Knowledge and Attitudes of Nurses toward the Use of Nursing Diagnosis in Clinical Practice

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Abstract: The study is aimed at evaluating the knowledge, perceptions, difficulties, and advantages associated with the use of Nursing Diagnosis (ND) in clinical practice by nurses. A cross – sectional study was conducted in April 2017 at Vlore Regional Hospital, Albania and included 43 nurses. For the data collection, an anonymous self-administered questionnaire was used. The Likert 1-5 rating scale was used for scoring the answers, 1-not difficult/small advantage and 5-very difficult/big advantage. Values of $p \leq 0.05$ were considered statistically significant. 51.16% of participants were women, mean of age 32 years, $SD \pm 7.17$. A statistical association was found between the use of ND and the practice setting, $p = 0.0394$. Knowledge about ND is gained through work or during studies. The use of ND was requested at work (60.47%) and 53.49% of nurses refer not to use it. The perceived difficulties are higher in female nurses (2.5), while nurses who use ND reported that the difficulties are related to lack of time and an understandable language. The maximum average score (4.0) for the benefits of using in function of improving and promoting nursing care with clinical standards were higher in male nurses. Among ND cited by nurses gaps in knowledge and confusion with medical diagnosis were identified. Findings suggest that improving clinical nursing practice through increased continuing education of nursing staff and improving curricula for ND can influence the proper use of ND, with a significant impact on the quality of care provided.

Keywords: *nursing diagnosis; practice; knowledge; difficulty; advantages; use; care.*

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Introduction

The distinguishing characteristic of a professional nurse is the ability to make judgments. A professional nurse assesses a situation and makes decisions regarding the best course of action to solve a problem. These decisions and actions are based on a body of knowledge, and their implementation requires cognitive and psychomotor skills (Seifert & Grandusky, 1990). The nursing process has been used for over 25 years as a systematic approach to nursing practice. The process is an efficient and effective method for organizing nursing knowledge and clinical decision making in providing planned client care. Although it has been undergoing constant re-evaluation and revision, the concepts within the process still remain central to nursing practice (Doenges & Moorhouse, 2013). Worldwide, the nursing process is taught to nursing students in the first year of studies. Different countries use different formats of nursing process. In England, the nursing process comprises four steps: assessment / identification, planning, implementation, and evaluation. In the United States, the nursing process comprises five steps: **assessment, diagnosis, planning, implementation, and evaluation** (Ahtisham, 2017).

At the Faculty of Public Health, the University of Vlora "Ismail Qemali" the nursing study programs use the nursing process format with five-steps and Nursing Diagnosis is the second step of this process (Emirjona, Rezarta, Rudina, Denada, 2015; Kamberi, 2018). Nursing diagnosis's goal is to effectively communicate the patient's care needs among the care team members and within the healthcare delivery system. Although the term nursing diagnosis can carry many meanings, in fact it is a definition of nursing process (Sparks Ralph & Taylor, 2011). In recent decades nursing diagnosis definitions have evolved. According to North American Nursing Diagnosis Association-International (NANDA-I), the nursing diagnosis is a "*clinical judgment about individual, family, or community responses to actual or potential health problems/life processes. A nursing diagnosis provides the basis for selection of nursing interventions to achieve outcomes for which the nurse is accountable*" (NANDA, 1995). Studies have shown that the use of nursing diagnosis have a great potential to predict patient and organizational outcomes. In addition, the systematic use of nursing diagnoses in clinical practice, as well as the sharing of high-quality nursing data in large databases, may provide a considerable boost to the contribution of nursing to healthcare outcomes (Sanson, Vellone, Kangasniemi, Alvaro, & D'Agostino, 2017). Studies have shown that the application of nursing diagnosis to clinical practice has been performed efficiently in various health care departments and that the value

of using nursing diagnosis in practice has proven to be as diverse as the improvement of nursing practice documentation and the improving of nursing care and communication across hospital departments as well as greater professionalism and responsibility (Novotny-Dinsdale, 1985). Also, the implementation of a standardized language on nursing care plans, through the use of nursing diagnosis, enables increased efficiency in managing nursing data (Cardenas-Valladolid et al., 2012). In addition, the use of nursing diagnosis in clinical practice is valuable for many reasons. Nursing diagnosis is the basis of nursing care plans. Also, nursing diagnosis aims or describes the expected outcomes / objectives and nursing interventions needed to meet these objectives. A well-defined nursing diagnosis evaluates patient progress and simpler problem solving. In addition, written nursing care plans are in the benefit of the patient by providing him with stable nursing care (Carpenito-Moyet, 2013).

One study showed that nursing staff who use nursing diagnoses in clinical practice provided more qualitative and economic care compared to nursing staff who do not use them (Whitley & Gulanick, 1996). Despite the benefits of the use of nursing diagnosis in clinical practice, the studies have identified many barriers to their implementation in practice, ranging from limited continuing education, lack of motivation to learn or nurses difficulties in adapting to the use of its (Paans, Nieweg, van der Schans, & Sermeus, 2011).

Aim

The study aimed to assess the knowledge, perceptions, and attitudes of nurses' about the use of nursing diagnosis in clinical practice as well as identifying the difficulties encountered in its use in practice.

Methods

Design

A cross – sectional study.

Sample

The study was conducted in April 2017 in the city of Vlore, Albania. The study population was 43 nurses of Vlore Regional Hospital, which were randomly selected on the day when the questionnaire for data collection was distributed. The study included nurses from all departments of the hospital and only those who were at work on the day when the questionnaire was distributed.

Data Collection Tool

A standard questionnaire was used for the data collection based on the literature review on nursing diagnosis. The questionnaire was anonymous, self-administered and in addition to the section of socio-demographic characteristics contained other three sections, the section that assessed the knowledge, the section of perceptions and attitudes as well as the section of the difficulties and the advantages of using the nursing diagnosis in clinical practice. The response alternatives for the perception, difficulty, and advantage section were scored based on 5-point Likert scale from 1 (not hard/small advantage) to 5 (very difficult/great advantage).

Data Analysis

Statistical analysis was performed by the statistical program EpiInfo™ 7 software version 7.1.3.10 (CD-C Epi Info™) and included descriptive statistics, averages and confidence interval. The values of $p \leq 0.05$ were considered statistically significant.

Results

The final analysis included 43 nurses of Vlore City Regional Hospital. 51.16% of participants were women, mean age was 32 years, $SD \pm 7.17$. The most frequent educational level was the bachelor in nursing and professional/scientific master respectively 39.53% and 37.21%. With less than 5 years of time of employment were 55.81% of nurses in the study, while the participation from surgery and pathology department was in the same percentage, (27.91). Statistical correlation was identified between the actual use of nursing diagnosis and current practice setting, $p = 0.0394$. Among the other characteristics of the participants and the use of ND in practice, no statistical association was found. The average number of patients for whom nurses took care per day was 13, Table 1.

Table 1. Characteristics of the participants in the study (n=43)

Variable	N	%	95% CI [Lower-Upper]	Current use of ND in practice P values
Gender				
Female	22	51.16	[35.46-66.69]	0.7625
Male	21	48.84	[33.31-64.54]	
Educational level				
Bachelor's degree	17	39.53	[24.98-55.59]	0.6142
Professional Degree	10	23.26	[11.76-38.63]	

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Professional / Scientific Master	16	37.21	[22.98-53.27]				
Time of employment							
-5 years	24	55.81	[39.88-70.92]	0.404			
-10 years	10	23.26	[11.76-38.63]				
>10 yeras	9	20.93	[10.04-36.04]				
Current practice setting				0.0394			
Infectious diseases unit	2	4.65	[0.57-15.81]				
Surgery	12	27.91	[15.33-43.67]				
Maternity	3	6.98	[1.46-19.06]				
Pathology	12	27.91	[15.33-43.67]				
Intensive care	8	18.60	[8.39-33.40]				
Emergency	6	13.95	[5.30-27.93]				
Age characteristics n=43	Obs	Mean	Std Dev	Min	Median	Max	Mode
	43	32	7.17	22	30	57	30
The average number of patients for whom nurses took care per day	43	13.13	7.36	4	10	30	10

Table 2 shows knowledge of nurses about ND. Most of them (95.94%) refer to having knowledge of ND and that the knowledge was gained either in work / of different type of training, or during nursing studies. In general, the use of ND was required during clinical practice at work (60.47%) and less during the professional practice or as nursing students. Meanwhile, 46.51% of nurses refer that currently use ND in clinical practice.

Table 2. Knowledge of Nursing Diagnosis (ND)

Variable	n	%
Knowledge of Nursing Diagnosis		
Yes	39	95.94
No	4	4.76
If Yes, from whom you gained this knowledge		
At work or various training	29	67.44
Program of Nursing High School	27	62.79
In which past roles was it an expectation that you diagnose patient problems using nursing diagnoses		
In at least one practice setting as a nurse practitioner	26	60.47
In at least one practice setting during the professional practice	11	25.58
As a nursing student	9	20.93
None	5	11.63
Do you use nursing diagnoses in your current clinical practice		
Yes	20	46.51
No	23	53.49

Possible perceived nursing difficulties/barriers with regard to the use of ND in clinical practice are presented in Table 3. Categorization is performed by gender and results note that female nursing staff perceives higher degree of difficulty/barriers for almost all variables studied as the average score for female nurses is about 2.5 and for male nurses is about 1.7.

Table 3. The perceived difficulties/barriers for the use of ND in clinical practice

Variable	Gender*	Means	SD**
Perceived difficulties due to the lack of knowledge of nursing diagnoses	F M	2.384 1.714	±1.3253 ±1.069
Perceived difficulties due to the lack of time	F M	2.5385 1.8571	±1.3914 ±1.0995
Perceived difficulties due to the lack of administrative support	F M	2.6923 1.9286	±1.6013 ±1.2688
Perceived difficulties due to the lack of physician support	F M	2.6154 2	±1.8046 ±1.3587
Perceived difficulties due to the lack of peers (nurse) support	F M	2.6923 1.8571	±1.4936 ±1.0995
Perceived difficulties due to the lack of co-workers support	F M	2.7692 1.9286	±1.4233 ±1.2067
Perceived difficulties due to the lack of clarity of nursing diagnosis language	F M	2.7692 1.571	±1.4233 ±0.8516
Perceived difficulties due to the lack of reimbursement for the use of nursing diagnoses	F M	2.3846 1.8571	±1.3868 ±1.3506

*F= female, M= male;** Standard Deviation

Table 4 shows the frequency of the use of ND in practice and the most frequent nursing diagnosis used. It is noted that 40% of nurses use ND on less than 10% of their patients, meanwhile only 16% of nurses refer to use nursing diagnosis for all their patients. The two most frequently used diagnosis were cited by nurses themselves, and their categorization is done with the Correct / Wrong definition (C/W).

Table 4. Frequency of use of ND in practice and most used ND

Variable	N (%)	95% CI [Lower-Upper]
For what percentage of patients do you use nursing diagnosis		
<10%	10 (40.00)	[21.13-61.33]
11-25%	5 (20.00)	[6.83-40.70]
26-50%	5 (20.00)	[6.83-40.70]
	4 (16.00)	[4.54-36.08]

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75% 100%	1 (4.00)	[0.10-20.35]
The most nursing diagnosis used, cited by nurses (n=43)	N %	Definition Correct/Wrong
<ul style="list-style-type: none"> — high blood pressure — femur fracture — abdominal pain from vomiting — contusion — woman at the end of pregnancy — gastrointestinal bleeding — acute appendicitis — prolonged febrile condition — inability to communicate due to loss of consciousness — medication of saturated wound — vesicle catheterization — pain due to surgery — cleaning and wound care — hand pain due to fracture — evaluation of the overall condition of the patient with gastrointestinal bleeding 	1 (2.5)	<ul style="list-style-type: none"> W W C W W W C C W W C W C W
<ul style="list-style-type: none"> — nursing care to apply the therapy at the right time — headache due to contusion — angina pectoris 	5 (5.00)	<ul style="list-style-type: none"> W C W
<ul style="list-style-type: none"> — hypoglycemia — monitoring of vital signs 	3 (7.5)	<ul style="list-style-type: none"> W W
— no cited diagnosis	13 (32.5)	-
Variable	N %	Definition Correct/Wrong
<ul style="list-style-type: none"> — calculus of gallbladder — administration of oxygen — 39-40 weeks pregnant woman with podalic presentation — orthostatic hypotension — diarrhea and high fever — elevated blood pressure with increased heart rate — inability to move due to damage to coxofemoral articulation — high temperature due to urinary infections — sedatives injection — disruption of comfort due a fracture — postoperative pain management 	1 (2.44)	<ul style="list-style-type: none"> W W W W C W C C W C W W

— pulmonary edema		
— nursing care in the patient's enteral nutrition	2 (4.88	W
— cerebrovascular accident		W
— no cited diagnosis	13 (31.71)	-

Real difficulties encountered in clinical practice for the use of ND are shown in Table 5.

Table 5. The real difficulties encountered in using ND in clinical practice

Variables	Gender*	Means	SD**
Difficulties due to the lack of knowledge of nursing diagnoses	F	2.5283	±1.504
	M	1.333	±1.6228
Difficulties due to the lack of time	F	2.8571	±1.526
	M	2.5238	±1.4007
Difficulties due to the lack of administrative support	F	2.619	±1.3956
	M	2.4286	±1.4343
Difficulties due to the lack of physician support	F	2.4762	±1.3645
	M	2.1905	±1.569
Difficulties due to the lack of peers (nurse) support	F	2.7143	±1.3836
	M	2.0952	±1.4108
Difficulties due to the lack of co-worker support	F	2.6667	±1.4944
	M	2.0476	±1.322
Difficulties due to the lack of clarity of nursing diagnosis language	F	3.0476	±1.322
	M	2.619	±1.6576
Difficulties due to the lack of reimbursement for the use of nursing diagnoses	F	3.3684	±1.4985
	M	2.8921	±1.7006

*F= female, M= male;** Standard Deviation

Table 6 presents the advantages of using ND in clinical practice. The highest mean scores are evidenced by male nurses with 4 points, while for women prevails scoring 3.5.

Table 6. The advantages of using nursing diagnoses in your practice settings

Variable	Gender*	Means	SD**
Improve use of nursing process	F	3.590	±1.3683
	M	4.1429	±1.1084
Promotes nursing care which meets standards of practice	F	3.7727	±1.1925
	M	4.0952	±1.1792
Fosters more holistic, client-centered care	F	3.6818	±1.1705
	M	4.0952	±0.9437
Defines scope and realm of nursing practice	F	3.8182	±1.2203
	M	4.0952	±1.0443

*F= female, M= male;** Standard Deviation

Discussions

The study results refer to the lack of statistical relationship between socio-demographic characteristics of the nurses in the study and current use of ND in clinical practice, Table 1. The statistical analysis shows a statistically significant link between the current practice settings and the use of ND, $p = 0.0394$. Nursing diagnosis was used more often in intensive care and department of pathology and less in surgery and emergency departments. The systematic review of literature, which included around 24 studies, showed that the factors that most influenced the use and documentation of the nursing diagnosis in practice were the nursing education level, the patient's condition, and the department (Whitley & Gulanick, 1996). In addition, the results of our study are inconsistent with the literature as ND was less used in the emergency department while an experimental study found that the use of ND in emergency is effective and has a real impact on the quality of patient care (Novotny-Dinsdale, 1985). Table 2 shows that nurses are knowledgeable about ND and this knowledge is gained equally at work and during nursing studies cycle. They used ND less as students and during professional practice and more during clinical practice at work. The percentage of nurses who used the ND was about 54%. Studies have addressed the lack of integration of the nursing process and diagnoses in learning experiences, while students spend hours studying to create care plans with little critical thinking that do not promote the use of nursing diagnosis by nursing students when they are at work (Carpenito-Moyet, 2010). The perceived difficulties of using ND in clinical practice were higher in female nurses than in males. The average score, referring to the results of Table 3, was 2.5 for females and 1.6 for males. Perceived difficulties due to the lack of clarity of nursing diagnosis language and co-worker support displayed the average maximum score of 2.7692 for this section. Studies have shown that if there is an understandable language and if the structures of nursing care plans and diagnoses are clear, they are perceived positively by nurses. While, discussions about nursing diagnoses among nurses are almost absent (Håkans, 2012). If we refer to Table 4, we note that only a small percentage of nurses use nursing diagnosis in practice, while among the 34 most frequently used ND cited only 9 were correct. In addition 33 % of nurses did not cite any diagnoses. This part of the study identifies a significant lack of nurses' knowledge about the concept of nursing diagnosis. Nursing diagnoses cited express either action / nursing interventions, medical diagnoses or symptoms and are not at all consistent with the definition of the nursing diagnosis (NANDA, 1995; Sparks Ralph & Taylor,

2011). Correct cited nursing diagnoses were about pain, hyperthermia, and comfort. The results differ, compared with a study that evaluated the use of nursing diagnosis in practice in which about 15% of nurses use nursing diagnoses pertaining to education / health promotion as care for lifestyle and daily life problems (Martin, 1995). If we refer to Table 5, we note that the difficulties encountered in using ND in practice have a higher score for female nurses than men. The highest average score for real difficulties encountered in using ND in clinical practice is related to lack of time, the lack of peers (nurse) and co-worker support. The lack of clarity of nursing diagnosis language and the lack of reimbursement for the use of nursing diagnoses represents the highest scoring average of real difficulties, 3.0476 and 3.3684 respectively. Despite the use of approved institution terminology for nursing diagnoses, other studies identified lack of continuing education for the implementation of nursing diagnoses in practice as well as the lack of motivation on the part of nurses themselves (Shifaza, Evans, & Bradley, 2014). Another study highlighted the same barriers as our study such as lack of time, while support, encouragement and evaluation by the institution served as facilitators for the application of evidence-based practice (Martin, 1995). From Table 6 it is noted that the advantages of use ND in practice have the highest average maximum score among male than female nurses, respectively 4.0 and 3.5. Advantages of using ND in clinical practice are more closely related to improving the use of nursing process and promoting a standard clinical nursing care focusing on the patient, making the goal of care more realistic. These nursing perceptions in the study are similar to other studies that have shown that the benefits of using nursing diagnosis are numerous, such as the fact that nursing diagnosis clearly express the individual needs of patients by enabling and conducting specific nursing interventions. Also, the use of nursing diagnosis in clinical practice facilitates peer communication in relation to care issues by promoting continuity in care and time saving. Another advantage of using the nursing diagnosis in clinical practice is related to promoting critical thinking in view of the continuing professional development of nurses (Johnson, Edward, & Giandinoto, 2017). The systematic literature review study found that the advantages of using a standardized nursing language, which is made possible through the use of nursing diagnosis in clinical practice, is essential for the successful integration of nursing care documentation with modern methods of care such as electronic records (Axelsson, Björvell, Mattiasson, & Randers, 2006).

Implications for practice

Small sample can be considered as one of the study's limitations, as the results cannot be generalized for all nurses. It is suggested to repeat the study in the largest population with extension to other regional hospitals of neighboring cities like the cities of Fier, Saranda and Gjirokastra.

Consideration of other issues that could identify the implementation barriers of nursing diagnosis in clinical practice in different departments of health care is another implication. The design of a standardized instrument for the validity and reliability of knowledge, needs and effects of the use of nursing diagnosis in clinical practice **would** be very useful.

Conclusions

Although a significant portion of nurses in the study refer to have knowledge of nursing diagnosis and are aware of the advantages of its use in clinical practice, the citation of the most commonly used nursing diagnoses by nurses evidenced that the nurses' knowledge was found to be incorrect, since cited information on diagnoses indicated actions, interventions or medical diagnoses. The results of the study suggest that the participation of nurses in educational programs in order to increase their ability to use nursing diagnosis in practice and the exploration of the reasons for the use of diagnosis process improves the quality of care provided.

Ethical aspects and conflict of interest

The ethical permission was provided by the Faculty of Public Health, University of Vlore "Ismail Qemali", Prot. No. 4, date 19.01.2017 and Vlore Regional Hospital, Prot. No.393, date 25.01.2017. Apart from institutional permits from each nurse was provided oral consent, after prior information to the purposes and objectives of the study. The authors are unaware of any conflict of interest.

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