

# Knowledge and Attitude Regarding the Utilization of Electronic Health Records among Nurses Working at Sharda Hospital, Greater Noida, Uttar Pradesh

*A Research Manuscript Based on the B.Sc. Nursing Dissertation*

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**Abstract:** **Background:** Electronic Health Records (EHRs) support the electronic documentation, storage, retrieval and sharing of patient information. Nurses are frequent users of these systems, and their knowledge and attitudes can influence how effectively EHRs are incorporated into daily clinical practice. **Objectives:** To assess nurses' knowledge regarding EHR utilization; to assess their attitude toward EHR utilization; and to examine the association between selected demographic variables and knowledge level among nurses working at Sharda Hospital, Greater Noida. **Methods:** A quantitative descriptive cross-sectional design was used. The dissertation reports a purposively selected sample of 100 nurses working at Sharda Hospital. Data were collected using a demographic profile, a semi-structured knowledge questionnaire and a five-point Likert attitude scale. Descriptive statistics and chi-square tests were used, as reported in the dissertation. **Results:** Among 100 nurses, 56% had average knowledge, 30% had poor knowledge, 13% had good knowledge and 1% had very poor knowledge regarding EHR utilization. In the overall attitude classification, 60% had a highly positive attitude, 28% had a moderately positive attitude and 12% had a negative attitude. Residential/domicile background was the only demographic variable reported as significantly associated with knowledge level ( $\chi^2 = 24.212$ ,  $df = 9$ ,  $p = 0.004$ ). Other assessed demographic variables were not statistically significant. **Conclusion:** The findings indicate that nurses generally expressed positive attitudes toward EHR utilization, while knowledge gaps remained. Structured hands-on training, accessible technical support and ongoing evaluation may help strengthen effective EHR use in clinical practice.

**Keywords:** Electronic Health Records, nurses, knowledge, attitude, nursing informatics, technology utilization.

## 1. Introduction

Electronic Health Records are digital systems used to maintain patient health information and support clinical documentation, information retrieval and continuity of care. Compared with paper-based records, well-designed EHR systems can make relevant information more accessible to authorized healthcare professionals and support communication across clinical teams. However, the benefits of EHRs depend on the quality of implementation, system usability, infrastructure and the competence of the people who use them. Nurses routinely document assessments, interventions, medication administration, vital signs and patient progress. EHR proficiency is therefore relevant to the accuracy and timeliness of nursing records. At the same time, complex interfaces, insufficient training, duplicate documentation and technical interruptions can make EHR use difficult and may contribute to workload or frustration. Research on nurses' experiences of electronic records has highlighted both perceived benefits and challenges related to usability, workflow and support (Jaber et al., 2021; Provenzano et al., 2024).

Knowledge and attitude are distinct but related aspects of technology use. Knowledge concerns understanding the system's functions and appropriate procedures, whereas attitude concerns the user's evaluation and willingness to engage with the technology. Assessing both can help identify areas where education or organizational support

may be needed. The present study focuses on nurses working at Sharda Hospital, Greater Noida, Uttar Pradesh.

### 1.1 Background of the Study

The increasing use of digital documentation in healthcare makes nursing informatics an important part of contemporary nursing practice. EHR systems may support access to patient information, documentation consistency and communication, but these benefits may not be fully realized if users have limited knowledge or inadequate technical support. The dissertation underpinning this manuscript assessed nurses' knowledge and attitudes toward EHR utilization in one hospital setting.

### 1.2 Need for the Study

Local assessment can identify whether nurses need additional instruction in EHR functions, documentation processes or troubleshooting. Findings can also help nursing administrators and educators plan orientation, refresher training and support strategies suited to the needs of staff nurses.

### 1.3 Statement of the Problem

A study to assess the knowledge and attitude regarding the utilization of Electronic Health Records among nurses working at Sharda Hospital, Greater Noida, Uttar Pradesh.

## 1.4 Objectives

- To assess the level of knowledge regarding EHR utilization among nurses working at Sharda Hospital, Greater Noida.
- To assess nurses' attitudes regarding EHR utilization.
- To determine the association between knowledge level and selected demographic variables.

## 1.5 Hypothesis

H1: There will be a statistically significant association between selected demographic variables and nurses' level of knowledge and attitude regarding EHR utilization. The results presented in this manuscript report the association tests for knowledge level that are available in the dissertation.

## 1.6 Operational Definitions

- **Knowledge:** Factual understanding of EHR functions, benefits, documentation procedures, security and clinical applications, as measured by the study questionnaire.
- **Attitude:** Nurses' reported beliefs, feelings and evaluations regarding EHR utilization, measured using the study's Likert scale.
- **Utilization:** Use of EHR systems for clinical tasks such as documentation, retrieving patient information and supporting communication.
- **Electronic Health Records:** Digital systems used by healthcare providers to maintain and access patient health information.

## 1.7 Conceptual Framework

The dissertation identifies the Technology Acceptance Model (TAM) as its conceptual basis. TAM emphasizes perceived usefulness and perceived ease of use as important influences on attitudes and technology acceptance. In the context of this study, demographic and professional characteristics may be associated with nurses' knowledge and attitudes, while perceived usefulness, ease of use, training and technical support may shape their experience of EHR utilization. The study primarily measured knowledge and attitude; the findings should not be interpreted as direct measurement of every original TAM construct.

## 2. Review of Literature

The dissertation organizes the literature into three broad areas: nurses' knowledge, competencies and informatics training; nurses' perceptions, attitudes, satisfaction and well-being; and EHR implementation, utilization, workflow and care delivery.

### 2.1 Nurses' Knowledge, Competencies and Informatics Training

Nurses require practical knowledge of digital documentation, patient-record navigation and safe information handling. The dissertation's review describes gaps in informatics competency and highlights the value of structured education and simulation-based learning.

McBride et al. (2020) describe a competency-assessment approach using EHR simulation, while Omran and Salman (2024) examined nurses' knowledge of electronic medical records.

### 2.2 Nurses' Attitudes, Satisfaction and Well-Being

Attitudes toward EHRs may be influenced by usability, reliability, perceived usefulness, workload and organizational support. Jaber et al. (2021) reported nurses' views on the use, quality and satisfaction associated with electronic medical records. Provenzano et al. (2024) explored EHR adoption and its relationship with healthcare staff well-being and workplace stress. These studies underline the importance of considering both the benefits and the practical demands of digital systems.

### 2.3 EHR Implementation, Workflow and Care Delivery

EHR implementation involves more than installing software: clinical workflows, staff preparation, technical infrastructure and information exchange also matter. The dissertation's review notes that EHR utilization may be affected by local resources and workflow design. Such literature provides a rationale for assessing knowledge and attitude among nurses within a specific hospital setting.

### 2.4 Summary of Literature Review

The reviewed literature supports assessing nurses' knowledge and attitudes together. It also suggests that training, technical support, system usability and workplace context are important considerations when planning EHR implementation and improvement.

## 3. Research Methodology

### 3.1 Research Approach and Design

The study used a quantitative approach with a descriptive cross-sectional design to assess knowledge and attitude regarding EHR utilization at one point in time.

### 3.2 Setting

The setting was Sharda Hospital, Greater Noida, Uttar Pradesh.

### 3.3 Population, Sample and Sampling Technique

The target population comprised nurses working at Sharda Hospital. The dissertation reports a sample of 100 nurses selected through purposive sampling.

### 3.4 Inclusion and Exclusion Criteria

The dissertation's inclusion criteria were nurses working at Sharda Hospital, available during data collection, willing to participate and using EHRs in patient-care activities. Exclusion criteria were nurses on leave during data collection, those unwilling to participate and student nurses/interns.

### 3.5 Data Collection Tools

Three tools were described: (1) a demographic profile with 10 items; (2) a semi-structured questionnaire assessing EHR knowledge; and (3) a Likert scale assessing attitude toward EHR utilization. The demographic profile covered age, gender, marital status, nursing qualification, designation, experience, department/ward, shift, monthly income and residential/domicile background.

### 3.6 Validity, Reliability and Pilot Study

According to the dissertation, expert review was used to assess content validity. It reports 100% agreement for the demographic profile and attitude tool, and test-retest reliability values of  $r = 0.73$  and  $0.87$  for the tools described. A pretest involving 10 nurses and a pilot study involving 10 nurses were also reported. The dissertation contains inconsistent dates in the pilot-study description; these should be checked against the original research records before formal submission.

### 3.7 Data Collection and Ethical Considerations

The dissertation states that administrative permission and university ethics-related permission were obtained and that participants' consent was to be taken. The exact approval reference and dates should be confirmed from the approved institutional records before publication.

### 3.8 Statistical Analysis

The dissertation reports use of descriptive statistics, including frequencies and percentages, and inferential statistics using the chi-square test. SPSS version 20.0 was identified in the dissertation.

## 4. Results

The results below reproduce the principal findings reported in the dissertation for 100 nurses. Percentages are presented as reported in the source document.

### 4.1 Demographic Characteristics

| Variable               | Category                       | n  | %    |
|------------------------|--------------------------------|----|------|
| Age                    | 20–25 years                    | 50 | 50.0 |
|                        | 26–30 years                    | 35 | 35.0 |
|                        | 31–40 years                    | 11 | 11.0 |
|                        | 41 years and above             | 4  | 4.0  |
| Gender                 | Male                           | 46 | 46.0 |
|                        | Female                         | 54 | 54.0 |
| Marital status         | Unmarried                      | 54 | 54.0 |
|                        | Married                        | 45 | 45.0 |
|                        | Divorced/separated             | 1  | 1.0  |
| Nursing qualification  | GNM                            | 59 | 59.0 |
|                        | B.Sc. Nursing                  | 39 | 39.0 |
|                        | P.B.B.Sc. Nursing              | 2  | 2.0  |
| Current designation    | Staff nurse                    | 48 | 48.0 |
|                        | Senior staff nurse             | 33 | 33.0 |
|                        | Team leader                    | 13 | 13.0 |
|                        | Ward in-charge                 | 6  | 6.0  |
| Experience             | Less than 1 year               | 26 | 26.0 |
|                        | 1–5 years                      | 55 | 55.0 |
|                        | 6–10 years                     | 15 | 15.0 |
|                        | More than 10 years             | 4  | 4.0  |
| Department/ward        | General medical-surgical ward  | 38 | 38.0 |
|                        | ICU/CCU/Emergency              | 52 | 52.0 |
|                        | OT/Labour room/OPD             | 9  | 9.0  |
|                        | Specialty ward                 | 1  | 1.0  |
| Shift                  | Morning                        | 22 | 22.0 |
|                        | Afternoon                      | 34 | 34.0 |
|                        | Night                          | 40 | 40.0 |
|                        | General shift                  | 4  | 4.0  |
| Monthly income         | Below ₹15,000                  | 9  | 9.0  |
|                        | ₹15,000–25,000                 | 61 | 61.0 |
|                        | ₹26,000–35,000                 | 21 | 21.0 |
|                        | Above ₹35,000                  | 9  | 9.0  |
| Residential background | Urban                          | 47 | 47.0 |
|                        | Semi-urban                     | 33 | 33.0 |
|                        | Rural                          | 18 | 18.0 |
|                        | Other state/relocated for work | 2  | 2.0  |

The sample was predominantly aged 20–25 years (50%), female (54%), unmarried (54%) and GNM-qualified (59%). More than half reported 1–5 years of nursing experience (55%), and 52% worked in ICU/CCU/Emergency. Urban residents represented 47% of the sample.

### 4.2 Level of Knowledge

| Knowledge level     | Frequency (n) | Percentage (%) |
|---------------------|---------------|----------------|
| Very poor knowledge | 1             | 1.0            |
| Poor knowledge      | 30            | 30.0           |
| Average knowledge   | 56            | 56.0           |
| Good knowledge      | 13            | 13.0           |
| Total               | 100           | 100.0          |

Average knowledge was the most common category (56%). Poor knowledge was reported for 30% of participants, good knowledge for 13%, and very poor knowledge for 1%.

### 4.3 Association Between Demographic Variables and Knowledge

| Demographic variable | $\chi^2$ | df | p value | Interpretation  |
|----------------------|----------|----|---------|-----------------|
| Age                  | 11.802   | 9  | 0.225   | Not significant |

|                                 |        |   |       |                 |
|---------------------------------|--------|---|-------|-----------------|
| Gender                          | 1.087  | 3 | 0.780 | Not significant |
| Marital status                  | 9.598  | 6 | 0.143 | Not significant |
| Nursing qualification           | 4.458  | 6 | 0.615 | Not significant |
| Designation                     | 9.008  | 9 | 0.437 | Not significant |
| Years of experience             | 13.303 | 9 | 0.149 | Not significant |
| Department/ward                 | 4.830  | 9 | 0.849 | Not significant |
| Shift timing                    | 14.286 | 9 | 0.112 | Not significant |
| Monthly income                  | 13.198 | 9 | 0.154 | Not significant |
| Residential/domicile background | 24.212 | 9 | 0.004 | Significant     |

As reported in the dissertation, residential/domicile background was significantly associated with knowledge level ( $p = 0.004$ ). The other listed demographic variables were not statistically significant at the 0.05 level.

#### 4.4 Attitude Toward EHR Utilization

| Attitude statement                                        | Strongly disagree % | Disagree % | Neutral % | Agree % | Strongly agree % |
|-----------------------------------------------------------|---------------------|------------|-----------|---------|------------------|
| EHR improves quality of patient care                      | 2                   | 5          | 5         | 8       | 80               |
| EHR saves time in nursing documentation                   | 4                   | 3          | 17        | 39      | 37               |
| EHR systems are easy to use in daily practice             | 4                   | 4          | 25        | 46      | 21               |
| EHR reduces medication/documentation errors               | 3                   | 11         | 26        | 48      | 12               |
| EHR improves communication among healthcare professionals | 4                   | 8          | 35        | 42      | 11               |
| I feel confident while using EHR systems                  | 5                   | 13         | 36        | 33      | 13               |
| EHR enhances patient safety                               | 7                   | 13         | 40        | 26      | 14               |
| Training helps effective EHR utilization                  | 5                   | 18         | 30        | 26      | 21               |
| Technical support is necessary for proper EHR use         | 8                   | 16         | 26        | 32      | 18               |
| EHR reduces paperwork in hospitals                        | 11                  | 9          | 22        | 28      | 30               |
| EHR improves access to patient information                | 12                  | 9          | 17        | 34      | 28               |
| I am interested in learning more about EHR                | 14                  | 11         | 20        | 27      | 28               |
| Lack of computer knowledge affects EHR use                | 14                  | 5          | 20        | 25      | 36               |
| Management support is important for effective EHR use     | 13                  | 5          | 16        | 26      | 40               |
| Overall, I have a positive attitude toward EHR use        | 12                  | 7          | 12        | 20      | 49               |

The item-wise responses show substantial endorsement of several potential benefits of EHRs. For example, 88% strongly agreed that EHRs improve patient-care quality, and 76% agreed or strongly agreed that EHRs save time in nursing documentation. The source dissertation also reports that training, technical support and management support are important for effective utilization.

#### 4.5 Overall Attitude Classification

| Attitude category            | Score range | Frequency (n) | Percentage (%) |
|------------------------------|-------------|---------------|----------------|
| Negative attitude            | 15–37       | 12            | 12             |
| Moderately positive attitude | 38–56       | 28            | 28             |
| Highly positive attitude     | 57–75       | 60            | 60             |
| Total                        |             | 100           | 100            |

Overall, 60% of participants were classified as having a highly positive attitude, 28% as having a moderately positive attitude and 12% as having a negative attitude. Thus, 88% fell into the two positive-attitude categories combined.

## 5. Discussion

The study assessed EHR-related knowledge and attitudes among 100 nurses working at Sharda Hospital. The main finding was that 56% of nurses had average knowledge, while 31% had poor or very poor knowledge and 13% had good knowledge. This distribution indicates scope for strengthening nurses' practical understanding of EHR

systems. Since nurses use digital records for documentation and access to clinical information, education should be practical and linked to the workflows used in their clinical units.

Attitude findings were more favorable than the knowledge findings. The dissertation classified 60% of participants as having a highly positive attitude and 28% as having a moderately positive attitude. Participants commonly recognized potential benefits such as improved patient-care quality and time-saving documentation. However, the item-level responses also indicate that some nurses were neutral or disagreed with statements related to confidence, patient safety, training and technical support. Positive attitude alone should therefore not be interpreted as proof of high competency or effective use.

Residential/domicile background was the only demographic variable reported as significantly associated with knowledge level ( $\chi^2 = 24.212$ ,  $p = 0.004$ ). This finding should be interpreted cautiously because the study was conducted at a single hospital and used purposive sampling. The dissertation does not establish why this association occurred, so explanations should not be assumed without further analysis. No statistically significant association was reported for age, gender, marital status, qualification, designation, experience, department, shift or monthly income.

The findings support continued training, technical support and management engagement. Training could include supervised practice in charting, retrieving patient information, medication documentation, privacy and

security procedures, and error correction according to hospital policy. Refresher sessions and access to trained super-users may also help staff apply knowledge during routine care. These recommendations are consistent with literature emphasizing training, usability and organizational support in EHR implementation (McBride et al., 2020; Jaber et al., 2021; Provenzano et al., 2024).

## 6. Strengths and Limitations

### 6.1 Strengths

- The study assesses both knowledge and attitude toward EHR utilization.
- It includes 100 nurses from different clinical roles and work settings within the hospital.
- It examines the association between knowledge level and selected demographic variables.

### 6.2 Limitations

- The study was conducted at a single hospital, limiting generalizability.
- Purposive sampling may introduce selection bias.
- Knowledge and attitude were measured using study-specific tools; further information about scoring and validation should be retained with the original protocol.
- The cross-sectional design cannot establish causal relationships.
- The dissertation contains some internal inconsistencies in dates and narrative descriptions; these should be checked against original study records before publication.

## 7. Conclusion

Among the 100 nurses studied, average knowledge regarding EHR utilization was most common (56%), while 30% had poor knowledge, 13% had good knowledge and 1% had very poor knowledge. Attitude was generally favorable: 60% were classified as highly positive and 28% as moderately positive. Residential/domicile background was the only demographic variable reported to have a statistically significant association with knowledge level. The findings suggest a need for ongoing, structured EHR training and reliable technical and managerial support to help nurses use electronic records effectively in clinical practice.

### 7.1 Implications for Nursing Practice

Nursing administrators should provide structured induction and refresher training, ensure staff can access technical support, and encourage feedback about EHR usability and workflow. Educators may incorporate EHR simulation and digital documentation competencies into continuing professional development.

### 7.2 Recommendations

- Conduct regular practical EHR training sessions for nursing staff.

- Provide unit-level technical support and identify experienced staff who can mentor colleagues.
- Repeat knowledge assessments after training to evaluate learning needs and improvement.
- Conduct similar studies in multiple hospitals with probability sampling where feasible.
- Use the original validated scoring rules and approved ethics documentation in any final dissertation or publication.

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