Clinical and Experimental Health Sciences

Perceptions of Turkish Nursing Students on Nursing Diagnoses

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ABSTRACT

Objective: This study aimed to determine how Turkish nursing students' perceived nursing diagnosis.

Methods: This descriptive and cross-sectional study was carried out with 655 nursing students in the Departments of Nursing in the Health Sciences Faculties of two universities, in the Aegean and western Black Sea Region, between 15 February and 5 April 2020. The Students Information Form and Perceptions of Nursing Diagnosis Scale were used for data collection. The independent samples t-test, one-way ANOVA test, and the Mann-Whitney U-test with Bonferroni-correction were used to determine the differences between the groups. Pearson correlation analysis was used to determine the effects of independent variables

Results: The mean age of the nursing students was 21.12±1.39; 76.6% of them were female and 36.8% were in the second-year. 53.7% of the nursing students reported that they had difficulty in making nursing diagnoses. The overall Perceptions of Nursing Diagnosis Survey score of the nursing students was found to be 2.46±051. Statistically significant difference was found between Perceptions of Nursing Diagnosis Survey scores in terms of gender (p=0.012), the necessity of nursing diagnosis (p<0.001), and having sufficient knowledge about nursing diagnosis (p=0.019).

Conclusions: The findings of this study have revealed that Turkish nursing students' perceptions of nursing diagnoses are positive. It is important that use effective teaching methods in teaching nursing diagnoses in fundamental nursing education, to give more importance to nursing diagnoses. It is recommended to plan qualitative studies to in-depth examine students' perceptions with randomized controlled studies involving innovative educational interventions in the future.

Keywords: Nursing diagnosis, nursing students, Perceptions of Nursing Diagnosis Scale

1. INTRODUCTION

Defining specific responses to health problems and biological processes in order to achieve positive health care outcomes and make the necessary interventions is an indispensable part of nursing (1). Nurses around the world use nursing diagnoses to correctly define the patients' health care problems, risk status, and willingness to engage in health promotion and improvement (2). A nursing diagnosis defines the basic concepts of nursing and the function of nurses in the provision of health services, as well as constituting the basis for planning, implementing, and assessing nursing care (1,3).

Using a standard terminology to make nursing diagnoses contributes to the continuity quality of nursing care and the visibility of nursing practices. It also enables the recognition of the scientific aspect of nursing by strengthening the communication between nurses, the other members of the health care team and patients (3,4). Therefore, it is important to determine and use the correct nursing diagnosis, identification of nursing diagnosis is the principal component of the diagnosis step of the nursing process, in order to obtain positive patient care outcomes. (7,8). There is some evidence that professional patient care based on the use of nursing diagnoses with a standardized terminology positively affects patient care outcomes (4,9-12).

Nursing students are considered to be prospective health care professionals. Nursing education aims to teach nursing students how to provide individualized patient care based on nursing process (13). Giving nursing students the necessary knowledge and skills to use nursing diagnoses contributes to their understanding of their professional roles and to achieve better quality patient care outcomes by using nursing diagnoses when they start their professional life (14). However,

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making nursing diagnoses requires education, proficiency and experience. National and international studies (15,16) have shown that determining the correct nursing diagnosis is still a difficult process for nursing students (17-19). Nursing students' perceptions of what nursing diagnoses are, their attitudes towards nursing diagnoses, and the importance they attach to nursing diagnoses may affect patient care by affecting the use of such diagnoses (13). A number of studies have reported that negative perceptions regard to nursing diagnoses can negatively affect the use of nursing diagnoses (2,20,21).

In Turkey, the requirement to care for patients in accordance with the nursing process was limited to the education in nursing undergraduate programs until 2007. However, revisions made in the legal regulations between 2007-2010 related to nursing have made the delivery of patient care services based on the nursing process in the clinical environment into a legal obligation made. The regulations for improving healthcare quality standards in Turkey have required using the nursing process as a standard for patient care since 2015. Given that students will continue to use nursing diagnoses when they begin their professional life, having a positive attitude towards the diagnostic process, and being able to correctly make and apply diagnoses are fundamental to a successful nursing education. Determining the perceptions of nursing students regarding nursing diagnoses can guide us to identify areas in teaching nursing diagnoses that need to be improved. This study thus aimed to determine how Turkish nursing students' perceived nursing diagnoses and the factors affecting this variable.

2. METHODS

2.1. Study Design and Setting

This descriptive and cross-sectional two-centered study was conducted between 15 February and 5 April 2020 in the Departments of Nursing in the Health Sciences Faculties of two universities in Afyonkarahisar and Zonguldak. The Ethical committee approval for the study was obtained from the Clinical Research Ethics Committee of the one of the universities (Date/No:2020/99), and the written permission was obtained from the administrators of the Committee of the faculties where the study was conducted. The nursing students participating in the study were also informed about the objective of the study and their written and verbal informed consent were obtained. The data were also analyzed and reported in such a way that the participants cannot be identified.

The sample of this study consisted of all second-, third – and fourth-year nursing students of these two universities. 655 participants who were second, third, and fourth-year nursing students during the 2019-2020 academic year, who had received theoretical education on the Nursing Process, and Nursing Terminologies and Classifications within the scope of a Fundamentals of Nursing course who had experience in clinical practice, and who gave their informed consent were included in the study. First-year nursing students in these universities were not included in the study, because they did not take Fundamentals of Nursing course, their experience of using the nursing process was not adequate and they had no experience of clinical practice. 655 of the 790 students answered the questionnaires. The overall participation rate in the study was 82.9%.

2.2. Data Instrument

The Student Information Form and Perceptions of Nursing Diagnosis (PND) Scale were used as data collection tools.

The Student Information Form

This form was prepared by the researchers after reviewing the literature and obtaining expert opinions. It contained 13 questions about the characteristics of the nursing students and their views about nursing diagnoses. The content validity of the information form was evaluated by five academic experts in the Nursing Process, and Nursing Terminologies and Classifications. No changes were recommended by the experts. After the evaluation process, a preliminary study was conducted with 10 nursing students to determine the comprehensibility of the questions.

Perceptions of Nursing Diagnosis (PND) Scale

This instrument was developed in 1991 by Olsen et al. (22). The Turkish validity and reliability study of the scale was conducted in 2013 by Korhan et al., and the final version of the scale consisted of 26 items (23). The measuring tool is a 5-point Likert-type scale in which 1 means ''strongly agree'' while 5 means ''strongly disagree''. The 26 items reflect nurses' perceptions about the use, practicality, aims, results, goals and limitations of nursing diagnoses within four thematic areas. The score obtained from the scale ranges between 1 and 5; lower scores indicate a more positive PND (22). In the Turkish validity and reliability study, the Cronbach's alpha value was 0.84. In this study, the Cronbach's alpha value was found to be 0.89.

2.3. Data Collection

An appropriate time period out of the course and practice hours was selected for the nursing students to answer the questions in the data collection tools. After the students were informed about the aim of the study, the data collection forms were distributed, and the completed questionnaires were collected as face to face by researchers. In order to the confidentiality of the data, the students were asked to fill in the data collection forms anonymously and to put the completed forms in sealed envelopes. The data collection forms required an average of 15-20 minutes to complete. The educational process in Turkey, including universities, has been interrupted since March 16, 2020, because of the outbreak of COVID-19. Therefore, some of the data were collected using

an online survey via Google Forms.165 students, who were previously planned to be reached by face-to-face interview method, answered the items on the same data collection forms online.

2.4. Data Analysis

The data were analyzed using the SPSS version 22.0 (Armonk, NY: IBM Corp). Skewness-Kurtosis values and the Kolmogorov-Smirnov test were used to evaluate whether the data were distributed normally. The descriptive statistics of continuous variables in the study were shown with mean, standard deviation, and minimum and maximum values, while descriptive statistics of categorical variables were shown by frequency and percentage. To determine the differences between the groups, the independent samples t-test, one-way ANOVA test, and the Mann-Whitney U-test with Bonferroni-correction were used. Pearson correlation analysis was used to determine the effects of independent variables. $p<0.05$ was accepted as statistically significant.

3. RESULTS

3.1. Characteristics of the Nursing Students

The mean age of the nursing students was 21.12±1.39; 76.6% of them were female and 36.8% were in the second-year. 82.9% of nursing students reported that they had not participated in extracurricular activities about nursing diagnosis. 95.3% of them stated that they used nursing diagnosis in clinical practice and 86.4% stated that nursing diagnosis was necessary. 65% of the nursing students reported that they found their current knowledge about nursing diagnosis to be partially adequate and 82.3% of them stated that they need more education on the topic. 53.7% of the nursing students reported that they had difficulty in making nursing diagnoses, while 89.3% of them used a guide to make them (Table 1).

3.2. Nursing Students' PND Scale Scores

The overall PND score of the nursing students was found to be 2.46±051. The mean scores on each of the sub-dimensions were as follows: for ''delineation and promotion of nursing profession'' 2.13±0.71; for ''clear representation of patient status'' 2.92±0.64; for ''ease of use'' 2.62±0.64; and for ''conceptual orientation'' 2.79±0.66 (Table 2). It was found that there were statistically significant differences in the overall PND scores in terms of gender ($p=0.012$), the necessity of nursing diagnosis ($p<0.001$), and having sufficient knowledge about nursing diagnosis ($p=0.019$) (Table 3).The significant differences between the mean scores on the sub-dimensions according to the characteristics of nursing students are presented in Table 3.

Table 1. *Nursing students' characteristics (n= 655)*

Characteristics	Mean ± SD		
Age (Years)	21.12±1.39		
Number of days in clinical practice (weekly)	2.19±1.31		
	Categories	**n**	**%**
Gender	Female	502	76.6
	Male	153	23.4
Year of education	Second	241	36.8
	Third	206	31.5
	Fourth	208	31.8
Previous extracurricular activities about Nursing Diagnosis	Yes	112	17.1
	No	543	82.9
Type of extracurricular activities (n= 112)	Conference	75	66.9
	Congress	18	16.2
	Clinical practice	19	16.9
Use of nursing diagnosis in clinical practice	Yes	624	95.3
	No	31	4.7
Necessity of nursing diagnosis	Yes	566	86.4
	No	89	13.6
Having sufficient knowledge level about nursing diagnosis	Yes	152	23.2
	Partially	426	65.0
	No	77	11.8
Wanting to receive education about the nursing diagnosis	Yes	539	82.3
	No	116	17.7
Having difficulty to determine the nursing diagnosis	Yes	352	53.7
	No	303	46.3
Using guides to determine the nursing diagnosis	Yes	585	89.3
	No	70	10.7
Type of guides (n= 585)	NANDA Diagnosis list	526	89.9
	Clinical nurses	33	5.6
	Lecturer	26	4.5

Table 2. *Nursing students' perception of nursing diagnosisby total scale and subscales scores (N= 655)*

Subscales	Min	Max	Mean±SD
Delineation and promotion of nursing profession	1.00	5.00	2.13±0.71
Clear representation of patient situation	1.00	5.00	2.92±0.64
Ease to use	1.00	5.00	2.62±0.64
Conceptual orientation	1.00	5.00	2.79±0.66
Total score	**1.00**	**5.00**	**2.46±051**

SD: standart deviation

Table 3. *Comparison of nursing students' perceptions of nursing diagnosis scale scores according to their characteristics*

Characteristics	Delineation and promotion of nursing profession	Clear representation of patient situation	Ease to use	Conceptual orientation	Total score
Gender	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Female	2.07±0.65	2.92±0.58	2.61±0.61	2.78±0.61	2.43±0.45
Male	2.35±0.84	2.91±0.78	2.66±0.73	2.79±0.80	2.58±0.68
Test value and significance *	t= – 3.857 **p<0.001**	t= 0.250 p=0.85	t= – 0.727 p=0.46	t= – 0.130 p=0.89	t= – 2.522 **p= 0.012**
Year of education					
Second	2.03±0.60[a]	2.95±0.56	2.66±0.59	2.78±0.60	2.42±0.44
Third	2.20±0.70[b]	2.85±0.59	2.64±0.67	2.69±0.62[a]	2.47±0.49
Fourth	2.19±0.82[b]	2.96±0.75	2.55±0.67	2.89±0.74[b]	2.50±0.61
Test value and significance**	F= 4.080 **p= 0.017**	F= 1.768 p= 0.17	F= 1.942 p= 0.14	F= 4.811 **p= 0.008**	F= 1.332 p= 0.26
Previous extra curricular activities about nursing diagnosis					
Yes	2.13±0.69	2.89±0.67	2.62±0.62	2.70±0.65	2.47±0.61
No	2.17±0.82	2.93±0.63	2.64±0.74	2.80±0.60	2.48±0.49
Test value and significance*	t= 0.519 p= 0.60	t= – 0.582 p=0.56	t= 0.270 p= 0.78	t= – 1.547 p= 0.12	t= 0.068 p= 0.94
Necessity of nursing diagnosis					
Yes	2.07±0.68	2.92±0.62	2.58±0.60	2.74±0.69	2.43±0.49
No	2.59±0.75	2.92±0.71	2.87±0.82	2.79±0.65	2.73±0.61
Test value and significance*	t= – 6.347 **p<0.001**	t= 0.033 p= 0.97	t= – 3.040 **p= 0.003**	t= 0.620 p= 0.53	t= – 4.237 **p<0.001**
Having sufficient knowledge level about nursing diagnosis					
Yes	2.09±0.66	2.87±0.73	2.53±0.73[a]	2.78±0.75	2.44±0.46[a]
Partially	2.18±0.82	2.91±0.61	2.60±0.57[a]	2.78±0.62	2.46±0.63
No	2.27±0.74	3.06±0.54	2.91±0.74[b]	2.84±0.64	2.62±0.50[b]
Test value and significance**	= 2.529 p= 0.08	F= 2.459 p= 0.08	F= 9.488 **p<0.001**	F= 0.348 p= 0.70	F= 3.075 **p= 0.019**
Use of nursing diagnosis in clinical practice					
Yes	2.13±0.70	2.80±0.73	2.61±0.63	2.78±0.65	2.45±0.50
No	2.27±0.84	2.93±0.63	2.69±0.76	2.82±0.78	2.54±0.69
Test value and significance*	t= – 1.116 p= 0.26	t= 1.104 p= 0.27	t= – 1.543 p= 0.12	t= – 0.324 p= 0.74	t= – 0.798 p= 0.42
Having difficulty to determine the nursing diagnosis					
Yes	2.16±0.69	2.98±0.66	2.72±0.62	2.87±0.68	2.47±0.46
No	2.11±0.73	2.87±0.61	2.50±0.65	2.71±0.62	2.46±0.54
Test value and significance*	t= 0.855 p= 0.39	t= – 2.344 **p= 0.019**	t= 4.262 **p<0.001**	t= – 3.164 **p= 0.002**	t= 0.269 p= 0.78
Wanting to receive education about the nursing diagnosis					
Yes	2.09±0.69	2.89±0.67	2.56±0.76	2.78±0.65	2.45±0.49
No	2.32±0.80	2.93±0.63	2.63±0..61	2.81±0.71	2.54±0.61
Test value and significance*	t= – 2.809 **p= 0.006**	t= 0.500 p= 0.61	t= 0.943 p= 0.34	t= – 0.410 p= 0.68	t= – 1.831 p= 0.06
Number of days in clinical practice (weekly)	r***= 0.059 p= 0.13	r= 0.054 p= 0.16	r= – 0.057 p= 0.14	r= 0.104 **p= 0.008**	r= 0.060 p= 0.12

**Independent Samples-t testwas used*
***One-Way Anova test was used*
****Pearson correlation coefficient*
[a, b]Different superscripts within the same column indicate significant difference among groups (p<0.05)
Significant at the p< 0.05 level

4. DISCUSSION

Positive perceptions of the use of nursing diagnoses can increase the ability to identify patients' health problems and to plan nursing care, as well as to improve the quality of care (14). This study was conducted to determine Turkish nursing students' perceptions of nursing diagnoses, and the students' mean PND score was 2.46±051 out of 5. Inangil and Uzen-Cura (2020) reported the mean PND score of Turkish nursing students as 2.38±0.43, while Ozveren et al. (2019) reported the same score as 2.38±0.40 (14, 24). Abed El Rahman, Kaleldeh and Malek (2017) found that Jordanian nursing students' perceptions of nursing diagnoses were positive (15). Similar to our findings, other national and international

studies have found that perceptions of students on nursing diagnoses are positive and they had a positive perception of the use of nursing diagnoses (2,13,23,25,26).

In this study, most (86.4%) of the Turkish nursing students emphasized the necessity of nursing diagnoses for patient care. This is a welcome finding. Other studies have stated that nursing students' positive perceptions of nursing diagnoses affect how they are used, and also increase the quality of patient care by leading to more accurate diagnoses of patients' health problems and helping to better plan patient care (2,14,17). When nursing students have positive perceptions of nursing diagnoses, they are better able to use them to provide individualized care during clinical practice. Students who acquire the skill of making accurate nursing diagnoses during their nursing education are able to provide better-quality nursing care during their professional careers by continuing to use nursing diagnoses. However, the small number of students who stated that they did not believe in the necessity of nursing diagnoses should not be ignored. This is an important finding and should be taken into account by academics and nurse educators.

Clinical practice is a process in which nursing students think and theoretical knowledge into practice. In this process, nursing students make clinical decisions about the problems of the patients and transform these decisions into nursing diagnosis (27). Our findings showed that more than half of the nursing students found their knowledge about nursing diagnosis insufficient and had difficulties in determining appropriate nursing diagnoses during their clinical practice. The fact that most of the nursing students participating in this study wanted to receive training about nursing diagnoses also supports this finding. This finding is consistent with the results of previous studies conducted with nursing students. These studies also determined that the nursing students had difficulties in determining appropriate nursing diagnoses and distinguishing nursing diagnoses from medical diagnoses, misused nursing diagnoses, and expressed medical diagnosis, symptoms and findings as nursing diagnosis (3, 5,17,28-31). However, it is important for nursing students to determine nursing diagnoses correctly so that they can evaluate patients holistically, provide quality care, and achieve positive patient outcomes (32-34). Making incorrect nursing diagnoses may cause nursing students to prepare inappropriate care plans for their patients, and lead as a result to the implementation of non-patient-specific nursing interventions. This can give rise to negative consequences in the treatment of patients and endanger their safety (30,35). Therefore, it is the responsibility of nursing educators to ensure nursing students develop and maintain the skills required to make correct nursing diagnoses (36). Considering the students' positive perceptions of nursing diagnoses, it is suggested that they may also be open to educational interventions in this area. Educational interventions are an important factor in helping students to develop positive attitudes towards nursing diagnoses and improving their diagnostic skills (13,25,29,37-40). In this study, the perception of nursing diagnoses among students who reported that they had sufficient knowledge about nursing diagnoses was significantly more positive. This finding is consistent with the findings of Olivea et al. (2005), who stated that Brazilian nurses' attitudes towards nursing diagnoses were related to their degree of knowledge (41). It was an expected result that nursing students who believed they had sufficient knowledge about nursing diagnoses would have a positive perception of them. Therefore, nurse educators should aim to improve all nursing students' knowledge of nursing diagnoses and their ability to use these diagnoses.

Our findings showed that gender was a factor affecting the nursing students' perceptions of nursing diagnoses. The male students had a more negative perception for the sub-dimension of delineation and promotion of the nursing profession and whole PND scale compared to the female students. The number of studies investigating the role of gender in the use of nursing diagnoses and perceptions and attitudes towards them is limited. Unlike our findings, Lumillo-Gutierrez et al. (2018) reported that gender is not a factor affecting the use of nursing diagnoses and attitudes towards them (40). As a result of legal regulations in Turkey, nursing was for many years a profession only practiced by female individuals. Thanks to revisions made in the regulations since 2007, male nurses have also begun to slowly enter the profession. Thus, this situation may have caused that the concepts related to the role of caregiving, which is one of the professional responsibilities of nurses, to develop more slowly in male nurses. In various studies conducted with Turkish nursing students, female students were found to be better able to engage in professional behaviors than male students (42,43).

The scores of the nursing students for the subdimensions of the PND scale showed that their perceptions of the "clear representation of patient situation" subdimension were more negative. Some studies conducted with Turkish nursing students have similarly reported that the nursing students' perceptions of this subdimension were more negative (13,23,24). These findings suggest that nursing students have difficulty in making the nursing diagnoses that best identify the patients' problems. The finding that the perceptions of students who reported having difficulty in making nursing diagnoses were significantly more negative supports this idea. Ozveren et al. (2019) found that Turkish nursing students who stated that they could make nursing diagnoses without help had a more positive perception of the "clear representation of patient situation" subdimension (14). Inangil and Uzen-Cura (2020) reported that nursing students' perceptions of clinical decision-making were an effective and facilitating factor in making correct nursing diagnoses (24). Halverson et al. (2011) investigated the changes over time in the perceptions of nurses from Minnesota about nursing diagnoses (2). They reported that the negative perceptions of the "clear representation of patient situation" subdimension changed least. There is thus still a gap between nurses and nursing students with regard to understanding the meaning of nursing diagnoses, and this requires further attention and educational interventions. Karaca and Aslan (2018)

pointed out that training programs about nursing diagnoses can diminish the negative perceptions of nursing students regarding the "clear representation of patient situation" subdimension (13).

5. CONCLUSION

An accurate nursing diagnosis facilitates the resolution of the patients' problems and enables them to receive systematic and individualized care. The findings of this study have revealed that Turkish nursing students still have difficulty in making nursing diagnoses and thus sometimes feel incompetent in this respect. However, Turkish nursing students' perceptions of nursing diagnoses are positive and this is similar to other results in the literature. While having positive attitudes towards the necessity of nursing diagnoses and sufficient knowledge about such diagnoses, has a positive effect on the perception of them, the difficulties in using nursing diagnoses are associated with more negative perceptions.

In line with these results, were commended using effective teaching methods in teaching nursing diagnoses in fundamental nursing education, to give more importance to nursing diagnoses, to guide students in diagnosis stages, and to provide continuous feedback. Thus, understanding the importance of nursing diagnoses and developing a positive attitude regarding such diagnoses by nursing students can be ensured. Given the gender-based differences in students' perceptions of nursing diagnoses, planning gender-specific educational interventions may be beneficial in teaching concepts related to professional values in nursing and improving male students' perceptions of nursing diagnoses.

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