**Received: 6 Apr. 2009** **Accepted: 13 May. 2009**

*Original Article*

# Quality of nursing documents in medical-surgical wards of teaching hospitals related to Tabriz University of Medical Sciences

*Ali Reza Mohajjel Aghdam*, Madineh Jasemi**, Farahnaz Abdullah zadeh*, Azad Rahmani***, Vahid Zaman zadeh*****

## Abstract

**BACKGROUND:** The aim of present study was to determine the quality of nursing documents in medical-surgical wards and factors affected this quality.

**METHODS**: In this descriptive study the quality of nurses' documents in medical-surgical wards of teaching hospitals related to Tabriz University of Medical Sciences was assessed. For data gathering, four checklists assessed four parts of nursing documents including: recording nursing report, recording medication treatment, recording vital sign assessment, and recording intake and output (I & O) of fluids were used. The validity of checklists assessed by content validity and the reliability of them calculated with inter-rater reliability. The study sample was including 170 nurses selected with simple random sampling. For each nurse, in four selected parts of documents, three documents were assessed in different times. Finally, in each part of documents 510 documents was assessed. For data analyze descriptive and inferential statistics was used.

**RESULTS**: The average age of nurses were 32.40 ± 5.58 years, 87.65% of them were female and 51.23% of them worked in surgical wards. 70.6% of nursing documents have a moderate quality and 29.4% of them have a good quality. Furthermore, the quality of females' documents were better than males' documents and the quality of surgical nurses' documents were better than medical nurses' documents.

**CONCLUSION**: The quality of nurses' documents in medical-surgical wards of teaching hospitals related to Tabriz University of Medical Sciences was acceptable. However, related to correlation of demographic factors with the quality of nurses' documents further investigation is needed.

**KEY WORDS**: Nursing record, documentation, nursing care.

IJNMR 2009; 14(2): 45-50

Nursing documents are recorded information regarding patients' problems and interventions that conducted for obviating these problems.[1] These documents are considered as a suitable written communication device.[2] Nursing documents have a basic role in improving and continuance of nursing and medical interventions provided for patients.[3] The main roles of nursing documents are transferring patients' information to other health team members, enhance professional autonomy,[4] critical thinking skills of nurses,[5] development of professional knowledge and nursing education.[4] But the most important role of nursing documents is the legal aspect of documentation, because the best witness to show health interventions provided for patients is a suitable and correct document.[3]

* MSc in Nursing Education, Instructor, School of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran.
** MSc Candidate in Nursing Education, School of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran.
*** PhD Candidate in Nursing Education, School of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran.
**** PhD in Nursing Education, Associate Professor, School of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran.
Correspondence to: Ali Reza Mohajjel Aghdam MSc.
E-mail: mohajjela@tbzmed.ac.ir
Research Article of Tabriz University of Medical Sciences, No: 87/7/18



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Today, nursing profession is more complex and specialized than last decades and the legal responsibility of nurses increased. Therefore, the smallest negligence in recording nursing cares may result in many legal problems for nurses. The statistics from developed countries showed that in 74% of cases the errors of health care providers reported to judicial authorities.[6] In Iran, statistics from 2001 to 2004 showed that 3.1% of health care providers' legal problems were related to nurses and in 51% of these cases the nurses recognized as offenders. Also, it should be noted that one main reason for this problem is an incorrect recording of cares.[7-9]

Unfortunately, in spite of the importance of nursing documentation, research reports from many countries showed that the nurses' performance regarding documentation of cares were weak.[10] For example, Cheevakasemsook et al reported that 41% of nursing documents have a low quality and in 50% of documents legal aspects didn't considered.[4] In another researches Darmer et al[10] and Bjorvell et al[11] approved the unsuitable quality of nursing documents. Regarding the quality of nursing documents, some researches conducted in Iran and showed the unsuitable quality of these documents. For example, Khodam et al showed that the quality of nurses' documents in Tehran hospitals was low.[3] Another study by Abadi and Kahooei showed that the quality of nursing documents in hospitals of Tehran and Golestan states was unsuitable.[12] In another study, Mashufi et al reported that medical records of Ardebil teaching hospitals were incomplete and didn't contain necessary information.[13]

So, because of notable role of nursing documents in improvement of patients' health and solving nurses' legal problems and emphasis of Iranian Nursing Association (INA) on improvement the quality of nursing documents, it is needed to extensive researches regarding the quality of Iranian nurses' documents and factors affected this quality. Furthermore, until now the quality of nurses' documents in teaching hospitals related to Tabriz University of Medical Sciences was not assessed. So, the aim of present study was to assess the quality of nurses' documents in medical-surgical wards of teaching hospitals related to Tabriz University of Medical Sciences and to recognize the factors affected the quality of these documents. The research questions are:

1) What is the quality of nurses' documents in medical-surgical wards of teaching hospitals related to Tabriz University of Medical Sciences?

2) What factors affected the quality of these nursing documents?

## Methods

In a descriptive study the quality of nurses' documents in medical-surgical wards of teaching hospitals related to Tabriz University of Medical Sciences was assessed. This research conducted in 2008. The study population included all nursing staff in five selected hospitals. Inclusion criteria for nurses were having at least 6 month clinical experience and having BS or higher degree in nursing and exclusion criterion was not consenting for participation in the study. The sample size estimated 170 nurses with pilot study. Then, these nurses selected to participate with stratified random sampling, according to the number of nursing staff employed in each hospital. Then, for assessing the quality of each nurse's documents, three recorded document of them, in four parts of nursing documents, was selected randomly and analyzed. For each nurse, these documents analyzed during two weeks. The demographic data of nurses obtained from their personnel dossier.

For assessing the quality of nursing documents four observational checklists were used. These checklists were assessed four parts of nursing documents including recording nursing report (27 items), recording vital sign assessment (19 items), recording medication treatment (15 items) and recording intake and output (I & O) of fluids (18 items). The validity of checklists was determined by content validity and after receiving commends from 10 nursing academic member checklists were revised. The reliability of checklists was determined by interrater reliability. The agreement coefficient for recording nursing report checklist was 83%, for



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recording vital sign checklist was 94%, for recording medication treatment checklist was 89%, and for recording I & O of fluids checklist was 95%. In each checklist, for each item, three choice including "recorded", "not recorded" and "not applicable" was determined. Thereafter, "not applicable" choices were deleted and score 1 gave to "recorded" choices and score zero gave to "not recorded" choices. Finally, the final scores of each nurse in selected documents were determined. For further investigation the quality of each nursing document classified as weak, moderate and good.

Data analysis was conducted by SPSS software (version 13.0). For assessing the quality of nurses' documents descriptive statistic including mean, standard deviation and frequency charts was used. In addition, for assessing the correlation between demographic characters of nurses and quality of their documents inferential statistic including chi-square test, spearman test, and independent t-test was used.

This study was approved by research committee of Tabriz University of Medical Sciences. Also, the ethical permission of this study was obtained from ethics committee of this university.

## Results

In this study the documents of 170 nurses were analyzed. The average age of nurses was 32.40 ± 5.58 years and they have a 6.40 ± 3.58 years clinical experience. Of all, 149 (87.6%) nurses were female and 168 (98.8%) of them has a BS degree in nursing. Eighty three (48.8%) nurses were working in medical wards and eighty seven of them (51.2%) were working in surgical wards.

In order to response to first question of the study table 1 was drawn. This table shows the quality of nursing documents in four selected parts of nursing documents including recording nursing report, recording vital sign assessment, recording medication treatment, and recording intake and output of fluids. This table shows that the quality of nurses' documents was moderate. Further investigation showed that most items that weren't recorded by nurses in recording nursing report part were including "recording the time of reports" (100%), "recording the response of patients to interventions" (97.9%) and "recording the time of nursing cares" (96.5%). In recording medication treatment part most items that weren't recorded were including "respect suitable method for correct errors" (40.6%) and other items were completely respected by nurses. In recording intake and output of fluids most items that weren't recorded were including "recording accurate time of checking I & O of fluids" (100%) and "recording the differences between the intake and output of fluids" (78.3%). In recording vital sign assessment part most items that weren't recorded were including "recording the location of controlling vital signs", "recording the unit of temperature", "the limb used for controlling the blood pressure" (100%) and "the unit of blood pressure" (97.1%).

**Table 1.** Nurses' documents quality in teaching hospitals related to Tabriz University of Medical Sciences

| | Nursing documents (Quantitative) | | Nursing documents (Qualitative) | | |
|---|---|---|---|---|---|
| | Mean | SD | Weak (%) | Moderate (%) | Good (%) |
| Recording nursing reports | 12.98 | 1.78 | 0 | 100 | 0 |
| Recording medication treatment | 11.78 | 1.42 | 0.6 | 13.5 | 85.9 |
| Recording I&O of fluids | 13.24 | 1.07 | 0 | 18.8 | 81.2 |
| Recording vital sign assessment | 10.69 | 0.52 | 0 | 100 | 0 |
| Total quality of documents | 12.46 | 0.70 | 0 | 70.6 | 29.4 |



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In order to respond to second question of the study the correlation between the qualities of nursing documents with some demographic characters of selected nurses were determined. For determining the correlation between sexes of nurses with the quality of their documents independent sample t-test was used. This test showed that the quality of females' documents was significantly better than males' documents (df = 168, t = -2.48, p = 0.01) (Figure 1). For determining the correlation between age and clinical experience of nurses with quality of their documents chi-square test was used. Results showed that there was no meaningful statistical correlation between qualities of nurses' documents with their age ($\chi^2 = 1.34$, df = 2, p = 0.51)

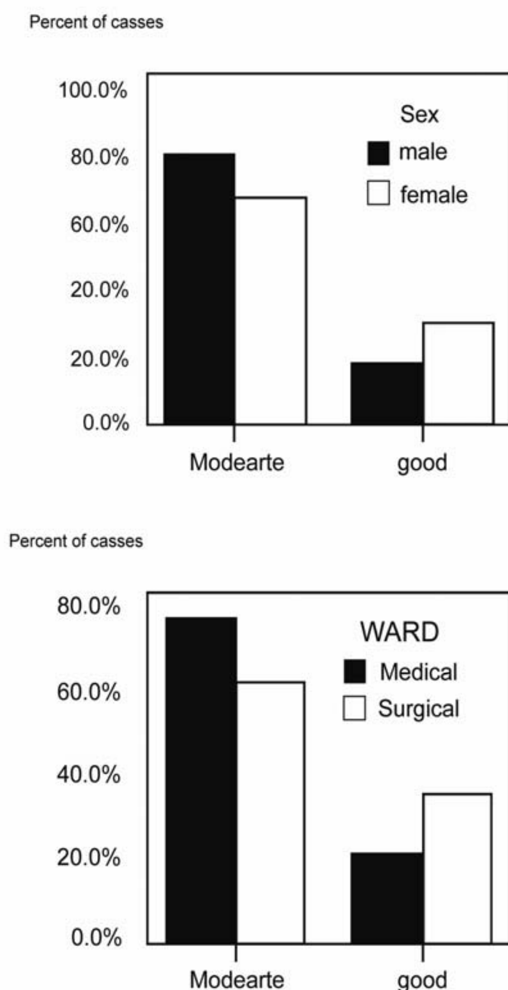


**Figure 1.** Quality of documentation according to sex and ward

and their clinical experience ($\chi^2 = 9.24$, df = 5, p = 0.10). Similarly, for determining the correlation between nurse's ward (medical or surgical) and quality of their documents, chi-square est was used. Results showed that there was meaningful statistical difference between the quality of medical and surgical nurses' documents ($\chi^2 = 4.66$, df = 1, p = 0.02) and the quality of surgical nurses' documents was better than medical nurses' (Figure 1).

## Discussion

The findings of present study showed that 70.6% of nursing documents, based on standard principles of nursing documentation, has a moderate quality and 29.4% of them has a good quality. Therefore, in response to first aim of study the quality of nurses' documents in educational hospitals related to Tabriz University of Medical Sciences was partly acceptable.

Regarding assessing the quality of nursing documents some studies were conducted in Iran and the results of these studies were inconsistent. In one study, Rangraz Jedi et al assessed the quality of 540 nursing documents and reported that only 11% of these documents didn't contain necessary information.[14] Likewise, Ariaei reported that all understudies nursing documents contain necessary information about nursing cares.[15] Therefore, these studies partly approved our findings and showed Iranian nurses' documents has a good quality. In other hand, Hanifi and Mohammadi assessed the quality of 30 medical records and reported that only 16.1% of nursing documents had a good quality and 35.8% of them didn't contain necessary information.[16] Cheevakasemsook et al analyzed the quality of 50 nursing documents and reported that 41% of documents have low quality.[4] The results of these studies don't approve our findings. The possible reasons for this discrepancy may include the different sample size of documents, different structure of checklists, different research methodology, and different assessed wards.

In recent years, Tabriz Nursing and Midwifery Faculty and Iranian Nursing Association conduct many seminars for nurses in Tabriz



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hospitals regarding nursing documentation. The results of present study showed that these seminars were successful and could improve the quality of nurses' documents. In other hand, in recent years the law of nursing tariff was approved by Iranian Islamic Parliament and one of the prerequisites for carrying out this law is good and accurate nursing document. Therefore, this research showed that nurses' documents in teaching hospitals related to Tabriz University of Medical Sciences have enough preparedness to carry out nursing tariff law.

In response to second aim of the study regarding the correlation between quality of nursing documents with nurses' demographic characters, findings showed that the quality of females' documents was better than males' documents and the quality of nurses' documents working in surgical wards was better than quality of nurses' documents working in medical wards. In pervious study, Hanifi and Mohammadi showed that there were meaningful statistical relation between quality of nurses' documents and the ward that they work in.[14] But, these findings need further investigation.

This research had some limitations. First, in spite of this fact that we didn't inform nurses about the aim of the study, but the attendance of researchers in the wards could stimulate nurses' curiosity and result in better quality of documents. Furthermore, in spite of this fact that for each nurse we assessed 12 documents (in four parts of documents), but the number of them may be few. So, we suggest that another studies must be conducted with better research methods and more sample sizes. In addition, there is need for further studies regard the correlation of demographic characters of nurses and the quality of their documents.

The authors declare that have no conflict of interest in this study and they have surveyed under the research ethics.

## Acknowledgment

This article is a result of MS thesis in nursing education approved by Nursing and Midwifery Faculty of Tabriz University of Medical Sciences entitled "the quality of nursing documents and viewpoints of nurses related to factors affecting it in selected medical-surgical wards of educational hospitals of Tabriz University of Medical Sciences, 2007". The writer of this thesis is Mrs. Madineh Jasemi, MS candidate in nursing education, and this thesis directed by Mr. Ali Reza Mohajjel Aghdam. Researchers thank the manager and matrons of selected educational hospitals and all dear nurses that participated in this study.

Also, this article is a result of research project that funded by research deputy of Tabriz University of Medical Sciences.

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