

Determination of perception levels of student nurses about nursing diagnosis

Cigdem Gamze Ozkan¹, Yeter Kurt², Kadriye Ozkol Kilinc³, Esra Caylak Altun⁴, Havva Ozturk⁵

Abstract

Objective: To determine perception levels of student nurses about nursing diagnosis.

Method: The descriptive, comparative, cross-sectional study was conducted at the Nursing Department, Faculty of Health Sciences, Karadeniz Technical University, Trabzon, Turkey, in December 2015, and comprised nursing students studying in the 2nd, 3rd and 4th grades. Data was collected using a personal information form and the Perceptions of Nursing Diagnosis Survey. Data was analysed using SPSS 18.

Results: Of the 386 students, 317(82%) were female and 321(83%) considered themselves competent enough to make diagnosis. Also, 268(69%) students thought that nursing diagnosis was useful in providing planned, correct and systemised diagnosis. Mean total score of perception of nursing diagnosis of female students was higher than males ($p=0.005$).

Conclusion: The students' perception level of nursing diagnosis was positive.

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Introduction

The academic experience of nursing students provides the foundation for nursing professionalism. The nursing terms and terminology that are taught contribute to the development of the students' professional perception of nursing. Therefore, it is important during the nursing education process to explore the necessity and practicability of the terminologies taught as well as how nurses perceive their own nursing competence. For example, the use and implementation of diagnoses depends on whether nurses perceive nursing diagnoses positively or negatively.¹ This is because nursing diagnoses are an integral part of the nursing process, contributing to nursing knowledge and practice.²

Nursing diagnoses are critical in professional nursing care, as nurses are responsible for selecting and executing nursing interventions. Additionally, a nursing diagnosis can provide the basis for targeted results.³ Using standard terminology to determine and explain nursing diagnosis improves communication between nurses and members of other healthcare teams, and supports continued patient care. It also facilitates documenting patient care and outcomes, and makes nursing practices visible and tangible.⁴ Therefore, the positive perception of the nursing diagnosis has a positive effect on the detection of patients' problems, patient treatment plans, and overall patient care.^{3,5} The fact that nurses perceive the meanings of nursing diagnoses, the value of using them and their contribution to the application in different ways together

means that the use of nursing diagnoses and common diagnostic terminology will also affect the methods considered universal in patient care planning.¹

Some studies have reported that nursing students do not notice the significance of using nursing diagnoses in clinical practice. Nursing students occasionally record medical diagnoses and focus on medical problems instead of nursing diagnoses and nursing interventions, and are unable to differentiate nursing problems from other problems.⁶⁻⁹ In Turkey, there are few studies regarding nursing students' practice of nursing diagnoses or nursing students' perceptions of nursing diagnoses.

Nursing students are more likely to use nursing diagnoses after graduation only if they develop a positive perception of nursing diagnoses through their schooling. Therefore, nursing student education should include the beliefs, understanding, and competency perceptions of the nursing diagnosis process.

The current study was planned to determine perception levels of student nurses about nursing diagnosis.

Subjects and Methods

The comparative, cross-sectional descriptive study was conducted at the Nursing Department, Faculty of Health Sciences, Karadeniz Technical University, Trabzon, Turkey, in December 2015. After approval from the institutional ethics review board, all nursing students in the 2nd, 3rd, and 4th years of their professional studies who could speak and understand Turkish and had no communication problems were targeted.

After taking informed consent from the subjects, data was collected using a personal information form (PIF) and the Perceptions of Nursing Diagnosis Survey (PNDS).

^{1-3,5}Department of Fundamentals and Management of Nursing, Karadeniz Technical University, Trabzon, Turkey; ⁴Department of Fundamentals and Management of Nursing, Tokat Gaziosmanpaşa University, Trabzon, Turkey.

Correspondence: Esra Caylak Altun. e-mail: esracaylak86@gmail.com

PIF was developed in the light of literature^{1,2,6,9} and included a total of 12 questions addressing the students' socio-demographic characteristics, like age, grade, gender, and academic background, and their perceptions about nursing diagnoses, like reason for choosing the nursing profession, having heard "nursing diagnosis" before nursing education, considering themselves competent enough to make nursing diagnosis, making correct nursing diagnosis in nursing care, considering NANDA-I nursing diagnoses necessary, use of nursing diagnoses produce a correct, planned and systemised care, use of nursing diagnoses was not a waste of time, use of nursing diagnoses provided holistic care, and use of nursing diagnoses was useful in practice.

PNDS10 was adapted to Turkish environment along with validity and reliability.⁵ Since there was no item with a mean validity of less than 3, therefore, no item was removed from the scale. Cronbach alpha was 0.94, and values for the subscales ranged between 0.79 and 0.92. In the current study, Cronbach's alpha value of the PNDS was 0.82. The PNDS consists of four subscales, with a total of 26 items. The subscales are as follows: the delineation and promotion of the nursing profession (13 items), the clear representation of the patient situation (5 items), the ease of use (4 items), and the conceptual direction (4 items). It is scored on a five-point Likert scale, from 'strongly agree' to 'strongly disagree'. The total score obtained from the entire scale is divided by the total number of items in the scales. The scale sub-dimension score is divided by the total number of scale items. The scale is evaluated between 1-5 both in sub-dimensions and in total. High scores indicate a negative perception of nursing diagnoses.

The researchers were present when the students filled out the questionnaires. It took about 5 minutes to complete the questionnaire.

Data was analysed using SPSS 18. Numerical variables were expressed as means±standard deviation (SD) and categorical variables as frequencies and percentages. Student's t-test was used to compare means between two groups. One-way analysis of variance (ANOVA) across three or more groups, and least significant difference (LSD) post-hoc test for pair-wise comparisons were used to compare the students' demographic characteristics and scale scores. $P < 0.05$ was considered significant.

Results

Of the 386 students, 317(82%) were female, 195(50.5%) were aged 18-20 years, 143(37%) were second-year students, 222(57.5%) had graduated from high schools, 133(34.5%) had academic mark BB, and 227(58.8%) chose the nursing profession due to high employment

opportunity. The term "nursing diagnoses" was previously unknown to 324(83.9%) students, 321(83.2%) students considered themselves competent enough to make nursing diagnoses, 361(93.5%) were able to make correct nursing diagnoses, and 335(86.8%) found nursing

Table-1: Socio-demographic characteristics of the nursing students.

Descriptive Characteristics	n (%)
Age	
18-20 years	195 (50.5)
≥ 21 years	191 (49.5)
Grades	
2nd year	143 (37.0)
3rd year	138 (35.8)
4th year	105 (27.2)
Gender	
Female	317 (82.1)
Male	69 (17.9)
Graduated High school	
Science/Anatolian High School	222 (57.5)
General High School	146 (37.8)
Vocational Health School/Associate Degree/Others	18 (4.7)
Reason for choosing the nursing profession	
They liked	88 (22.8)
There is high employment opportunity	227 (58.8)
Parents wanted them to choose nursing profession	50 (13.0)
Others	21 (5.4)
Academic marks	
AA	42 (10.9)
BB	133 (34.5)
CC	30 (7.8)
BA	112 (29.0)
CB	69 (17.8)
Hearing "nursing diagnosis" before nursing education	
Yes	62 (16.1)
No	324 (83.9)
Considering themselves competent enough to make nursing diagnosis	
Yes	321 (83.2)
No	65 (16.8)
Making correct nursing diagnosis in nursing care	
Yes	361 (93.5)
No	25 (6.5)
Considering NANDA-I Nursing Diagnoses Necessary	
Yes	335 (86.8)
No	51 (13.2)
Use of nursing diagnoses produce a correct, planned and systemized care	
Yes	268 (69.4)
No	118 (30.6)
Use of nursing diagnoses was not a waste of time	
Yes	362 (93.8)
No	24 (6.2)
Use of nursing diagnoses provided holistic care	
Yes	174 (45.1)
No	212 (54.9)
Use of nursing diagnoses was useful in practice	
Yes	365 (94.6)
No	21 (5.4)

diagnoses necessary, 268(69.4%) taught that the use of nursing diagnoses produced correct, planned and systemised care, 362(93.8%) thought the use of nursing diagnoses was not a waste of time, 174(45.1%) thought

that use of nursing diagnoses provided holistic care, and 365(94.6%) thought that use of nursing diagnoses was useful in practice (Table 1).

Table-2: Nursing diagnosis scale and subscales' mean scores of student nurses.

Subscales	Min.	Max.	Mean±SD
Delineation and promotion of nursing profession	1	5	2.06±0.71
Clear representation of patient situation	1	5	3.08±0.64
Ease of use	1	5	2.67±0.63
Conceptual direction	1	5	2.84±0.68
Total			2.66±0.44

SD: Standard deviation.

The total mean PNDS score was 2.66±0.44. Similar values for the subscales were also worked out (Table 2).

There was a significant difference between the students' gender ($p=0.005$) and average academic marks ($p=0.004$). Also, the difference was significant between the mean scores of delineation and promotion of the nursing profession subscale ($p=0.001$), and the clear representation of the patient situation subscale ($p=0.047$). Further, a

Table-3: Results about Perceptions of Nursing Diagnosis Survey (PNDS) total scores and its subscale scores in terms of some characteristics of the nursing students.

	Total Mean±SD	Delineation and promotion of nursing profession Mean±SD	Clear representation of patient situation Mean±SD	Ease of use Mean±SD	Conceptual direction Mean±SD
Sex					
Female	2.63±0.431	2.01±0.668	3.05±0.647	2.64±0.639	2.82±0.676
Male	2.80±0.493	2.27±0.874	3.20±0.621	2.80±0.602	2.92±0.707
t; p	t=-2.803; p=0.005	t=-2.368			
p=0.020	t=-1.673 p=0.095	t=-1.870 p=0.062	t=-1.050 p=0.295		
Average Academic Mark					
AA	2.55±.552	2.13±.872	2.92±.747	2.60±.692	2.56±.693
BB	2.68±.381	2.05±.645	3.17±.609	2.60±.539	2.92±.672
CC	2.94±.479	2.44±.909	3.27±.646	2.93±.558	3.12±.640
BA	2.62±.442	1.88±.615	3.07±.624	2.65±.701	2.87±.667
CB	2.65±.453	2.17±.727	2.97±.651	2.76±.667	2.71±.676
F ; p =LSD Post Hoc Test (p<0.05)	F=3.946;p=0.004 CC>AA-BB-BA-CB	F=4.609;p=0.001 CC>BB-BA	F=2.435;p=0.047 BB-CC>AA-CB	F=2.123;p=0.077 -	F=4.253;p=0.002 BB-CC-BA>AA
Considering themselves competent enough to make nursing diagnosis					
Yes	2.66±.441	2.01±.672	3.11±.652	2.65±.614	2.87±.689
No	2.70±.477	2.31±.865	2.98±.601	2.80±.722	2.73±.643
t;p=	t=-.761;p=0.447	t=-3.084;p=.0002	t=1.385;p=0.167	t=-1.739;p=0.083	t=1.510;p=0.132
Considering Nursing Diagnoses Necessary					
Yes	2.65±.438	2.00±.681	3.09±.631	2.64±.615	2.86±.666
No	2.80±.488	2.46±.809	3.06±.734	2.91±.712	2.76±.784
t;p=	t=-2.334;p=.020	t=-4.431;p=0.000	t=.270;p=0.787	t=-2.928;p=0.004	t=.897;p=0.370
Use of nursing diagnoses produce a correct, planned, systemized care					
Yes	2.63±.445	1.97±.684	3.10±.663	2.63±.620	2.83±.676
No	2.74±.444	2.28±.741	3.05±.602	2.76±.661	2.88±.698
t;p=	t=-2.241;p=0.026	t=-4.001;p=0.000	t=.700;p=0.484	t=-1.876;p=0.061	t=-.648;p=0.517
Use of nursing diagnoses was not a waste of time					
Yes	2.65±.436	2.02±.692	3.08±.640	2.65±.629	2.84±.663
No	2.96±.516	2.70±.781	3.13±.729	3.03±.623	2.97±.937
t;p=	t=3.354;p=0.001	t=4.606;p=0.000	t=-.375;p=0.708	t=2.893;p=0.004	t=-.946;p=0.345
Use of nursing diagnoses provided holistic care					
Yes	2.64±.460	1.97±.663	3.13±.657	2.64±.610	2.82±.681
No	2.69±.436	2.14±.748	3.05±.633	2.70±.655	2.87±.685
t;p=	t=-1.083;p=0.279	t=-2.387;p=0.017	t=1.226;p=0.221	t=-.824;p=0.411	t=-.742;p=0.459
Use of nursing diagnoses was useful in practice					
Yes	2.66±.440	2.04±.709	3.09±.645	2.65±.619	2.85±.677
No	2.82±.544	2.39±.755	3.08±.659	3.02±.806	2.78±.791
t;p=	t=1.599;p=0.111	t=2.182;p=0.030	t=-.068;p=0.946	t=2.634;p=0.009	t=-.461;p=0.645

SD: Standard deviation.

significant difference was found between the definition and presentation sub-dimension of the nursing profession and the sub-dimension mean scores of clearly defining the patient's condition (Table 3).

Students who had academic marks CC had higher mean total scale scores than students with different academic marks, and they also had higher mean scores in the subscale of the delineation and promotion of the nursing profession when compared to students with academic marks BB-BA ($p < 0.05$). Additionally, students with academic marks CC and BB had higher mean scores in the clear representation of the patient situation subscale compared to students with academic marks AA-CB ($p < 0.05$).

With regard to the delineation and promotion of the nursing profession, the students who considered themselves competent to make nursing diagnoses had lower mean scores than the students who did not consider themselves competent to make nursing diagnoses ($p = 0.002$).

The mean total scale score ($p = 0.020$), the mean score for the delineation and promotion of the nursing profession ($p = 0.000$), and the mean score for the ease of use ($p = 0.004$) were significantly lower in students who thought nursing diagnoses were necessary when compared to the students who did not think that nursing diagnoses were necessary. About opinions regarding the benefits that nursing diagnoses provided to care, the mean total scale scores of the students who thought that the use of diagnoses produced correct, planned and systemised care ($p = 0.026$) and the students who thought that the use of diagnoses was not a waste of time ($p = 0.001$) were significantly lower compared to the other students. On the subscale of the delineation and promotion of the nursing profession, the mean scores of the students who thought that the use of nursing diagnoses produced a correct, planned and systemized care ($p = 0.000$), the mean scores of the students who thought that the use of diagnoses was not a waste of time ($p = 0.000$), the mean scores of the students who thought that use of diagnoses provided holistic care ($p = 0.017$), and the mean scores of students who thought that use of diagnoses was useful in practice ($p = 0.030$) were significantly lower than the mean scores of the other students.

There was no significant difference in terms of nursing students' age ($p = 0.251$), grade ($p = 0.988$), type of high school ($p = 0.614$), the reason they chose the nursing profession ($p = 0.538$), the knowledge of "nursing diagnosis" before nursing education ($p = 0.308$), the ability to make correct nursing diagnoses in individualised nursing care ($p = 0.811$), and total PNDS score ($p > 0.05$).

Discussion

The total PNDS score of the nursing students in the current study was slightly lower than the "moderate" level. In other words, the students' perceptions of nursing diagnoses were positive, which is in line with literature^{11,12} and the positive perceptions of nursing diagnoses may facilitate the determination of patient problems and positively influence the planning of patient care, thus increasing the quality of patient care.¹³

Establishing a nursing diagnosis means establishing a clinical decision. Making a clinical decision includes determining whether there is a problem through assessment, judgment, analysis and synthesis.¹⁴ Interestingly, while nursing students are reported to have positive perceptions of nursing diagnoses, the studies conducted with nurses indicated that nurses have negative perceptions of nursing diagnoses.¹ These studies show that students' positive perceptions about diagnoses turn into negative after they start working in the clinic, and this continues to be an important issue after graduation.

In the current study, the subscales of the students' perceptions were also positive. This positive perception may be associated with the fact that a majority of the students thought that nursing diagnoses were necessary, and these students considered themselves competent enough to make nursing diagnoses. Additionally, this positive perception may correlate with the lower total PNDS score and lower scores of the delineation and promotion of the nursing profession subscale in students who thought that nursing diagnoses were necessary. Similar to the results of the present study, another study¹⁵ reported that students thought that nursing diagnoses and diagnostic classifications such as NANDA-I were necessary. The present study also found that the nursing students who thought that they were competent enough to make nursing diagnoses developed a positive perception regarding the subscale of delineation and promotion of nursing. Recent literature emphasises that the nursing diagnosis system should define nursing, provide effective and quality healthcare services, constitute a major part of the nursing language, and be the best tool to introduce the nursing profession to the community.^{1,3,16} Additionally, nursing diagnoses improve the quality of evidence-based care and the safety of patient care³ and positively affect the image of the nursing profession.^{1,17} When the academic levels of the nursing students in this study were examined, it was found that the students who had moderate to high levels of academic marks had lower total scale scores, lower scores of the delineation and promotion of the nursing profession subscale, and lower scores of the conceptual direction subscale. These students had more positive

perceptions of nursing diagnoses, which indicated that students with moderate or high levels of academic success, meaning those with a stronger understanding of the academic subjects, recognised the importance of nursing diagnoses and had high levels of perception. In other words, the students with low levels of academic success (CC) had negative perceptions about nursing diagnoses compared to the students with better academic success levels (AA-BB-BA-CB). This is an expected outcome from students with low levels of success. In order to achieve the targeted result in nursing practice and education, a perceptual awareness and sensitivity is as important as scientific competence.^{18,19} In nursing education, literature-based lectures, case studies, role-playing, and clinical internships are provided in order to increase student perceptions about nursing diagnoses. Different teaching methods and individual properties can affect the students' perceptions of nursing diagnoses.²⁰ For example, these factors could affect the students with low levels of academic success, resulting in decreased perceptions of nursing diagnoses. Despite the decreased perception levels in the students with low levels of academic success, most of the students in the present study stated they were able to make correct nursing diagnoses. In other words, most students felt they were competent enough to make clinical decisions.

Nursing diagnoses are very important for the nursing process, and formulating the appropriate nursing diagnosis is crucial to plan nursing care and problem-solving.²¹ A study²² found that nursing students were able to determine nursing diagnoses correctly, supporting the results of the present study. Nursing students reported that nursing diagnoses offer the correct, planned, systemised approach to patient-centred care. The students also felt that the nursing diagnosis system does not waste time and is useful in practice. Literature emphasises that professional nursing classification systems provide safe, systematic, and effective interventions in organising information, planning nursing care, and predicting patient needs.^{11,16,23} Patient-based approaches are necessary to record nursing activities.⁹

Finally, the present study found that the nursing students' ages, grades, the type of high schools from which they graduated, the reason they chose the nursing profession, the knowledge of "nursing diagnosis" before nursing education, and the ability to make correct nursing diagnoses did not affect the total PNDS score. An earlier study¹¹ also reported that socio-demographic characteristics, such as age, gender, class, did not affect students' perceptions.

Conclusion

Nursing students with high levels of academic success developed positive perceptions about nursing diagnoses. The positive perception of nursing diagnoses will result in the systematic thinking of nurses, efficient patient care, students studying more regularly, the facilitation of the communication between members of the healthcare team and the community, nurses playing an active role in patient-related decisions, the realisation of expectations and perceptions of those providing care, and direct care.

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