ORİJİNAL MAKALE / ORIGINAL ARTICLE
Balıkesir Sağlık Bilimleri Dergisi / BAUN Sağ Bil Derg
Balıkesir Health Sciences Journal / BAUN Health Sci J
ISSN: 2146-9601- e ISSN: 2147-2238
Doi: https://doi.org/10.53424/balikesirsbd.1655894

The Relationship Between Nurses' Perception of Nursing Diagnoses and Their Workload*

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**The research was submitted as an oral presentation to the International Health, Tourism and Sports Congress to be held in Sinop between 28-30 April 2025.*

Geliş Tarihi / Received: *11.03.2025* ***Kabul Tarihi / Accepted:*** *28.04.2025*

ABSTRACT

Objective: The study was conducted to determine the relationship between nurses' perception of nursing diagnoses and their workload and the affecting factors. **Materials and Methods:** The study was designed with a descriptive and correlational design. Data obtained from 257 participants were collected using an individual information form, the Perceptions of Nursing Diagnoses Survey (PNDS), and the Workload Subscale. **Results:** The mean age of the nurses in the study was 31.84±9.19, the mean working year was 9.87±9.45. 65% of nurses worked in internal medicine units, 93.8% had received training on the nursing process, and 94.6% thought that determining nursing diagnosis contributed to nursing care positively. The PNDS total mean score was 2.45±0.43 and the Workload Subscale mean score was 16.11±2.01. No statistically significant relationship was found between PNDS and Workload Subscale mean scores($p>0.05$). **Conclusions:** PNDS and Workload Subscale scores vary according to age, working year, position, shift, self-preference of the unit, difficulty in using nursing process and thinking the positive contribution of determining the nursing diagnosis to care. Nursing diagnosis is extremely important for the patient to receive individualized, quality, and safe care. Workload affects the performance of employees. Using the nursing process and diagnoses in practice, supporting nurses with in-service training programs about this, and making plans to reduce workload will positively contribute to employee performance.

Keywords: Nursing, Nursing care, Nursing diagnoses, Nursing process, Workload.

Hemşirelerin Hemşirelik Tanılarını Algılamaları ile İş Yükleri Arasındaki İlişki

ÖZ

Amaç: Araştırma hemşirelerin hemşirelik tanılarını algılamaları ile iş yükleri arasındaki ilişkiyi ve etkileyen faktörleri belirlemek amacı ile gerçekleştirilmiştir. **Gereç ve Yöntem:** Araştırma, tanımlayıcı ve ilişkisel desenle tasarlanmıştır. 257 katılımcıdan elde edilen veriler "Bireysel Bilgi Formu", "Hemşirelik Tanılarını Algılama Ölçeği" ve "İş Yükü Alt Ölçeği" ile toplanmıştır. **Bulgular:** Çalışmada hemşirelerin yaş ortalaması 31.84±9.19 yıl, çalışma yılı ortalaması 9.87±9.45 yıldır. Hemşirelerin %65'i dahili kliniklerde çalışmakta ve %93.8'i hemşirelik süreci ile ilgili eğitim almış ve %94.6'sı hemşirelik tanısını belirlemenin hemşirelik bakımına olumlu yönde katkı yaptığını düşünmektedir. Hemşirelik Tanılarını Algılama Ölçeği toplam puan ortalaması 2.45±0.43 ve İş Yükü Alt Ölçeği puan ortalaması 16.11±2.01'dır. Hemşirelik Tanılarını Algılama Ölçeği ve İş Yükü Alt Ölçeği puan ortalamaları arasında istatistiksel olarak anlamlı ilişkiye rastlanmamıştır ($p>0.05$). **Sonuç:** Hemşirelik Tanıları Algılama Ölçeği ve İş Yükü Alt Ölçek puanları yaş, çalışma yılı, pozisyon, vardiya, servisini kendi tercih etme, hemşirelik sürecini kullanmada zorluk ve hemşirelik tanısının bakıma pozitif katkısı olduğunu düşünme durumlarına göre farklılaşmaktadır. Hemşirelik tanısının kullanımı hastanın bireyselleştirilmiş, kaliteli ve güvenli bakım alması için son derece önemlidir. İş yükü çalışanların performansını etkilemektedir. Hemşirelik sürecini ve tanılarını uygulamada kullanmak ve bu konuda hizmet içi eğitim programlarıyla hemşireleri desteklemek, iş yükünü azaltmak için planlar yapmak çalışan performansına olumlu katkı sağlayacaktır.

Anahtar Kelimeler: Hemşirelik, Hemşirelik bakımı, Hemşirelik tanıları, Hemşirelik süreci, İş yükü.

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Bu makaleye atıf yapmak için / Cite this article: Tosun, A., Tosun, H., Zengin, N., Gedikli, F., & Erdal, N. (2025). The relationship between nurses' perception of nursing diagnoses and their workload. *BAUN Health Sci J, 14*(2), 334-340. https://doi.org/10.53424/balikesirsbd.1655894

BAUN Health Sci J, OPEN ACCESS https://dergipark.org.tr/tr/pub/balikesirsbd
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INTRODUCTION

The most important step in increasing patient care satisfaction is the implementation of quality nursing care activities organized and strengthened by the nursing process (Areri et al., 2024). The nursing process (NP), which has been used in nursing care since the 1950s, is a scientific method that supports nursing care management, helps nurses to make appropriate clinical decisions and think critically, and ensures the delivery of high-quality care (Lotfi et al., 2020). It is also a systematic approach used to guide nursing care as well as form the basis for nursing practice (Ahtisham, 2017). This systematic approach consists of five steps: assessing the individual's health needs, determining the nursing diagnosis, planning care, implementation, and evaluation. It is the most common way of documenting nursing practices as written evidence. The main purpose of the NP is to provide standardized, holistic, patient-centered care and to evaluate and record the effectiveness of the care provided (Ahtisham, 2017; D'Agostino et al., 2018).

Nursing diagnosis (ND), the second step of NP, is the clinical judgment that forms the basis for selecting nursing interventions to achieve patient-centered outcomes that are the responsibility of nurses (D'Agostino et al., 2018). In addition to developing critical thinking, it is also effective in gaining professional autonomy. ND enables nurses to plan and implement more qualified care by improving quality interventions and patient outcomes (Sanson et al., 2017). It is recommended to ensure and facilitate the development of a common and universal language for care standardization (Cachón-Pérez et al., 2021; Aleandri et al., 2022). ND is the formulation of problem, etiology, and symptom according to the North American Nursing Diagnosis Association (NANDA-I) classification in line with the needs of the patient/healthy individual by the collected data (Ahtisham, 2017).

Nursing workload is the period nurses spend on all activities related to the care process. It also includes nurses' indirect care activities and practices related to interdisciplinary collaboration (Campos et al., 2018). The ever-increasing demand for nursing care and the number of patients, the needs of patients, the limited resources (Griffiths et al., 2020), and the heavy patient load negatively affect the quality of care, as well as increase the time pressure on nurses and cause them to be exposed to excessive workload. Nurses' workload affects patients, nurses, and healthcare institutions (Alghamdi, 2016). It is an influential factor in patient outcomes and safety (Almenyan, 2021).

Although there has been an increase in the use of the NP with the effect of positive contributions to the nursing profession and the quality of care and legal regulations, it is also a fact that the NP is not used sufficiently in practice due to various reasons (Oliveira et al., 2019). In a study, it was stated that there were problems in the use of NP, which is expressed as a highly ideal system for carrying out the care process, due to the high workload (Cachón-Pérez et al., 2021). In a different study, the difficulties related to NP use were listed as workload, high number of patients, lack of system/infrastructure, lack of staff and time, not having sufficient knowledge and equipment, and seeing working with the care plan as workload (Yurtsever & Karagözoğlu, 2020). In addition, the barriers to the use of nursing diagnosis in clinical practice are; lack of motivation, inadequate education and knowledge, high number of patients per nurse, low salary policy, lack of resources, lack of institutional belief in its necessity, not seeing the nursing diagnosis system as an approach to problem solving in reflecting it to care practice (D'Agostino et al., 2018; Miskir & Emishaw, 2018; Oliveira et al., 2019). In line with this scope and due to the lack of sufficient studies on the use of nursing diagnoses and workload perception in our country; the study aimed to determine the relationship between nurses' perception of ND, which is an important step of the NP, their workload, and the affecting factors in a university hospital. For this purpose, the research questions are;

-What is the level of nurses' perception of nursing diagnosis?

-What is the level of workload of nurses?

- Is there a relationship between nurses' perception of nursing diagnosis and their workload?

-What factors differentiate nurses' perceptions of nursing diagnosis and workloads?

MATERIALS AND METHODS

Study type

The study was conducted in a descriptive and correlational design.

Study sample

The study population consisted of nurses working in internal medicine and surgical units of a university hospital in Istanbul province that uses the NP in their units. No sample selection was made in the study, and nurses (n=257) with at least 6 months of experience, could be reached during working hours on the relevant dates, and agreed to participate in the study voluntarily were included. Since the COVID-19 pandemic was ongoing during the study, intensive care units were excluded from the scope of infection risk.

Data collection tools

The data were obtained by an individual information form related to sociodemographic and professional characteristics of nurses (11 questions), the Perceptions of Nursing Diagnoses Survey (PNDS) (26 questions), and the Swedish Demand Control Support Questionnaire (SDCSQ)-The Workload Subscale (5 questions).

Individual Information Form: The form prepared by the researchers consists of 11 questions regarding nurses' sociodemographic and professional characteristics.

Perceptions of Nursing Diagnoses Survey (PNDS): PNDS, developed by Olsen, Frost, and Orth (1991), was validated in Turkish by Akın-Korhan,

Hakverdioğlu-Yönt, Ak & Erdemir (2013). The scale consists 26 items and four sub-domains that evaluates nurses' perceptions about the ease of use of ND and their Professional benefits to the care process. These sub-domains are "Definition and Introduction of the Nursing Profession, Clearly Defining the Patient's Condition, Ease of Use, and Conceptual Aspects. The scale is a five-point Likert type (completely agree/completely disagree) with a total score ranging from 1 to 5. A low total score obtained from the scale indicates that nurses perceive ND positively. Cronbach alpha was determined as 0.84 in the validity and reliability study (Akın-Korhan et al., 2013), and it was found as 0.86 in this study.

Workload Subscale: Workload Subscale of the Swedish Workload Control Support Questionnaire, which is the modified version of the Workload-Job Control Model developed by Karesek et al. (2005) and modified by Bjarte et al. (2005), was used in the study. The questionnaire was adapted into Turkish by Demiral et al. (2007), and the "Workload Subscale", consisting of 5 items and aiming to determine the level of workload, was used in the study. In the evaluation of the scale, each item score (1-4) is summed and a total score is obtained. A high score indicates a high workload. The Cronbach's alpha value reported in the Turkish validity-reliability study is 0.68 for the workload (Demiral et al., 2007). In this study, the Cronbach's Alpha value was found to be 0.63.

Data collection

The data was collected between 01.12.2020 and 31.03.2021 using face-to-face interview method. During data collection, because of the ongoing COVID-19 process, the social distance rule was followed and protective equipment such as masks and gloves were worn. The data collection tool was filled in an average of 15 to 20 minutes.

Statistical analysis

IBM SPSS (Statistical Package for Social Sciences) Statistics 26.0 software was used for data analysis and the data were analyzed at 95% confidence interval ($p<0.05$). Descriptive statistics (number, percentage, mean, standard deviation, median, minimum-maximum values) and Cronbach's Alpha reliability coefficient were used. The suitability of the data for normal distribution was examined with steepness and skewness coefficients. Kruskal-Wallis test, Mann-Whitney U test, Bonferroni Corrected Mann-Whitney U, and Spearman correlation were used to evaluate the data since the data were not normally distributed.

Ethical Approval

Ethics committee approval (Number: 2020/A-46, Date: 3/11/2020) from the Cerrahpaşa Faculty of Medicine Clinical Research Ethics Committee, study permission from the institution where the study would be conducted, and permission to use both scales in the study from the relevant authors (Hakverdioğlu-Yönt and Demiral) via e-mail was obtained. In addition, verbal and written consents were obtained from all volunteer participants, and the principles of research and publication ethics of the Declaration of Helsinki were followed at every stage of the study.

RESULTS

The mean age of the nurses in the study was 31.84±9.19, 86% were female, 68.1% had a bachelor's degree, and had an average working year of 9.87±9.45. 76.3% were staff nurses and 66.1% worked in a mixed day and night shift. It was also determined that 65% worked in internal medicine units, 67.7% of them preferred the unit where they worked, 93.8% received training on the NP, 67.7% had difficulty in using the NP and 94.6% thought that determining the ND contributed to nursing care positively (Table 1).

The PNDS total mean score was 2.45±0.43 and the mean score of the Workload Subscale was 16.11±2.01 (Table 1). In the study, it was determined that the level of nurses' perception of ND was positively above average and their workload was high. No significant relationship was found between the PNDS and Workload subscale (Table 2).

When the PNDS mean score was examined according to the individual characteristics of the nurses; it was determined that the perception of ND was more positive in manager nurses ($p=0.018$), those working on the day shift ($p=0.033$), those who preferred the unit where they worked ($p=0.028$), those who had no difficulty in using the NP ($p=0.010$), and those who thought that determining the ND contributed to nursing care positively ($p<0.001$) (Table 1).

When the workload subscale mean score according to individual characteristics was examined, it was found that the workload of those in the 25-35 age group ($p=0.004$), those with a working period of 5-15 years ($p<0.001$), those who did not prefer the unit where they worked ($p=0.023$), and those who had difficulty using the NP ($p=0.002$) was higher (Table 1).

DISCUSSION

It is extremely important to use the ND, which is an important step of the NP, effectively and efficiently in practice. Nursing is a profession with a high workload in general. It is an undeniable fact that the difficulties encountered in the work environment make it difficult to integrate the NP and ND, which ensure that nursing practices are carried out systematically and improve the quality of care. The study, which was conducted in a descriptive and correlational design to determine the relationship and effective factors between nurses' perception of nurses regarding ND and their workload, is important in terms of positively developing nurses' perceptions regarding ND, reducing their workload and contributing to the more effective and efficient use of ND in nursing practices.

Table1. Comparison of individual characteristics of nurses and mean scores of PNDS and Workload Subscale (N=257)

				Perceptions of nursing diagnoses survey		Workload subscale	
				Mean±SD	Med (Max.-Min.)	Mean±SD	Med (Max.Min.)
Individual characteristics	**Grups**	**N=257**	**%**	2.45±0.43	2.42 (1.04-4.35)	16.11±2.01	17 (7-20)
Age /Years	24 and ↓ [a]	57	22.2	2.41±0.30	2.42 (1.69-3.31)	15.65±2.02	16 (11-19)
	25-35[b]	128	49.8	2.43±0.46	2.42 (1.04-4.31)	16.56±1.69	17 (12-20)
	36 and ↑[c]	72	28.0	2.52±0.48	2.50 (1.42-4.35)	15.65±2.35	16 (7-20)
	Mean±SD 31.84±9.19			KW= 3.665	p=0.160	**KW= 11.012 a<b, c<b**	**p=0.004***
Gender	Female	221	86.0	2.46±0.43	2.42 (1.04-4.35)	16.05±2.08	16 (7-20)
	Male	36	14.0	2.40±0.48	2.44 (1.31-4.31)	16.47±1.52	17 (13-20)
				U=3578.500	p=0.334	U=3658.000	p=0.431
Educational status	High scholl	15	5.8	2.36±0.46	2.19 (1.69-3.31)	15.87±1.46	16 (13-18)
	Bachelor's	175	68.1	2.46±0.39	2.46 (1.04-4.31)	16.24±1.92	17 (10-20)
	Postgraduate degree	67	26.1	2.44±0.53	2.38 (1.08-4.35)	15.80±2.32	16 (7-20)
				KW=1.941	p=0.379	KW=2.160	p=0.340
Working Year	4 years and ↓	107	41.6	2.43±0.37	2.42 (1.69-3.96)	15.98±1.90	16 (11-20)
	5-15 years[b]	94	36.6	2.44±0.45	2.42 (1.04-4.31)	16.63±1.93	17 (7-20)
	16 years and ↑[(c)]	56	21.8	2.50±0.51	2.50 (1.42-4.35)	15.45±2.15	16 (10-20)
	Mean±SD 9.87±9.45			KW=1.362	p=0.506	**KW=15.907 a<b, c<b**	**(p<0.001) ** **
Position	Staff Nurse	196	76.3	2.48±0.42	2.46 (1.08-4.31)	16.23±1.92	17 (10-20)
	Manager	61	23.7	2.35±0.46	2.35 (1.04-4.35)	15.69±2.25	16 (7-20)
				U=4782.000	**p=0.018***	U=5060.000	p=0.065
Working shift	Daytime	87	33.9	2.36±0.46	2.35 (1.04-3.96)	15.97±2.08	16 (11-20)
	Night-Daytime Mixed	170	66.1	2.49±0.42	2.46 (1.31-4.35)	16.18±1.98	17 (7-20)
				U=6196.000	**p=0.033***	U=6860.000	p=0.334
Working unit	Surgery Unit	90	35.0	2.45±0.30	2.46 (1.69-3.23)	16.23±2.23	17 (7-20)
	Internal Medicine Unit	167	65.0	2.44±0.49	2.42 (1.04-4.35)	16.04±1.89	16 (10-20)
				U=7067.000	p=0.430	U=6748.000	p=0.170
The situation of preferring the unit where he/she works	Yes	174	67.7	2.40±0.42	2.40 (1.04-4.35)	15.98±1.87	16 (10-20)
	No	83	32.3	2.55±0.46	2.50 (1.69-4.31)	16.37±2.27	17 (7-20)
				U=5998.500	**p=0.028***	**U=5974.000**	**p=0.023***
Receiving training related to the NP	Yes	241	93.8	2.44±0.43	2.42 (1.04-4.35)	16.14±1.99	17 (7-20)
	No	16	6.2	2.58±0.53	2.52 (1.88-3.42)	15.56±2.22	17 (12-18)
				U=1675.500	p=0.380	U=1698.500	p=0.417
Difficulty using the NP	Yes	174	67.7	2.49±0.43	2.48 (1.08-4.35)	16.37±1.96	17 (7-20)
	No	83	32.3	2.35±0.44	2.38 (1.04-3.96)	15.55±2.00	16 (10-19)
				U=5782.500	**p=0.010***	**U=5514.500**	**p=0.002***
Thinking that determining ND contributes to nursing care positively	Yes	24	94.6	2.41±0.40	2.42 (1.04-4.35)	16.12±2.02	17.00 (7-20)
	No	14	5.4	3.07±0.48	3.00 (2.27-4.31)	15.79±2.00	16.50 (13-19)
				U=389.500	**(p<0.001)****	U=1527.000	p=0.513

SD:Standard Deviation, Min:Minimum, Max:Maximum, Med:Medyan, Mann Whitney U Test (U), Kruskal Wallis Test (KW), *p<0.05 **p<0.001

The nursing process, which is at the core of the nursing education curriculum, provides coordinated, effective and qualified care practices for the needs of the individual, and forms the basis of nursing education and care practices (Miskir & Emishaw, 2018). In this study, almost all nurses stated that they received training on the NP and thought that determining the ND positively contributed to nursing care. However, 67.7% of the nurses stated that they had difficulty in using the NP. Receiving training on the NP facilitates practice (Miskir & Emishaw, 2018). In the literature, it is stated that nurses have difficulty in using the NP due to lack of time and personnel, workload, and an excessive number of patients (Agyeman-Yeboah et al., 2017; Yurtsever & Karagözoğlu, 2020; Çakar & Avşar, 2020). The study suggests that although nurses are informed about NP and believe in its benefits, more than half of them do not use it due to workload.

Table 2. Relationship between PNDS and Workload Subscale Score

Scales	Workload Subscale
Perceptions of nursing diagnoses survey (PNDS)	**r=**-0.008 **p=0.904**
Total	257

Spearman's rho correlation test, p<0.05*, p<0.01**.
Data are expressed as r and p value.

In the current study, it was determined that nurses' perceptions of ND were positive above the average. In some studies, similar to this study, nurses' perceptions of ND were expressed as moderately positive (Akın-Korhan et al., 2013; Karakurt et al., 2020; Şahin & Khorshid, 2021; Çağa et al., 2023), while in others it was found to be moderately negative (Köse & Sis-Çelik, 2020; Bağrıaçık & Bostanoğlu, 2022). In addition, similar to the study results, there are studies in foreign literature stating that nurses' perception of diagnosis is positive (Leoni-Scheiber et al., 2019; Tsiami & Kolovas, 2021; Gligor et al., 2024). It can be considered that the nurses' institutional, educational, and professional characteristics may be effective in the difference in the results.

It was determined that nurses' perception of ND did not differ according to age, gender, educational status, years of work, working unit, and NP training status in this study. There are studies with similar results in the literature (Köse & Sis-Çelik, 2020; Karakurt et al., 2020; Çağa et al., 2023). In addition, in parallel with this study, Karakurt et al. (2020) stated that the unit where they worked did not make a difference in their study, while Çağa et al. (2023) found that the unit where they worked had a positive effect on their perception difference. The study showed a significant difference in the perception of ND of nurses who preferred the unit where they worked. This situation suggests that working in the units they want and like positively affects the perception of ND.

One of the important results of the study is that the perception of ND by the manager nurses is at a better level. In the literature, it is stated that the use of ND by manager nurses is easier than staff nurses (Şahin & Khorshid, 2021); and they have a more positive attitude toward ND (Lumillo-Gutierrez et al., 2019). It is also stated that this may be because they do not actively use the NP (Şahin & Khorshid, 2021).

Another important result of the study was that daytime nurses had a more positive attitude towards ND. More positive perception of the quality of care among nurses who consistently work during the day (Soysal et al., 2022) may be considered an effective factor in this result. In the study, a significant difference was found according to the nurses' high level of workload and their difficulty in using the NP. In different studies, it is similarly reported that the workload of nurses is high (Özkan & Uydacı, 2020; Arıkan, 2021) and that workload is an important barrier to use of the NP by nurses (Thuvaraka et al., 2018; Owusu-Ansah & Agyeman-Yeboah, 2022). In a study conducted in the Intensive Care Unit (ICU), the excessive workload of nurses was shown among the reasons for the insufficient use of ND (Korhan et al., 2015). However, no relationship was found between ND perceptions and workload in this study, and this result may have been affected by the fact that the study was conducted during the ongoing COVID-19 process and that the work was carried out with intense workload with intensive and insufficient staff and equipment. As a result of the study, it is thought that it is important for authorities to take measures to reduce nurses' workload perceptions and improve working conditions to increase the use of NP and ND, which is a leading factor in achieving quality patient care results in health institutions.

Limitations and Strengths of the Study

The results were evaluated according to the participants' responses to the questionnaire. Due to the COVID-19 pandemic process, the number of nurses that can be reached was limited due to nurses' intense working hours and the risk of infection.

CONCLUSION

According to the results of this study, no significant relationship was found between nurses' perceptions of ND and workload, the ND perceptions of nurses were positively above average, their workload was high and their perceptions varied according to some personal and professional factors.

The NP is the basis of providing nursing care with a systematic approach. An important step of this systematic method is to determine the ND. ND is the evidence of the nurses' practices and it provides qualified care by formulating the data obtained. As a result of the study, it is recommended that nurses should be supported with in-service training programs related to the NP and ND and motivated to use the NP and ND in their practices, measures should be taken to reduce the workload of nurses, sufficient manpower should be provided, and clinicians and nurse managers should act together in workload planning and find common solutions. In addition, planning studies on the relationship between professional value attitudes and ND perceptions is also important as it is thought that it will reveal the barriers to the use of ND.

Acknowledgement

We would like to thank all volunteers who supported our work.

Conflict of Interest

No conflict of interest was declared by the authors.

Author Contributions

Plan, design: AT,HT,NZ; **Material, methods and data collection:** AT,HT,FG,NE; **Data analysis and comments:** AT,HT; **Writing and corrections:** AT, HT,NZ.

Funding
The authors declared that this study has received no financial support.

Ethical Approval
Institution: Cerrahpaşa Faculty of Medicine Clinical Research Ethics Committee
Date: *3.11.2020*
Approval no: *2020/A-46*

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