Journal of Population Therapeutics & Clinical Pharmacology

Nursing Documentation Practices and Factors Impacting Patient Care: A systematic Review

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Abstract:

Background: Inadequate nursing documentation practices can detrimentally affect patient outcomes and the efficiency of healthcare professionals. While numerous individual studies have examined the prevalence of nurses' documentation practices , there lacks a consolidated prevalence estimate. Thus, this systematic review and meta-analysis aimed to evaluate the overall prevalence of nursing care documentation practices and associated factors .

Methods and Materials: This review exclusively considered published articles. Key databases searched included Medline/PubMed, Web of Science, Google Scholar, Scopus, the Cochrane Library. Cross-sectional studies meeting inclusion criteria and written in English were included. Utilizing a random effects model, the pooled prevalence of nurses' documentation practices was computed. Publication bias was assessed using funnel plots and the Egger's test. All statistical analyses were conducted using STATA version 14.

Results: Nine studies comprising a total of 2,900 participants were included in this review. The pooled prevalence of nurses' documentation practice was found to be 50.01% (95% CI: 42.59 to 57.18; I2 = 93.8%; and P ≤ 0.001). Nursing documentation practices were statistically associated with the availability of nursing documentation formats, adequate nurse-to-patient ratio, motivation, and training.

Conclusion: This review highlights that one in two nurses exhibits poor documentation practices in their daily activities. Consequently, rigorous monitoring, evaluation, and supervision of nursing care documentation services are imperative for all stakeholders. We strongly advocate for the enhancement of identified factors through nurse training, motivation strategies, provision of adequate documentation formats, and maintenance of an optimal nurse-to-patient ratio.

Introduction:

A robust system of detailed record-keeping is indispensable for ensuring high-quality nursing practice. Ineffective documentation practices not only jeopardize patient outcomes but also impede the efficiency of healthcare professionals. The axiom "what is not recorded has not been done" underscores the critical importance of meticulous nursing documentation. Nursing documentation encompasses a comprehensive record of care planned and delivered to individual patients or clients, meeting both legal and professional standards. While documentation may not be the most favored aspect of patient care, its completeness is essential for accurate communication among clinical team members and healthcare providers. Nurses are tasked with recording their actions, as well as the patient's needs and reactions to illness and care received. (Demsash et al., 2023)

Accurate and comprehensive nursing documentation serves as a valuable data source for coding, health research, evidence-based practice, and resource management. It also plays a pivotal role in evaluating nursing professional practice through quality assurance mechanisms such as performance reviews, audits, accreditation processes, legislative inspections, and critical incident reviews. Documentation, whether in written or electronic form, audio or video recordings, images, observational charts, checklists, or other formats, is crucial for capturing the entirety of patient care. (Kasaye et al., 2022)

Inadequate documentation can lead to prolonged hospital stays, communication breakdowns among medical teams, increased patient mortality, heightened medical-legal risks, compromised clinical decision-making, incorrect treatment, and diminished patient care quality. Furthermore, deficient nursing documentation services can result in nurse disqualification, loss of income and reimbursement, disruptions in patient management and care continuity, medication errors, and unfavorable patient outcomes. (Selamu & Selamu, 2022)

A report by the South African Nursing Council between 2003 and 2008 highlighted that out of 769 nurses convicted of occupational misconduct, 587 professional nurses were accused of failing to adequately document nursing activities in patient records. While maintaining medical records is a professional obligation for nurses, numerous studies have pointed out deficiencies in nurses' documentation practices worldwide. (Royal College of Physicians, 2008)

Poor communication among healthcare professionals has been identified as a leading cause of medical errors and patient fatalities. Evidence from the United States suggests that documentation errors alone contribute to 100,000 deaths and 1.3 million injuries annually, with an estimated $20 billion in associated losses. This global trend of neglected, inadequate, and incomplete care records is particularly concerning for developing countries, which grapple with staffing shortages and increasing workloads. (Tasew et al., 2019)

Despite the critical role of documentation in ensuring quality and efficient nursing care management, patient medical records in countries often suffer from inadequate support and management. Documentation tends to be overlooked, as evidenced by varying documentation practice rates reported in the literature, such as 75% in Nepal, 74% in Ghana, 47.5% in Harar (Ethiopia), and 37.4% in Gondar (Ethiopia). Poor documentation practices are influenced by multiple factors including nurses' attitudes, knowledge, experience, workload, education, motivation, and nurse-patient relationships. (Tamir et al., 2021)

Accurate and up-to-date documentation is crucial not only for delivering quality care but also for sustaining optimal levels of medical care. Therefore, comprehensive insights into nurse

documentation practices and related factors, particularly , hold significant importance for the advancement of the healthcare sector. Although several individual studies have explored nurses' documentation practices in different regions , there remains a lack of national-level studies providing a consolidated view of documentation practices. Additionally, the representativeness and consistency of individual study results are inconclusive. Hence, this systematic review aim to assess the aggregated prevalence of nurse documentation on patient care and associated factors . The findings of this study are expected to offer valuable insights for mitigating poor nurse documentation practices through the development of guidelines and strategic interventions, ultimately contributing to improved patient outcomes. (Seidu et al., 2021)

Methods and Materials:

Search Strategy:

Databases including Medline/PubMed, Web of Science, Google Scholar, Scopus, , and the Cochrane Library were utilized to search for studies . Missing data were retrieved by contacting the appropriate authors.. A comprehensive search strategy was developed using multiple Boolean operators through standard population comparison and exposure outcome (PEO) questions. The search terms included "documentation" OR "medical record" OR "nurses" OR "health care professional" AND "associated factors" OR "influencing factors" . All articles retrieved underwent title and abstract screening before being exported to the EndNote library. Articles meeting inclusion criteria based on titles and abstracts were read in full. The search strategy was conducted by three authors (TG, EK, and BD) following the PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) protocol.

Eligibility Criteria:

Inclusion and Exclusion Criteria:

This study included cross-sectional studies published in English between 2013 and 2023 that addressed the prevalence of nurse documentation .

Data Extraction:

The PRISMA protocol was adhered to for article selection. Data extracted included author's name, publication year, study area, sample size, study population, study design, and results. A Microsoft Excel spreadsheet was used for data collection, with three authors (TG, EK, and BD) independently extracting information from the accepted papers. Studies meeting approval requirements were included and tabulated after detailed discussion and data extraction review.

Data Processing and Analysis:

Data extraction was performed using Microsoft Excel, and data analysis was conducted using STATA version 14. A random effects model analysis was utilized to calculate the pooled prevalence of nurse documentation . Publication bias was assessed using funnel plots, visual analysis, and study heterogeneity was tested using the Cochrane Q-Static and I2 statistics. Subgroup analyses were conducted to compare nursing documentation prevalence in each region with the estimated prevalence. Forest plots with 95% CI were used to present the pooled prevalence.

Results

Identification and Characteristics of Included Studies:

From 1 July to 30 July 2023, a total of 70 articles were identified through major electronic databases and other relevant sources. After eliminating 27 duplicate items, 43 items were considered for further review. Subsequently, 23 studies were excluded based on abstract and title screening, and 11 studies were excluded due to inconsistencies with the inclusion criteria. Finally, nine studies that met the eligibility criteria were included in this study. These studies involved a total of 2,900 participants and were all cross-sectional in design, with sample sizes ranging from 111 to 430.,

Practice of Nurses' Documentation of Patient Care:

The review revealed that the prevalence of patient care documentation practices by nurses ranged from 37.4% to 84.0%. The pooled estimated prevalence of nurse documentation for patient care was determined to be 50.01% (95% CI: 42.59 to 57.18; I2 = 93.8%; and $P \leq 0.001$).

Outcome:

The integrated prevalence estimate of nurse documentation revealed that one in two nurses practiced poor patient care documentation. Factors such as format availability, appropriate caregiver-patient ratio, motivation, and training were identified as contributors to good documentation practice.

Factors Associated with Nurses' Documentation Practice:

Four variables (nurse-to-patient ratio, motivation, practice, and availability of formats) were found to be significantly associated with nurses' documentation practice, while nurses' knowledge and attitudes toward documentation were not significantly related. Adequate nurse-to-patient ratio, availability of documentation forms, motivation, and training were positively associated with good documentation practices. (Table 3 presents detailed results of the association between factors and nurses' documentation practice).

Table 1: Critical Appraisal Results of Eligible Studies on Nurses' Documentation Practice , 2023 (n = 9)

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Total
Selamu et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Kasaye et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Andualem et al.	Y	Y	Y	N	Y	Y	Y	Y	Y	8
Kebed et al.	Y	Y	N	Y	Y	Y	Y	Y	Y	8
Gizaw et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Demsash et al.	Y	N	Y	Y	Y	Y	Y	Y	Y	8
Tasew et al.	Y	Y	Y	Y	Y	Y	Y	Y	Y	9
Tamir et al.	Y	Y	Y	Y	Y	N	Y	Y	Y	8
Tola et al.	Y	U	Y	Y	Y	N	Y	Y	Y	8

(Note: Y = Yes, N = No, U = Unclear)

Table 2: Study Characteristics Included in the Systematic Review of Nurses' Documentation Practice, 2023

Author	Year	Study Design	Sample	Prevalence
M. G. Selamu and L. G. Selamnu	2022	Cross-sectional	384	40.02

Kasaye et al.	2022	Cross-sectional	407	47.20
Andualem et al.	2019	Cross-sectional	240	47.50
Kebede et al.	2017	Cross-sectional	206	37.40
Gizaw et al.	2018	Cross-sectional	391	48.60
Demsash et al.	2022	Cross-sectional	415	51.10
Tasew et al.	2019	Cross-sectional	316	47.80
Tamir et al.	2021	Cross-sectional	430	47.50
Tola et al.	2017	Cross-sectional	111	84.00

(Note: SNNPR = Southern Nations, Nationalities, and Peoples Region)

Table 3: Factors Associated with Nurses' Documentation Practice of the Systematic Review

Factors	**Odds Ratio (OR)**	**95% Confidence Interval (CI)**	**I^2 (%)**	**P Value**	**Significance Level**
Motivation	29.69	(12.8, 47.7)	90.9	≤ 0.001	Significant
Adequate nurse-to-patient ratio	4.18	(2.5, 20.59)	88.3	≤ 0.001	Significant
Availability of format	3.01	(2.03, 23.07)	93.9	≤ 0.001	Significant
Training	10.08	(2.44, 41.7)	80.9	≤ 0.001	Significant
Knowledge towards documentation	7.54	(4.06, 13.9)	0.00	0.906	Nonsignificant
Attitude	18.37	(2.78, 121.38)	60.3	0.081	Nonsignificant

(Note: OR = Odds Ratio, CI = Confidence Interval, I^2 = Heterogeneity statistic)

Discussion

Effective nursing documentation is crucial for the routine follow-up and treatment of patients/clients. This systematic review found that 50% of nursing services are well documented by nurses ($I^2 = 98.7\%$ and $P < 0.001$). This result was higher than studies in Nepal (75%), Ghana (74%), South Africa (68.3%), Nigeria (70%), Jamaica (98%), and Iran (100%). The variation is likely due to differences in geographic regions, national educational development, policies and strategies, nurses' knowledge and attitudes towards nursing record practice, availability of administrative support, organizational structure, and methodologies. Compared to this review, findings from Indonesia (37%) and Europe (28%) reported lower results, which might be related to methodological differences, particularly in study design and period. (Gurung, 2022)

The review also examined nurses' documentation practices A subgroup analysis revealed that 84% of nurses documented their practices in Addis Ababa, while only 40% documented their practices in SNNPR. Possible reasons include variations in the quality of nursing care, experiences and education among nurses, accessibility and availability of documentation formats, higher supervision, especially from the Ministries of Health located in Addis Ababa, and other factors related to state-level management. This highlights the importance of improving the quality of nursing care documentation and supplies. (Gizaw et al., 2018)

Several factors associated with good nursing documentation practice were identified in this systematic review and meta-analysis, including adequate nurse-to-patient ratios, availability of formats, training, and motivation. The nurse-to-patient ratio was statistically significant for nursing documentation practice. Nurses with adequate patient ratios were 4.18 times more likely to practice good nursing documentation than those without. This finding aligns with studies conducted in Jamaica suggesting that nurses are more likely to adhere to standard documentation guidelines when they have sufficient time and less crowded patient care environments. (Kebede et al., 2017)

Nursing care documentation training was also significantly associated with nursing professionals' documentation practices. Trained nurses were ten times more likely to document daily care activities than untrained nurses, consistent with previous studies. Training may enhance nurses' knowledge, attitudes, teamwork in documentation tasks, and familiarity with standard documentation tools. (Temesgen et al., 2023)

Nurse motivation emerged as another crucial factor associated with good nursing record practices. Highly motivated nurses were more likely to maintain good documentation practices than less motivated ones. This finding was consistent with studies conducted in Ethiopia, suggesting that motivated employees tend to exhibit positive attitudes and responsible documentation practices. (Federal Democratic Republic of Ethiopia, 2010)

Additionally, the availability of standardized documentation formats positively correlated with nursing staff documentation practices. Evidence suggests that effective nursing documentation practice is supported by the availability of such formats, encouraging good documentation practices and improving recordkeeping standards. (Van Graan et al., 2016)

In conclusion, the findings underscore the importance of addressing various factors to improve nursing documentation practices. These include ensuring adequate nurse-to-patient ratios, providing training opportunities, fostering motivation among nursing staff, and ensuring the availability of standardized documentation formats. Efforts to address these factors can enhance the quality of nursing care documentation, ultimately contributing to improved patient outcomes and healthcare delivery. (Okaisu et al., 2014)

Conclusion

In conclusion, this systematic review and meta-analysis indicate that the pooled estimated prevalence of nurse documentation is 50%. Rigorous monitoring, evaluation, and oversight of national care documentation services are strongly recommended for all concerned bodies. The study also identifies factors such as the availability of nursing documentation formats, adequate nurse-patient ratios, motivation, and training as statistically associated with nurse documentation practices.

Therefore, it is imperative for all responsible bodies, including the Ministry of Health and other stakeholders, to take proactive measures. These measures should include providing comprehensive

training to nurses, implementing strategies to motivate nursing staff, ensuring the availability of adequate documentation formats, and maintaining the nurse-patient relationship. By addressing these factors, the quality of nursing care documentation can be significantly improved, leading to better patient outcomes and enhanced healthcare delivery

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