Original Article

Determining Objective Data Use in Intensive Care Patients' Nursing Records

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Abstract

Objective: This study aimed to determine objective data use in the nursing care plans and nursing notes of intensive care patients.
Methods: The sample of the study consists of nursing care plans and nursing notes of 228 patients. The data of the study were obtained through the investigation of the last year's intensive care patient records, which were generated by the nurses.
Results: It was found that the nurses wrote 798 nursing diagnoses for 228 patients, and in 67.3 percent of these diagnoses, objective data were not included.
Conclusions: It was concluded that the nurses do not reflect the objective data they stated in nursing notes to care plans. It is recommended that skills of the nurses must be increased, whether the nursing process efficiently managed and implemented in nursing care plans must be controlled.

Keywords: Care Plan, Nursing Diagnosis, Objective Data, Intensive Care Unit.

Introduction

Care is the reason of existence of the nursing profession and caring is worldwide considered as the core concept of nursing (Nightingale 1897, Watson 1985, 1988, Leininger 1988, Kapborg and Bertero 2003, Ranheim, Karner and Bertero 2011, Sapountzi-Krepia 2013, Can & Acaroglu, 2015). Today, in the health care services, individualized nursing care is aimed. Daily, accurate, and verifiable records kept by nurses, who aims to provide efficient care service, are used as measurement criteria for developing the care services (Ay, 2009; Altiok, Sengun & Ustun, 2011).

Nursing process used to ensure individual care is composed of five basic stages: data collection, diagnosis, planning, application, and assessment (Birol, 2009). Data collection stage of the process starts the moment the nurse sees the patient. The nurse collects various kinds of data, and classifies these data as subjective and objective. The nurse tries to transfer every data (s)he collected from the patient to objective data because objective data include the nurse's observation, medical exams and other kinds of medical data (lab tests or radiologic tests etc.), that collected from other health care professionals (Andsoy et al., 2013). Objective data are not influenced by the patients'

perception, and include the observations of the nurse. Therefore, objective data are the key data that are based on evidence (Birol, 2009). The nurse, basing upon the objective data, can-make nursing diagnoses related to the patients' problems, develops a care plan, applies initiatives that are developed unique to the patient, and evaluates the result (Muller-Staub et al., 2006; Machado Chianca et al., 2012).

Care plans developed by the nurses during the care process are the visible sides of the care applied to the patient. Likewise, nursing notes are another type of record, which needs to include objective data. Any uncertainty in these records may lead to interruption in the care process. In intensive care units, the possibility of the existence of this kind of uncertainty is unthinkable (Chulay & Burns, 2010). Intensive care units cater to patients with severe and life-threatening illnesses and injuries, and they are very important due to the vital conditions of the patient (Kumsar & Yilmaz, 2013). In intensive care units, critical care service is provided through various technologic devices, and care based on nursing records has crucial importance. Especially, nurses working at intensive care units are strictly required to obtain the records accurately and completely, and to transform these records to objective data (Terzi &Kaya, 2011, Korhan et al., 2015).

In the literature, there are certain studies investigating care plans (Ilce, Totur & Ozbayir, 2010; Sabanciogullari et al., 2011; Cinar Yucel et al., 2011; Serbest et al., 2013; Korhan et al., 2014, Castellan et al., 2016). However, to our knowledge, there is not a comprehensive study based on the use of objective data. Therefore, it is thought that the results of this study, which aims to determine objective data use, may contribute to the literature, create awareness among nurses, and provide guidance to other studies.

Aim of the Study

This study was done retrospectively and descriptively in order to determine the use of objective data in monitoring plans and maintenance plans of intensive care patients.

Methodology

Sample of the Study

From a private hospital in Istanbul, intensive care patients records generated by nurses between May 2012 and May 2013 were formed (N=418). The sample of the study was composed of 228 (54.5 percent) care plans and nursing notes, which were chosen according to the acceptance criteria, and taken from the hospital archive.

Acceptance criteria

The record must be belong to a patient taken to intensive care unit between May 2012 and May 2013, care plans and nursing notes, note must exist, and the record must be accessible and readable.

Measurement and Data Collection Procedures

Data Collection Form and Objective Data List were used in the data collection process.

Data Collection Form

This form consists of two parts: gender, age, medical diagnosis, time spent in intensive care unit, form of discharge, questions about whether objective data are available in the nursing notes and care plans, and 2009-2011 NANDA nursing diagnosis list, which was classified according to Gordon's Functional Health Patterns.

Objective Data List

Developed in the line with the literature and the most frequently used diagnoses by the nurses, this list was used for choosing objective data. The nursing diagnoses that are not available in the list were added according to the NANDA-I (The North American Nursing Diagnosis Association International) taxonomy (Carpenito-Moyet, 2010; Herdman & Kamitsuru, 2014).

Nursing care plans and notes of the patients were analyzed one by one in a room in the hospital, which is free from interruption, and recorded to the relevant forms.

Functional Health Patterns

It is a method devised by Marjory Gordon in 1982 in order to provide a more comprehensive bio-psychosocial assessment of the patient. In the model, individuals' needs are explained in 13 functional areas. These areas offer a framework for data collection, nursing diagnosis, and nursing care (Birol, 2009).

Data Analysis

SPSS 21.0 program was used for analysis, and descriptive statistics were calculated (mean, standard deviation, minimum, maximum, and ratios).

Table 1. Nursing Diagnoses Recorded to the Patient Files (N=798)

Functional Health Patterns	Nursing Diagnosis	n	%
Nutritional-Metabolic Pattern (n=74)	**Blood glucose variation**	10	1.3
	Risk of blood glucose variation	26	3.3
	Fluid-electrolyte imbalance	24	3.0
	Risk of fluid-electrolyte balance	6	0.8
	Fluid volume excess	4	0.5
	Nausea-Vomiting	2	0.3
	Risk of Nausea-Vomiting	2	0.3
	Nutritional Imbalance: Less than body requirements	1	0.1
Elimination (n=6)	**Constipation**	3	0.4
	Risk of Constipation	2	0.3
	Diarrhea	1	0.1
Activity–Exercise (n=140)	**Impaired Spontaneous Ventilation**	58	7.3
	Risk of Impaired Spontaneous Ventilation	8	1.0
	Ineffective Airway Clearance	10	1.3
	Hypertension	10	1.3
	Risk of Hypertension	11	1.4
	Hypotension	7	0.9
	Risk of Hypotension	8	1.0
	Risk of Hypotension-Hypertension	1	0.1
	Insufficiency in Individual Care	17	2.1
	Variation in Cardiac Output	3	0.4
	Risk of Variation in Cardiac Output	4	0.5
	Activity Intolerance	2	0.3
	Sleep disorder	1	0.1
Cognitive-Perceptual (n=54)	**Acute Confusion / Variation in Neurological Findings**	22	2.8
	Risk of Acute Confusion / Variation in Neurological Findings	26	3.3
	Impaired Verbal Communication	2	0.3
	Ineffective Communication	1	0.1

	Impaired Emotional Perception	2	0.3
	Lack of Information	1	0.1
Coping–Stress Tolerance (n=39)	**Risk of Anxiety**	20	2.5
	Anxiety	17	2.1
	Fear	2	0.3
Safety-Protection (n=404)	**Risk of Infection**	118	14.8
	Risk of infection transmission	5	0.6
	Risk of Bleeding	82	10.3
	Bleeding	17	2.1
	Risk of Impaired Oral Mucous Membrane	41	5.1
	Impaired Oral Mucous Membrane	4	0.5
	Impaired Skin Integrity	4	0.5
	Risk of Impaired Skin Integrity	21	2.6
	Risk of Impaired Tissue Perfusion	19	2.4
	Impaired Tissue Perfusion	1	0.1
	Risk for Falls	20	2.5
	Risk of Increased Intracranial Pressure Syndrome	17	2.1
	Risk of Allergic Response	14	1.8
	Risk of Barotrauma	7	0.9
	Convulsion	3	0.4
	Risk of Convulsion	5	0.6
	Hyperthermia	4	0.5
	Risk of Hyperthermia	3	0.4
	Aspiration	6	0.8
	Risk of Ventilator Associated Pneumonia	5	0.6
	Impaired Hemodynamics	3	0.4
	Risk of Impaired Hemodynamics	2	0.3
	Risk of Trauma	3	0.4
Comfort-Convenience (n=80)	**Pain**	54	6.8
	Risk of Pain	25	3.1
	Asthenia	1	0.1
	Total	798	100.0

Table 2. ***Classification of Objective Data (N=261)***

Objective Data Type	n	%
Qualitative Data	149	57.1
Quantitative Data	112	42.9
Total	261	100.0

Ethical Approval and Ethics of the Study

To conduct this study, written permission and approval were obtained both from the ethical board of a private university (ATADEK 2013-513), and from the board of the hospital, in which the data were collected. To conduct this study, written permission and approval were obtained both from the ethical board of a private university, and from the board of the hospital, in which the data were collected.

Results

A 59.2 percent (n=135) of the patient files examined belongs to men, 55.7 percent (n=127) of the records belongs to adults, and the average age is 46.2 ± 25.8 (minimum: 2, Maximum: 99). It was determined that 78.9 percent (n=180) of the intensive care unit patients were transferred within the hospital, and the patients were monitored in intensive care unit for $\bar{x}$4.56 days (average). It was found that majority of the patients (49.8 percent) stayed in intensive care unit were due to post-op care requirements.

It was seen that the nurses, through using NANDA-I nursing diagnoses list, which is grouped according to Gordon's Functional Health Patterns, wrote 798 diagnoses for 228 patients. Furthermore, 57.7 percent (n=448) of these diagnoses is nursing diagnosis, and 62.9 percent (n=489) is risk diagnosis.

The most frequently recorded diagnoses by the nurses were "Risk of infection (14.8 percent, n=118)", "Bleeding risk (10.3 percent, n=82)", "Impaired spontaneous ventilation (7.3 percent, n=58)", "Pain (6.8 percent, n=54)", and "Risk of impaired oral mucous membrane (5.1 percent, n=41)". It was determined that 50.6 percent (n=404) of the recorded nursing diagnoses, in accordance with Gordon's Functional Health Patterns, is related to "Safety-protection" activity (Table 1).

Only 32.7 percent (n=261) of the diagnoses includes objective data. It was found that the nurses grouped the objective data as qualitative data and quantitative data. In qualitative data, "diagnosis, finding, observation, position type, technical name, scale name, name of the laboratory investigation, and product name" were recorded to the maintenance plans.

On the other hand, in quantitative data, "quantity, amount, number, and time" were recorded to the care plans (Table 2). Moreover, it was found that objective data, which were not included in the care plan, were included in the notes more (49.9 percent). Furthermore, it was found that the nurses stated the improvements related to the diagnoses they recorded to the notes, however, they do not reflect these improvements to the care plans.

Discussion

Intensive care patients are special patients with multiply medical problems (Paans & Muller-Staub, 2015). In intensive care units, in which there is a battle of life, nursing care plays an important role (Terzi & Kaya, 201).

Detecting the problems of the patients, offering solutions, and providing individualized patient care can only be possible if the nurse knows the patient very well. It is necessary that the nurse should use the nursing process and record the every data she gets to the nursing notes and care plan in order to get to know the patient better and provide more holistic care (Thoroddsen, Ehnfors & Ehrenberg, 2011).

Today, nurses upload the every data they get to the electronic environment; however, this is not the case for the care plans (Salgodo & Machado Chianca, 2011). Moreover, potential problems that may occur in intensive care units, medical interventions or changes are not represented in the electronic environment sufficiently as well.

Still, many hospitals use written records in their intensive care unit, including this hospital, in which this study was done.

In the study, it was found that the nurses determined 798 diagnoses for 228 patients. The most frequently indicated diagnoses used by the nurses are "Risk of infection", "Bleeding risk", "Impaired spontaneous ventilation", "Pain", and "Risk of impairment in oral mucous membrane (Table 1). In their study about the care plans of patients, Korhan et al. (2015); found the most frequently used diagnoses as "Lack of information (89.5 percent)", "Risk of infection (85.9 percent)", "Insufficiency in the individual care (43.7 percent)", "Falls (31.8 percent)", and "Bleeding risk (31.0 percent)". In this study, different from Korhan et. al. (2015), "Insufficiency in the individual care (2.1 percent, n: 017)", "Risk for falls (2.5 percent, n=20)", and "Lack of information (0.1 percent, n=1)" were found to be relatively lower.

In another study done with intensive care patients, diagnoses of "Insufficiency in the individual care", "Infection risk", and "Risk of constipation" were found (Salgodo & Machado Chianca, 2011). In this study, "Risk of constipation (0.3 percent, n=2)" was found to be relatively lower. Therefore, considering the studies above, including this our study, it could be said that "Risk of infection" is found to be the most frequently noted diagnosis.

Intensive care patients have various types of problems. When the nursing diagnoses recorded by the nurses were examined in terms of NANDA-I diagnosis list of Gordon's Functional Health Patterns, it was seen that the nurses used seven nursing patterns (Table 1). Cinar Yucel et al. (2011) found that eight patterns were used in the nursing diagnoses of mechanical ventilation patients monitored in intensive care units. In a similar vein, Korhan et. al. (2014) also found that the nurses used eight patterns.

In this study, it was determined that the nurses did not include the nursing patterns of "Health promotion", "Self perception", "Role relationship", "Sexuality", "Life principles" and "Growth and development". In the literature, similar to the results of this study, it is possible to find studies, which do not focus on the patterns indicated above (Serbest et al., 2013; Korhan et al., 2015; Paans & Muller-Staub, 2015; Melo, Albuquerque & Araqao; 2012). Specifically, "Sexuality" pattern is generally ignored; however, it might be reasonable to argue that the reason behind ignoring "Sexuality" is related to the sample of the study, namely intensive care patients, whom essential needs are based on prioritized physical problems.

It is crucial that intensive care nurses transform subjective data to objective data. Accordingly, it was seen that only in 261 diagnoses of 798 included objective data, and 57.1 percent (n=149) was recorded as qualitative, whereas 42.9 percent (n=112) was recorded as quantitative (Table 2). Serbest et al. (2013), in their study, which focused on determining the use of nursing diagnoses in inpatients' care plans, found the existence of descriptive diagnoses as 2.5 percent.

When the areas of objective data use are examined, it was seen that the nurses give place to objective data in the nursing notes (49.9 percent). Furthermore, it was found that the nurses stated the developments related to the diagnoses they recorded to the notes; however, they do not state these developments to the care plans.

It is though that since the nurses may not use the nursing process completely, they may still have troubles, and they might not use the taxonomy related to lack of information. Thus, the problems related to the using and putting into practice of the nursing process are still present. The recent studies in the literature also support this situation (Avsar, 2014).

Conclusion

In conclusion, it is clear that the nurses do not include the objective data in the care plans, which show the care quality of a nurse, and the problems related to the nursing process are still present. In this sense, it is recommended that the skills of the nurses must be increased, educations must be planned according to the nursing processes, applications related to NANDA-I taxonomy must be increased, and whether the nursing process efficiently managed and implemented in care plans must be controlled.

The curriculum of nursing education must be organized in order to develop and structure these practices. If these problems are solved, nurses will be more likely to include objective data in the maintenance plans properly, and the quality of the care given will be measureable and visible.

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