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2
3 **Determination of perception levels of student nurses about**
4 **nursing diagnosis**

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12
13 **Abstract**

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

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

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

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

28 **Key Words:** Nursing care, Nursing diagnosis, Students.

29 **Introduction**

30 The academic experience of nursing students provides the foundation for
31 nursing professionalism. The nursing terms and terminology that are taught
32 contribute to the development of the students' professional perception of
33 nursing. Therefore, it is important during the nursing education process to
34 explore the necessity and practicability of the terminologies taught as well as
35 how nurses perceive their own nursing competence. For example, the use and
36 implementation of diagnoses depends on whether nurses perceive nursing
37 diagnoses positively or negatively¹. This is because nursing diagnoses are an
38 integral part of the nursing process, contributing to nursing knowledge and
39 practice².

40 Nursing diagnoses are critical in professional nursing care, as nurses are
41 responsible for selecting and executing nursing interventions. Additionally, a
42 nursing diagnosis can provide the basis for targeted results³. Using standard
43 terminology to determine and explain nursing diagnosis improves
44 communication between nurses and members of other healthcare teams, and
45 supports continued patient care. It also facilitates documenting patient care and
46 outcomes, and makes nursing practices visible and tangible⁴. Therefore, the
47 positive perception of the nursing diagnosis has a positive effect on the
48 detection of patients' problems, patient treatment plans, and overall patient
49 care^{3,5}. The fact that nurses perceive the meanings of nursing diagnoses, the
50 value of using them and their contribution to the application in different ways
51 together means that the use of nursing diagnoses and common diagnostic
52 terminology will also affect the methods considered universal in patient care
53 planning ¹.

54 Some studies have reported that nursing students do not notice the significance
55 of using nursing diagnoses in clinical practice. Nursing students occasionally
56 record medical diagnoses and focus on medical problems instead of nursing
57 diagnoses and nursing interventions, and are unable to differentiate nursing

58 problems from other problems⁶⁻⁹. In Turkey, there are few studies regarding
59 nursing students' practice of nursing diagnoses or nursing students' perceptions
60 of nursing diagnoses.

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

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

67

68 **Subjects and Methods**

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

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

78 PIF was developed in the light of literature^{1,2,6,9} and included a total of 12
79 questions addressing the students' socio-demographic characteristics, like age,
80 grade, gender, and academic background, and their perceptions about nursing
81 diagnoses, like reason for choosing the nursing profession, having heard
82 "nursing diagnosis" before nursing education, considering themselves
83 competent enough to make nursing diagnosis, making correct nursing diagnosis
84 in nursing care, considering NANDA-I nursing diagnoses necessary, use of
85 nursing diagnoses produce a correct, planned and systemised care, use of

86 nursing diagnoses was not a waste of time, use of nursing diagnoses provided
87 holistic care, and use of nursing diagnoses was useful in practice.

88 PNDS10 was adapted to Turkish environment along with validity and
89 reliability⁵. Since there was no item with a mean validity of less than 3,
90 therefore, no item was removed from the scale. Cronbach alpha was 0.94, and
91 values for the subscales ranged between 0.79 and 0.92. In the current study,
92 Cronbach's alpha value of the PNDS was 0.82. The PNDS consists of four
93 subscales, with a total of 26 items. The subscales are as follows: the delineation
94 and promotion of the nursing profession (13 items), the clear representation of
95 the patient situation (5 items), the ease of use (4 items), and the conceptual
96 direction (4 items). It is scored on a five-point Likert scale, from 'strongly
97 agree' to 'strongly disagree'. The total score obtained from the entire scale is
98 divided by the total number of items in the scales. The scale sub-dimension
99 score is divided by the total number of scale items. The scale is evaluated
100 between 1-5 both in sub-dimensions and in total. High scores indicate a negative
101 perception of nursing diagnoses.

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

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

111

112 **Results**

113 Of the 386 students, 317(82%) were female, 195(50.5%) were aged 18-20 years,
114 143(37%) were second-year students, 222(57.5%) had graduated from high

115 schools, 133(34.5%) had academic mark BB, and 227(58.8%) chose the nursing
116 profession due to high employment opportunity. The term “nursing diagnoses”
117 was previously unknown to 324(83.9%) students, 321(83.2%) students
118 considered themselves competent enough to make nursing diagnoses,
119 361(93.5%) were able to make correct nursing diagnoses, and 335(86.8%)
120 found nursing diagnoses necessary, 268(69.4%) taught that the use of nursing
121 diagnoses produced correct, planned and systemised care, 362(93.8%) thought
122 the use of nursing diagnoses was not a waste of time, 174(45.1%) thought that
123 use of nursing diagnoses provided holistic care, and 365(94.6%) thought that
124 use of nursing diagnoses was useful in practice (Table 1).

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

127 There was a significant difference between the students' gender ($p=0.005$) and
128 average academic marks ($p=0.004$). Also, the difference was significant
129 between the mean scores of delineation and promotion of the nursing profession
130 subscale ($p=0.001$), and the clear representation of the patient situation
131 subscale ($p=0.047$). Further, a significant difference was found between the
132 definition and presentation sub-dimension of the nursing profession and the sub-
133 dimension mean scores of clearly defining the patient's condition (Table 3).

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

141 With regard to the delineation and promotion of the nursing profession, the
142 students who considered themselves competent to make nursing diagnoses had

143 lower mean scores than the students who did not consider themselves competent
144 to make nursing diagnoses ($p=0.002$).

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

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

167

168 **Discussion**

169 The total PNDS score of the nursing students in the current study was slightly
170 lower than the "moderate" level. In other words, the students' perceptions of
171 nursing diagnoses were positive, which is in line with literature^{11,12}, and the

172 positive perceptions of nursing diagnoses may facilitate the determination of
173 patient problems and positively influence the planning of patient care, thus
174 increasing the quality of patient care¹³.

175 Establishing a nursing diagnosis means establishing a clinical decision. Making
176 a clinical decision includes determining whether there is a problem through
177 assessment, judgment, analysis and synthesis¹⁴. Interestingly, while nursing
178 students are reported to have positive perceptions of nursing diagnoses, the
179 studies conducted with nurses indicated that nurses have negative perceptions of
180 nursing diagnoses¹. These studies show that students' positive perceptions about
181 diagnoses turn into negative after they start working in the clinic, and this
182 continues to be an important issue after graduation.

183 In the current study, the subscales of the students' perceptions were also
184 positive. This positive perception may be associated with the fact that a majority
185 of the students thought that nursing diagnoses were necessary, and these
186 students considered themselves competent enough to make nursing diagnoses.
187 Additionally, this positive perception may correlate with the lower total PNDS
188 score and lower scores of the delineation and promotion of the nursing
189 profession subscale in students who thought that nursing diagnoses were
190 necessary. Similar to the results of the present study, another study¹⁵ reported
191 that students thought that nursing diagnoses and diagnostic classifications such
192 as NANDA-I were necessary. The present study also found that the nursing
193 students who thought that they were competent enough to make nursing
194 diagnoses developed a positive perception regarding the subscale of delineation
195 and promotion of nursing. Recent literature emphasises that the nursing
196 diagnosis system should define nursing, provide effective and quality healthcare
197 services, constitute a major part of the nursing language, and be the best tool to
198 introduce the nursing profession to the community^{1,3,16}. Additionally, nursing
199 diagnoses improve the quality of evidence-based care and the safety of patient
200 care³, and positively affect the image of the nursing profession^{1,17}. When the

201 academic levels of the nursing students in this study were examined, it was
202 found that the students who had moderate to high levels of academic marks had
203 lower total scale scores, lower scores of the delineation and promotion of the
204 nursing profession subscale, and lower scores of the conceptual direction
205 subscale. These students had more positive perceptions of nursing diagnoses,
206 which indicated that students with moderate or high levels of academic success,
207 meaning those with a stronger understanding of the academic subjects,
208 recognised the importance of nursing diagnoses and had high levels of
209 perception. In other words, the students with low levels of academic success
210 (CC) had negative perceptions about nursing diagnoses compared to the
211 students with better academic success levels (AA-BB-BA-CB). This is an
212 expected outcome from students with low levels of success. In order to achieve
213 the targeted result in nursing practice and education, a perceptual awareness and
214 sensitivity is as important as scientific competence^{18,19}. In nursing education,
215 literature-based lectures, case studies, role-playing, and clinical internships are
216 provided in order to increase student perceptions about nursing diagnoses.
217 Different teaching methods and individual properties can affect the students'
218 perceptions of nursing diagnoses²⁰. For example, these factors could affect the
219 students with low levels of academic success, resulting in decreased perceptions
220 of nursing diagnoses. Despite the decreased perception levels in the students
221 with low levels of academic success, most of the students in the present study
222 stated they were able to make correct nursing diagnoses. In other words, most
223 students felt they were competent enough to make clinical decisions.

224 Nursing diagnoses are very important for the nursing process, and formulating
225 the appropriate nursing diagnosis is crucial to plan nursing care and problem-
226 solving²¹. A study²² found that nursing students were able to determine
227 nursing diagnoses correctly, supporting the results of the present study. Nursing
228 students reported that nursing diagnoses offer the correct, planned, systemised
229 approach to patient-centred care. The students also felt that the nursing

230 diagnosis system does not waste time and is useful in practice. Literature
231 emphasises that professional nursing classification systems provide safe,
232 systematic, and effective interventions in organising information, planning
233 nursing care, and predicting patient needs^{11,16,23}. Patient-based approaches
234 are necessary to record nursing activities⁹.

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

241

242 **Conclusion**

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

250

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255

256 **References**

257 1. Halverson EL, Beetcher EL, Scherb CA, Olsen G, Frost M, Orth K.
258 Minnesota nurses' perceptions of nursing diagnoses. International Journal of

- 259 Nursing Terminologies and Classifications 2011; 22:123-32.
260 doi:10.1111/j.1744-618X.2011.01180.x
- 261 2. Karaca T, Aslan S. Effect of ‘nursing terminologies and classifications’
262 course on nursing students' perception of nursing diagnosis. Nurse education
263 today 2018;67:114-117.
- 264 3. Heardman T, Kamitsuru S. NANDA International Nursing Diagnoses:
265 Definitions & Classification, 2015-2017. Oxford: Wiley Blackwell 2014.
- 266 4. Erdemir F, Karaca T. Hemşirelik tanıları uygulamaları ve Türkiye'deki
267 durum. [The Utilization of Nursing Diagnosis and the Situation in Turkey]
268 Türkiye Klinikleri Surgical Nursing-Special Topics. 2016;2:9-14.
- 269 5. Akın Korhan E, Hakverdioğlu Yönt G, Ak B, Erdemir F. Hemşirelik
270 tanılarını algılama ölçeğinin Türkçe geçerlik ve güvenilirliği. [Analysis of
271 Turkish validity and reliability of perception of nursing diagnosis] Turkish
272 Journal of Research & Development in Nursing 2013;15:13-25.
- 273 6. Aydın N, Akansel N. Determination of accuracy of nursing diagnoses
274 used by nursing students in their nursing care plans. International Journal of
275 Caring Sciences 2013;6:2:252-257
- 276 7. Ito C, Ejiri H. The current state of, and outstanding issues relating to,
277 nursing diagnosis, as taught in basic nursing education in Japan. Open J Nurs.
278 2013; 3: 415-9. doi: 10.4236/ojn.2013.36056
- 279 8. Pokorski S, Moraes MA, Chiarelli R, Costanzi AP, Rabelo ER. Nursing
280 process: from literature to practice. What are we actually doing? Revista Latino-
281 Americana de Enfermagem 2009;17:302-7.
- 282 9. Hakverdioğlu Yönt GH, Khorshid L, Eşer İ. Examination of nursing
283 diagnoses used by nursing students and their opinions about nursing diagnoses.
284 International Journal of Nursing Terminologies and Classifications
285 2009;20:162-8. doi:10.1111/j.1744-618X.2009.01131.x

- 286 10. Frost M, Olsen G, Orth K. Perceptions of nursing diagnosis survey:
287 instrument development. Unpublished manuscript, Winona State University
288 1991
- 289 11. Abed El-Rahman M, Al Kalaldehy MT, Malak MZ. Perceptions and
290 attitudes toward NANDA-I nursing diagnoses: A cross-sectional study of
291 Jordanian nursing students. International Journal of Nursing Knowledge.
292 2015;28:13-8. doi:10.1111/2047-3095.12100
- 293 12. Ozveren H, Ozden D, Gulnar E. Determination of nursing students'
294 perception states in nursing diagnosis. International Journal of Caring Sciences
295 2019;12:2:1049.
- 296 13. Akın Korhan E, Hakverdiođlu Yönt G, Demiray A, Akça A, Eker A.
297 Yođun bakım ünitesinde hemşirelik tanıların belirlenmesi ve Nanda tanılarına
298 göre deđerlendirilmesi. [Determination of nursing diagnoses in the intensive
299 care unit and evaluation according to NANDA diagnoses] Journal of Duzce
300 University Health Sciences Institute 2015;5:16-21.
- 301 14. Avşar G, Öđünç AE, Taşkın M, Burkay ÖF. Hemşirelerin hasta
302 bakımında kullandıkları hemşirelik süreci uygulamalarının deđerlendirilmesi.
303 [Evaluation of the Applications Nursing Process Used in Patient Care by the
304 Nurses] Anadolu Hemşirelik ve Sađlık Bilimleri Dergisi 2014;17:216-21.
- 305 15. Brysiewicz P, Lee MB. Nursing students' evaluation of the introduction
306 of nursing diagnosis focused tutorials in a university degree programme.
307 Curationis 2009;32:20-4.
- 308 16. Carpenito L J,. Hemşirelik tanıları: El kitabı. [Handbook of Nursing
309 Diagnosis] Translator Ed: Erdemir F. Nobel Tıp Kitabevleri 2012
- 310 17. Killeen MB, King IM. Viewpoint: Use of King's conceptual system,
311 nursing informatics, and nursing classification systems for global
312 communication. International Journal of Nursing Terminologies and
313 Classifications 2007;18:51-7. doi:10.1111/j.1744-618X.2007.00050.x

- 314 18. Özmen D, Çetinkaya A. Hemşirelik son sınıf öğrencilerinin mesleki
315 algılarına yönelik nitel bir çalışma. [A Qualitative Study of Professional
316 Perceptions of Senior Nursing Students] Turkish Journal of Research &
317 Development in Nursing 2016;18:1.
- 318 19. Yücel ŞÇ, Güler EK, Eser İ, Khorshid I. İki farklı eğitim sistemi ile
319 öğrenim gören hemşirelik son sınıf öğrencilerinin hemşirelik mesleğini algılama
320 durumlarının karşılaştırılması. [The comparison of the perceptions of nursing
321 professions among senior nursing students receiving education in two different
322 education systems] Ege Üniversitesi Hemşirelik Fakültesi Dergisi 2011;27:3:1-
323 8.
- 324 20. Durmaz Edeer A, Dicle A. Hemşirelik eğitiminde simülasyon kullanımı
325 ve simülasyon tipleri. [Use of Simulation in Nursing Education and Simulation
326 Types] Hemşirelikte Eğitim ve Araştırma Dergisi 2015;12:121-5.
327 doi:10.5222/HEAD.2015.121
- 328 21. Can G, Erol O. Nursing students' perceptions about nursing care plans: A
329 Turkish perspective. International Journal of Nursing Practice 2012;18:12-9.
330 doi:10.1111/j.1440-172X.2011.01985.x
- 331 22. Uysal N, Arslan GG, Yılmaz İ, Alp FY. Hemşirelik ikinci sınıf
332 öğrencilerinin bakım planlarındaki hemşirelik tanıları ve verilerin analizi.
333 [Analysis of collected data and of nursing diagnosis in care plan second year
334 nursing students] CBU-SBED 2016;3:139-43.
- 335 23. Carpenito-Moyet LJ. Invited paper: Teaching nursing diagnosis to
336 increase utilization after graduation. International Journal of Nursing
337 Terminologies and Classifications 2010;21:124-33. doi:10.1111/j.1744-
338 618X.2010.01158.x

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344 **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		
2 nd year	143	37.0
3 rd year	138	35.8
4 th 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

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348

349 **Table 2: Nursing diagnosis scale and subscales' mean scores of student**
 350 **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

351 SD: Standard deviation.

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

	Total	Delineation and promotion of nursing profession	Clear representation of patient situation	Ease of use	Conceptual direction
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	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

358 SD: Standard deviation.

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