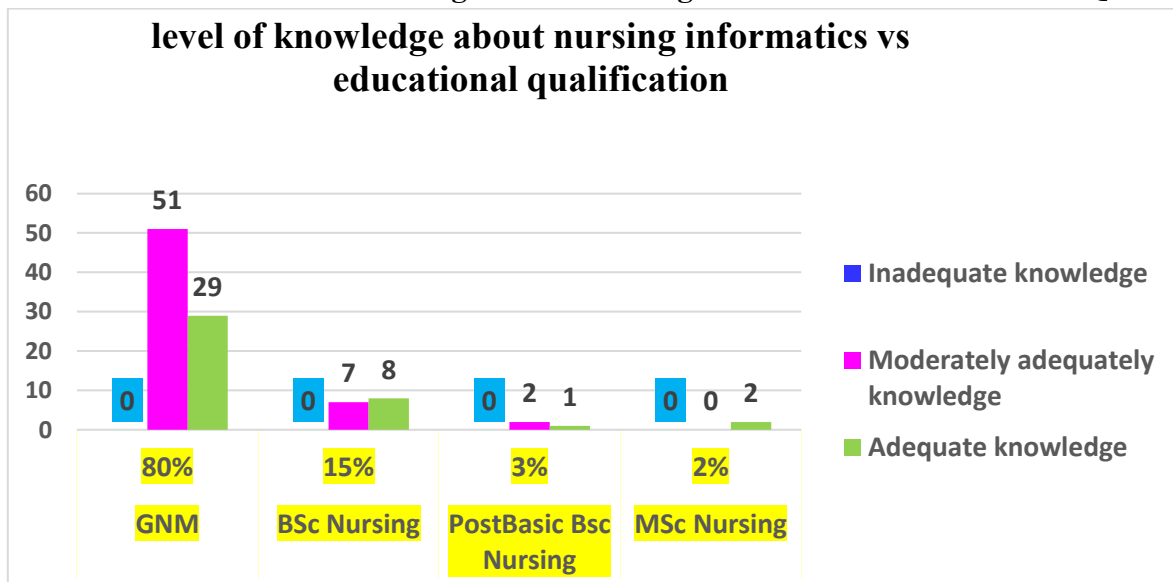


Figure 4.9: The above bar diagram shows that association between the level of knowledge about nursing informatics on educational qualification

Chi square analysis revealed that there was a statistically significant association between staff nurses level of knowledge and their educational qualification. (e.g. GNM) ($\chi^2 = 14, p = 0.0$).

The present study findings indicate that staff nurses possess moderate to adequate knowledge of nursing informatics. This may be attributed to increased exposure to digital healthcare systems and routine use of electronic documentation.

These findings are consistent with previous studies that reported moderate levels of informatics knowledge among nurses. Training and educational exposure have been identified as key factors influencing competency levels.

However, the presence of moderate knowledge among a significant proportion of participants suggests the need for further improvement. Continuous education and structured training programs are essential to enhance informatics competency and ensure effective utilization of digital healthcare systems

Conclusion

The present study concluded that the majority of staff nurses working in the tertiary care hospital had adequate knowledge regarding nursing informatics, while some nurses had only moderately adequate knowledge.

The study also revealed that age and educational qualification had significant association with the level of knowledge regarding nursing informatics among staff nurses.

The findings indicate the need for continuous education and training programmes to improve the knowledge and skills of nurses in nursing informatics to enhance quality patient care and documentation.

Recommendations

- Similar studies can be conducted with larger sample size for better generalization.
- Comparative studies can be conducted between government and private hospitals.
- A study can be conducted to assess the effectiveness of structured teaching programmes on nursing informatics among nurses.
- A longitudinal study can be conducted to assess the improvement in knowledge after training.
- Similar studies can be conducted among nursing students and nursing educators.

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