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Knowledge and Practice of Tabriz Teaching Hospitals' Nurses Regarding Nursing Documentation

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A B S T R A C T

Background: Nursing documents are vital for delivery of good and safe healthcare. Previous studies in Iran have shown that nursing documentation were inappropriate for evaluating patients' care but unfortunately not too many studies has examined the cause for this deficiency.
Objectives: To explore adequacy of nursing documentation and nurses' knowledge about the process.
Materials and Methods: The study was a cross-sectional study. The data were collected from 170 nurses who selected to participate in the study with census sampling method from 32 Medical-Surgical units at four university hospitals in Tabriz. For assessing the quality of nurses' documents, 2040 documents that were selected with simple random sampling were reviewed for content based on nursing process, legal accuracy, chronology and common items in flow sheets. Checklists were provided covering four areas: nursing records, drug interventions, vital sign and I & O of fluids. Nurses' knowledge were evaluated by prepared questionnaires. The instruments were evaluated for content validity. Estimation of inter- rater reliability was calculated for checklists and Kuder Richardson 21 was used for checking the reliability of nurses' knowledge questionnaire. Data was analyzed by SPSS software using One-way ANOVA and independent t test.
Results: The results showed that all of nursing records and vital sign flow sheets had average quality and insufficient information in legal accuracy, nursing care processes, and common items' sections in vital sign flow sheets but most of fluids I & O flow sheets (81.4%) and drug interventions (85.9%) had good quality; however some degree of deficiency was present in these two sections, too. Most participants (85.9%) had limited knowledge regarding nursing documentation process.
Conclusions: Considering deficiencies in various parts of nursing documents such as nursing care processes, legal accuracy and some common items in vital sign and I & O fluid flow sheets and considering the nurses' insufficient knowledge towards nursing documentation, further coaching of nurses and encouraging them to work towards better documentation is needed for resolving nursing documentation insufficiencies.

Keywords: Documentation; Nursing; Knowledge

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▸Implication for health policy/practice/research/medical education:
Evaluation of nurses' documents and their knowledge regarding documentation is very important, also it can function as feedback information for the managers at different levels to to prioritize enhancement of nursing documentation.

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1. Background

Nursing documentation is an important tool for evaluating the care provided by the caregivers and it emphasizes monitoring quality of health-care based on the patients' outcomes (1). Nursing documents can be used for: (i) Ensuring quality of care through communication (2); (ii) Furnishing legal evidence of the process and outcomes of care (3); (iii) Evaluation of the quality, efficiency and effectiveness of the patient care; (iv) Providing data for research, financial and ethical quality assurance purposes (v) Providing the infrastructure supporting development of nursing knowledge (4); (vi) Assisting in establishing benchmarks for the development of nursing education and standards of clinical practice (5, 6); (vii) Ensuring the appropriate reimbursement; (viii) Providing the data for future health-care planning (4); and (ix) Providing data for other purposes such as risk management, learning experience for students, protection of patients' rights (7). However if the nurses has not met standards in writing nursing documents, this can result in harm to the patient because important information regarding treatment and valuable observations can be overlooked. In addition, poor documentation may be used negatively by patients' attornies in lawsuits (4). Despite the obvious benefits high quality nursing documentation and troubles resulting of them being confusing, several studies have reported that nursing records are often incomplete, inappropriate and irregular (8). Mostly, nursing records do not describe the patients' problems and conditions (1). Nursing care, interventions and outcomes are not consistently written and nursing documents often show legal inaccuracies (7). The results of our literature review revealed that nurses usually did not have sufficient knowledge in this field (9). Nurses' ability to create nursing documentation is dependent on their knowledge. Knowledge plays a role in developing correct nursing diagnoses, care plans and documents' structure (7). Many studies found that nurses had insufficient knowledge for creating nursing documentation correctly (7, 10). Quality of nursing documentations have been studied for several years in Iran and most of them have reported that nursing documentations are often deficient and do not meet the determined objectives, although very few studies has examined factors associated with this problem such as nurses' knowledge. As understanding the quality of nursing documentations and factors determining it can provide accurate data for improving quality of documents, this study was conducted to explore the quality of nursing documentations and nurses' knowledge.

2. Objectives

The purpose of this study was to explore quality of nursing documents in four areas: nursing record, drug intervention, vital signs and fluid I & O according to the nursing care process, legal accuracy, chronology and common items in flow sheets. We also tried to survey nurses' knowledge towards nursing documentation.

3. Materials and Methods

A descriptive and retrospective approach was used in assessing nurses' documents and a cross-sectional descriptive method was used for collecting data about nurses' knowledge. All nurses working in medical-surgical wards of educational hospitals related to Tabriz university of medical sciences (N = 188) were selected to participate in the study with census sampling method (32 medical–surgical units at four university hospitals). Permission for assessing records was obtained from the medical director of the departments. The nurses were assured for anonymity by using code numbers in their documents and questionnaires. These data and code numbers were accessed only by researchers. In order to find out the needs to develop documentations in the context of nursing of patients in medical-surgical units, literature review was conducted. Results of the literatures review revealed four major research areas in the literature regarding nursing documentations in the context of nursing care of patients: 1. Nursing care process: this area was related to the nursing records, 2. Legal accuracy, 3. Chronology principles, which were related to all parts of nursing documents and 4. General issues present in vital signs and fluid I & O flow sheets. By considering these research areas for evaluating nursing documents, observation checklist was developed and was used to evaluate four types of documents: (i) Nursing record section with 27 items (ii) Vital sign flow sheet with 19 items (iii) Fluid I & O flow sheet with 18 items and (iv) Drug intervention section with 15 items. Each research areas included a specific number of evaluative criteria that were presented as questions relating to the presence or absence of an observable quality-related phenomena. Each question required a simple yes, no or 'not including' answer. The 'not including' answers were excluded in the scoring process. "Yes" answers obtained '1' score and "no" answers obtained '0' score. Range of score in four sections of nursing documents were: (0-27) in nursing record section, (0-19) in vital sign flow sheet section, (0-18) in I & O fluid flow sheet section, (0-15) in drug intervention section and range of total score for a nursing document was between 0-79. Data in all four sections of documents were divided to three levels (low, moderate and good) based on the obtained scores. In nursing record section, levels consisted of (0-9: low, 10-18: moderate, 19-27: good), in vital sign flow sheet section the three levels consisted of (0-6: low, 7-12: moderate, 13-19: good), three levels in I & O fluid flow sheet section consisted of (0-6: low, 7-12: moderate, 13-18: good) and drug intervention sections' three levels consisted of (0-5: low, 6-10: moderate, good: 11-15). Levels of total score of nursing documents were (0-26: low, 27-54: moderate, 55-79: good). The nurses' knowledge questionnaire contained 20 multiple choice questions for testing nurses' knowl-

edge of: nursing domains related to nursing process, legal accuracy, chronology, and accuracy of record keeping and significance of documentations. Range of score of nurses' knowledge was between 0-20. Nurses' knowledge was divided to three levels (low: 0-6, moderate: 7-13 and good: 14-20). The validity of these instruments were evaluated by 11 experts from nursing education and nursing services. Inter- rater reliability was evaluated for observation checklist that was calculated from the scores of two assessors who audited the same nursing documents. The reliability of the four parts: nursing records, vital sign, intake and output and drug interventions were %83, %94, %95 and %89, respectively. Kuder Richardson 21 were used for testing the reliability of nurses' knowledge questionnaire, which was calculated as 0.97. Thus, adequate reliability in all instruments was achieved. For gathering data about nurses' knowledge questionnaires were distributed among 170 nurses, were 95% of them agreed to take part in this study from 32 medical–surgical units at four university hospitals in Tabriz, Iran. They were asked to fill out the knowledge questionnaire about n 15–20 minutes in the hospital but they could fill out other questionnaires at home and return it later. All of participations returned it in a completed form. For collecting data about nurses' documents, 3 documents belonging to any of them in section were selected randomly, finally 2040 documents were surveyed by observation checklists in three months. The data from observation checklists and questionnaires were analyzed by descriptive statistics, obtaining frequencies and means. Data in four sections of documents and nurses' knowledge were divided to three levels (low, moderate and good level) based on obtained scores in each part as described. The computer program 'SPSS' version 11.5 was used for analysis. Independent t-test and ANOVA tests were used for finding correlation between parametric background data and quality of nursing documents. Statistically significant differences were assumed when $P < 0.05$.

4. Results

From total of 188 nurses in 32 medical–surgical units at four university hospitals in Tabriz, 170 of them agreed to take part in this study. Three documents belonging to any of them in each sections of documents (total 2040 documents) were randomly selected, and participated in this study. The nurses were mainly female (%87.6, n = 148), most of them (%61.2, n = 104) were married, their mean age was 31.38 years. %51.2 (n = 87) of them worked in surgical wards and almost all of them (%98.8, n = 168) had B.S (Bachelor of Science degree) in nursing (*Table 1*). (i) Surveying the nursing records showed that mean score of nursing records was 12.98 ± 1.78, i.e. most of them had moderate quality and insufficient data. In patients' assessment section, 77.1% of nursing records had insufficient information, 97.1% of them had incomplete data in nursing interventions section and 97.9% of them lacked planning and evaluation. In the legal accuracy section, 35.4% of nursing records were deficient. (ii) In the vital sign section, data showed that all of them had moderate level and their mean score were 10.69 ± 0.52. (iii) In I&O fluid section data showed that 18.6% of flow sheets had moderate quality but most of them 81.4% had suitable quality and their mean score were 13.24 ± 1.07. In chronology sections, all of flow sheets had suitable quality. (iv) In drug intervention part, mean score was 11.78 ± 1.42 and most (85.9%) of them had good quality. Surveying nurses' knowledge toward nursing documentation showed that majority of participants (85.4%) had moderate level of knowledge and insufficient information toward nursing documentation, their scores were between 7-13 and just (14.1%) of them had good knowledge for creating optimum nursing documents and their scores were between 14-20. In searching for correlation between background variables and quality of nursing documentations one way ANOVA and independent t-test were used. *Table 2* shows strongly positive correlations between ages, gender, ward type (medical or surgical), length of employment and nursing documentations' quality. Female and younger nurses and who had a mean of one to five years of nursing service practiced better nursing document writing and quality of documents in medical wards were better than surgical wards (*Table 2*).

Table 1. Demographic Data of the Participating Nurses

Background variables	Number	Percent (%)
Marital status		
Married	104	61.2
Single	65	38.2
Widow	1	0.6
Age, y		
22-32	116	68.2
33-42	43	25.3
43-52	11	6.5
Units		

Medical	87	51.2
Surgical	83	48.8
Degree		
B.S	168	98.8
M.S	2	0.2
Distribution of sex		
Male	148	87.6
Female	22	12.4
Length of employment, y		
1-5	97	49.7
6-10	50	25.6
11-15	17	8.7
16-20	19	9.8
21-25	6	3.1
26-30	6	3.1

Table 2. Results of Correlation Between Background Variables and Nursing Documentations' Quality [a]

	Mean ± SD	P
Marital status		0.63
Married	47.81 ± 4.42	
Single	48.38 ± 3.77	
Widow	49.87 ± 0	
Age, y		0.006
22-32	48.48 ± 4.02	
33-42	47.80 ± 4.17	
43-52	44.33 ± 4.13	
Length of employment, y		
1-5	49.24 ± 3.80	< 0.001
6-10	48.19 ± 3.87	
11-15	48.80 ± 4.65	
16-20	41.28 ± 3.02	
21-25	43.95 ± 4.71	
26-30	44.84 ± 3.79	
Gender		0.003
Male	43.46 ± 5.56	
Female	48.62 ± 3.48	
Units		< 0.001
Medical	49.53 ± 2.46	
Surgical	46.67 ± 4.92	
Degree		
B.S	48.05 ± 4.19	0.71
M.S	47.36 ± 2.02	

[a] t- test was used for comparison between two groups and ANOVA was used for comparing more than two groups

5. Discussion

The findings of this study showed that most of nursing records had moderate quality and insufficient information. Deficiency of information involved insufficient information about patients' assessment, nursing interventions, planning and evaluations; which all fall under the category of nursing care process. Findings of most other studies have also showed that nursing documents have inadequate information about nursing care process and are consistent with the findings of our study (11-13). Nursing care process started in the United States in the 1960s simultaneously with the documentation and categorization of nursing process (14) which is an important part of holistic health care. The advantage of the nursing process model from the standpoint of the documentation of nursing care is to provide a logical structure for the recording, which guides the nurse to systematically and purposefully document and it is a useful framework for organizing nursing care through assessing, diagnosing, planning, implementing and evaluating (15). This system has been implemented in the traditional model of documents in Iran. Traditional model involved data collection forms that led to chartings being repetitive and time-consuming; for example, medication data and vital signs were recorded on several different nursing data collection forms (3) and this can be one reason for the quality of documents being poor (4). Other deficiencies existing in nursing documents were legal inaccuracies similar to findings of Cheevakasemsook et al. 2006, Mungmool 1995. Legal inaccuracies make searching for information a hard and sometimes fruitless task (6), so it needs more attention.

In this study, most nurses' had inadequate knowledge regarding documentation which was insufficient in nursing process and continuity of chronology in document writing similar to the findings of Irwin et al. (2001) and Hanifi N and Mohamadi I (16). A finding of this study showed that the younger and female nurses who were usually younger than male nurses had better practice in writing nursing document. This is similar to the findings from the study of Hallajpoor (17) and Satarzade Pashabeig (18). It can be described by the fact that younger nurses had better knowledge towards nursing documentation because of their recent graduation. This finding is similar to Azimian's finding (19). Another finding of this study was that quality of nursing documentation in medical wards were better than surgical wards, consistent with the study of Ahmadi. Association between type of wards and nurses' practice in drafting documents may be described by the common style of each ward, which is also suggested by the study of Johnson et al. (20). Our study surveyed different aspects of the nursing documents and showed that nursing documents had deficiencies in nursing care process, legal accuracy and some general items in vital signs and fluid I & O flow sheets, such results can be used for further evaluations in the future, also it can function as an alarm to managers at different levels to prioritize the enhancing processes for nursing documents. Considering the moderate knowledge of nurses towards nursing documents, further coaching should be undertaken for improving nursing documents' quality and fulfilling its purpose of communicating care data and forming a basis for quality enhancement in healthcare.

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Authors' Contribution

AM and AR were responsible for the study conception; MJ performed the data collection; VZ performed the data analysis; MJ was responsible for the drafting of the manuscript.

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The authors declare no conflicts of interest.

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