

Determining the Skills Required for Nurses by the Delphi Method and Comparing Them with the Skills: Mixed Method: Descriptive Research

Yönetici Hemşirelerde Olması Gereken Becerilerin Delphi Yöntemiyle Belirlenmesi ve Sahip Olunan Becerilerle Karşılaştırılması: Karma Yöntem: Tanımlayıcı Araştırma

¹Gülcan ÇİFTÇİOĞLU YALÇIN^a, ²Ülkü BAYKAL^b

^aDepartment of Nursing, Mardin Artuklu University Faculty of Health Sciences, Mardin, Türkiye

^bDepartment of Nursing, İstanbul University-Cerrahpaşa Florence Nightingale Faculty of Nursing, İstanbul, Türkiye

This study was prepared based on the findings of Gülcan Çiftçiöğlü's doctoral thesis study titled "Determining the Skills Required for Nurses by the Delphi Method and Comparing Them with the Skills: Mixed Method: Descriptive Research" (İstanbul: İstanbul University-Cerrahpaşa; 2021).

ABSTRACT Objective: It was aimed to identify the skills that should senior- and lower-level manager nurses in Türkiye should possess, to compare the levels of presence of these skills in senior- and lower-level managers based on self-assessment the evaluations made by their subordinates. **Material and Methods:** The research was carried out in 2 stages, in which the Delphi method, one of the qualitative research methods. The universe of the first stage of the study consisted of executive nurses who are members of the Executive Nurses Association, included 57 administrators. The second phase of the research was composed of nurses, manager nurses working in 9 state hospitals and the sample of this stage consisted of a total of 442 nurses who voluntarily agreed to participate in the study. **Results:** Skills were classified as: "human relations and communication", "nursing care management", "human resource management", "management and leadership", "professionalism". In study, a statistically significant difference was found between the self-evaluation of senior manager nurses and the assessment of mid-level manager nurses in all skills ($p<0.05$). There were statistically significant differences in the sub-dimensions of "human relations and communication", "management of nursing care", "management and leadership", "professionalism" in the evaluations of nurses, who are subordinates of low-level manager nurses ($p<0.05$). **Conclusion:** The skill list of senior, lower-level manager nurses were created under 5 main headings. When the status of possessing these skills was assessed by the subordinates of the superiors, it was found that the subordinates evaluated them significantly lower than their self-evaluations ($p<0.05$).

ÖZET Amaç: Türkiye'de üst ve alt düzey yönetici hemşirelerde olması gereken becerilerin oluşturularak, bu becerilerin üst ve alt düzey yöneticilerde bulunma düzeyinin öz değerlendirme ve astların değerlendirme sonuçlarının karşılaştırılması amaçlanmıştır. **Gereç ve Yöntemler:** Araştırma, nitel araştırma yöntemlerinden Delphi yöntemi ve nicel araştırma yöntemlerinin sıralı bir şekilde kullanıldığı 2 aşamada gerçekleştirilmiştir. Çalışmanın birinci aşamasının evrenini, Yönetici Hemşireler Derneğine üye yönetici hemşireler ile hemşirelikte yönetim eğitimi veren akademisyenler oluşturmuştur. Yönetici Hemşireler Derneğine üye olan, çalışmaya katılmayı kabul eden 57 yönetici ve akademisyen hemşire örneklemini oluşturmuştur. Araştırmanın ikinci aşamasının evrenini Mardin ili sınırlarında bulunan 9 devlet hastanesinde çalışan hemşireler ve yönetici hemşireler oluştururken, örneklemini çalışmaya gönüllü olarak katılmayı kabul eden toplam 442 hemşire (9 üst düzey yönetici hemşire, 39 orta düzey yönetici hemşire, 31 alt düzey yönetici hemşire ve 363 hemşire) oluşturmuştur. **Bulgular:** Beceriler "insan ilişkileri ve iletişim", "hemşirelik bakım yönetimi", "insan kaynakları yönetimi", "yönetim ve liderlik" ve "profesyonellik" olmak üzere 5 ana başlıkta sınıflandırıldı. Araştırmanın ikinci aşamasında, üst düzey yönetici hemşirelerin öz değerlendirmeleri ile orta düzey yönetici hemşirelerin değerlendirilmeleri arasında tüm becerilerde istatistiksel olarak anlamlı bir fark bulundu ($p<0,05$). Alt düzey yönetici hemşirelerin astları konumundaki hemşirelerin değerlendirmelerinde ise "insan ilişkileri ve iletişim", "hemşirelik bakımının yönetimi", "yönetim ve liderlik" ve "profesyonellik" alt boyutlarında istatistiksel olarak klinik hemşireleri tarafından değerlendirildiklerinde anlamlı farklar olduğu bulundu ($p<0,05$). **Sonuç:** Çalışmada, üst ve alt düzey yönetici hemşirelerin beceri listesi 5 ana başlıkta oluşturuldu. Üstlerin astları tarafından becerilere sahip olma durumları incelendiğinde, kendi değerlendirmelerinden anlamlı fark yaratacak şekilde daha düşük değerlendirildikleri belirlendi ($p<0,05$).

Keywords: Nursing; executive nurse skills; self-assessment; subordinate evaluation; Delphi technique

Anahtar Kelimeler: Hemşirelik; yönetici hemşire becerileri; öz değerlendirme; astın değerlendirmesi; Delphi yöntemi

Correspondence: Gülcan ÇİFTÇİOĞLU YALÇIN
Department of Nursing, Mardin Artuklu University Faculty of Health Sciences, Mardin, Türkiye
E-mail: gulcanciftcioglu@gmail.com



Peer review under responsibility of Türkiye Klinikleri Journal of Nursing Sciences.

Received: 07 Apr 2022

Received in revised form: 24 Nov 2022

Accepted: 02 Jan 2023

Available online: 11 Jan 2023

2146-8893 / Copyright © 2023 by Türkiye Klinikleri. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Hospitals differ from other service organizations with their increasingly complex service structures and administrative processes that are open to change.^{1,2} Considering the managerial characteristics of hospitals and the difficulties experienced in service delivery, the effectiveness of management processes and the management of change are important issues to be focused on by hospital managers.³⁻⁶ Determining the level of management skills of hospital managers is an extremely important issue in terms of evaluating their performance in fulfilling their duties and responsibilities.⁷ In addition, it is emphasized that it is very important to develop managerial skills in order to improve the institutional performance and productivity indicators of hospitals.⁸ It is also supported in studies that when the managerial roles, responsibilities, and functions carried out by hospital managers are well understood, it will be easier to make informed decisions.⁷

In a study conducted to determine the managerial skills of hospital managers, managerial skills of 2,117 hospital managers were examined under 8 main headings, namely, organization, empowerment, foresight, motivation, event planning, monitoring and evaluation, communication, and providing feedback.⁹ In another study, the roles of senior hospital managers were listed as follows: leader, crisis/problem solver, communicator, monitor, resource distributor, and strategist. The ability of senior managers to fulfill these roles depends on their managerial skills.¹⁰ In another study, the special skills of managers in both public and private hospitals for health services were classified as follows: legal and ethical issues, planning, organizing, leadership, supervision, and self-management.¹¹ In short, it is stated that the managerial skills of managers have a significant impact on increasing the performance of hospitals.¹²

Manager nurses, who have an important place among hospital administrators, greatly affect the success of health institutions, especially due to the management roles they undertake in the units where patient care services are provided. In this context, manager nurses constitute an important communication channel between the senior management of the hospital and the employees.¹³ The American Organization of Nurses Executive (AONE) also emphasizes

the need for highly competent executive nurses to provide professional patient care.¹⁴ Executive nurses need to be skilled both in improving the quality, safety, and efficiency of the service also, in ensuring the quality of nursing care, in the effective management of nurses, and in increasing performance.¹⁵ Empowered executive nurses with sufficient authority not only help to create a positive working environment but also contribute as role models for future executive nurses. In addition, executive nurses are expected to carry out tasks that support the recruitment and retention of nurses who are experts in their fields.¹⁶

The purpose of this descriptive study was to identify the skills required of senior- and lower-level manager nurses in Türkiye and to determine the level of these skills in senior- and lower-level managers by their own self-assessment and via evaluations made by their subordinates. Managerial skills were identified using the Delphi method, one of the qualitative research methods. The Delphi process is used as an interactive data collection tool to gather information from a panel of experts in a particular field of study. In addition, the Delphi process helps to reach a consensus on issues or form opinions for future discussions.⁹

MATERIAL AND METHODS

RESEARCH DESIGN AND SAMPLING

This mixed-method study took place in 2 parallel phases. The study population of the first phase of the study consisted of manager nurses who are members of the Executive Nurses Association and academic nurses (211 members). In the Delphi method, it is stated that the appropriate sample size consists of 10-20 experts, there should be at least 7 people, and the number may increase depending on the subject being assessed. When using the Delphi questionnaire technique, it is stated that 2 or 3 rounds are required to reach a consensus.¹⁷⁻¹⁹ In this study, approximately 60 people, 20 in each group, were determined as the sample size, representing executive nurses and academicians working in different hospitals (private and public). Manager nurses in Mardin province were not included in this sample (Table 1).

TABLE 1: Distribution of participants in Delphi sessions.

Institution	Preset number	First Delphi (n)	Second Delphi (n)
Academician	25	23	23
Public hospital	20	18	18
Private hospital	15	16	16
Total	60	57	57

The study population of the second phase of the research was composed of nurses and manager nurses working in nine public hospitals in Mardin province in 2019 (756 nurses in total). The sample consisted of 442 nurses and manager nurses (9 senior manager nurses, 39 mid-level manager nurses, 31 lower-level manager nurses, and 363 nurses) who agreed to participate in the study voluntarily (Table 2).

The first phase of the research: The first Delphi questionnaire used in the first Delphi session was delivered via an online questionnaire system. The questions in the first Delphi were prepared by the researchers as open-ended questions as a result of the literature review. The first delphide purpose; the aim was to learn the opinions and suggestions of experts in the field. The first Delphi questionnaire invitation form and the informed consent form were also sent to the participants, which included explanations about the process to be followed in the study and the Delphi method. In line with the answers from the experts, the second Delphi questionnaire form was prepared. In the second Delphi session, the second Delphi questionnaire invitation, which included explanations regarding the process, was sent to the participants along with the second Delphi questionnaire. The purpose of the second Delphi questionnaire was to present the skills created based on the opinions of all experts

TABLE 2: Distribution of senior-and lower-level managers participating in the second stage of the research.

Place of work	Title	Number (n)
Ministry of health	DHCS	9
Ministry of health	DDHCS-supervisor	39
Ministry of health	Charge nurse	31
Ministry of health	Nurse	363
Total		442

DHCS: Director of health care services;

DDHCS: Deputy director of health care services.

to the participants' consideration and to determine to what extent they agree on these skills. In the second Delphi, a skill list consisting of 152 items for top-level managers and 126 items for lower-level managers, was sent to the participants.

In the second stage of the study, a questionnaire prepared by the researchers based on the literature and consisting of 8 items regarding socio-demographic characteristics, namely, age, gender, educational status, unit, tenure at profession, tenure at the current hospital, and tenure at the current unit, was used.² After the data obtained from the second Delphi result were analyzed, the skills created for senior- and lower-level manager nurses were tested in terms of clarity of the items by piloting the test in a group (10 people) with characteristics similar to the sample group. Pilot study; apart from the study group, it was applied to a different group of experts in the field. As a result of the pilot application, it was determined that the items were understandable. Pilot results were not included in the main study. In the quantitative part of the study, which is the second stage of the research, senior executive nurse skills were created as a list of 150 items under five main headings: "human relations and communication", "nursing care management", "human resources management", "management and leadership", and "professionalism", and the skills of the lower-level manager nurses were similarly structured as a 123-item skill list under 5 main headings. These skills were transformed into a 5-point Likert questionnaire.

STATISTICAL METHODS

The participant responses obtained in the first Delphi session were evaluated by content analysis together with the thesis supervisor and the thesis committee. As a result of the addition of some necessary skills as a result of the literature review, the evaluation of the first Delphi session was completed by listing the skills under 5 main headings as stated above. As a result, 126 skills were identified for low-level manager nurses and 152 skills for senior manager nurses.

The data obtained from the second Delphi session were transferred to the, and statistical data such as percentage of agreement, standard deviation

(SD), mean, square, and interquartile range were calculated. It is stated in Delphi studies that a consensus criterion should be determined.^{20,21} Although 75% consensus is seen as sufficient according to the authors' perspectives, a scientifically precise level was not specified.²² However, the value of "70%" is commonly used and reported to reflect all agreement within +/- 1 SD of the mean.^{23,24} In this study, the SD and interquartile range were determined to be 1 and below, and the percentage of agreement was 80% and above.

In the quantitative part of the study, in the evaluation of the data, the conformity of the data to normal distribution was measured with the Shapiro-Wilk test. ANOVA (post hoc Duncan) was used for the comparison of normally distributed parameters between groups and the Kruskal-Wallis (post hoc Dunn) test and the Mann-Whitney U test were used for the comparison of non-normally distributed parameters between groups. The relations between the variables at the categorical measurement level were examined using the Pearson and exact chi-square

tests. As descriptive statistics, median and range (maximum-minimum) values are given for numerical variables and number (n) and % values are given for categorical variables. Statistical significance level was accepted as $p < 0.05$.

ETHICAL CONSIDERATIONS

Institutional permission from the relevant institutions and ethical approval from the Non-Interventional Ethics Committee of Mardin Artuklu University in accordance with the Helsinki Declaration principles (date: December 27, 2018, no: 2018/1-3). Participation was voluntary. Informed consent, including the permission to publish the results of the research, was obtained.

RESULTS

Socio-demographic characteristics of the participants obtained in the quantitative phase of the study are presented in Table 3. Age, tenure at profession, tenure at the hospital, weekly working hours, and weekly average overtime hours were found to be sta-

TABLE 3: Socio-demographic characteristics of the participants.

	Lower-level managers (31)		Medium-level managers (39)		Senior-level managers (9)		Nurses (363)	
	n	%	n	%	n	%	n	%
Sex								
Female	20	64.5	21	53.8	5	55.6	219	60.3
Male	11	35.5	18	46.2	4	44.4	144	39.7
Median age (range)	29 (20)		38 (25)		48 (13)		29 (36)	
Marital status								
Married	17	54.8	19	48.7	3	33.3	212	58.4
Single	14	45.2	20	51.3	6	66.7	151	41.6
Education status								
Vocational high school	1	3.2	0	0	0	0	38	10.5
Associate degree	4	12.9	0	0	0	0	42	11.6
University	23	74.2	37	94.9	8	88.9	263	72.5
Post-graduate	3	9.7	2	5.1	1	11.1	20	5.5
Mode of work								
Shift	20	64.5	2	5.1	0	0	245	67.5
Fixed daytime	9	29	21	53.8	9	100	102	28.1
Fixed evening	0	0	4	10.3	0	0	1	0.3
Fixed nighttime	2	6.5	12	30.8	0	0	15	4.1
Tenure at profession								
Median (range)	6 (22)		2 (24)		4 (9)		5 (35)	
Tenure at hospital								
Median (range)	2 (22)		1 (6)		3 (6)		3 (34)	
Tenure at unit								
Median (range)	2 (6)		1 (3)		1 (3)		1 (16)	

Range: Maximum-minimum. Different letters in each line indicate statistical significance according to the Duncan's test. ($p < 0.05$) [Within each row, different superscript letters indicate significant differences ($p < 0.05$) according to the Duncan test].

tistically significantly different ($p < 0.05$). The mean age of senior managers was 48 ± 1.02 (13) years and the mean age of middle-level managers was 38 ± 1.05 (25) years, which were statistically significantly higher than the mean age of lower-level manager nurses and nurses. Fixed daytime shift was observed at a high rate in senior- and middle-level managers and the rate of working in a shift system was statistically significantly higher in lower-level managers and service nurses (64.5% and 67.5%, respectively). Based on their answers to the question: "Is the number of nurses sufficient?" it was seen that more than half of the senior manager nurses (55.6%), and half of the lower-level managers and service nurses stated that the number of nurses was sufficient.

In this section, senior executive nurses were evaluated by mid-level executive nurses in subordinate positions (deputies, supervisor nurses, training nurses, quality directors, and infection nurses).

In Table 4, the number of people (n) and the average and total scores are presented. A statistically significant difference was found when the human relations and communication subheadings of the senior manager nurses were evaluated within the scope of the 95% confidence interval ($U=95$, 500, $N_{\text{manager}}=9$, $N_{\text{deputy}}=39$, $p=0.033$). In other words, in the human relations and communication sub-dimension (mean rank=33.44, sum of ranks=301.00), when senior executive nurses were evaluated by mid-level executive nurses (mean rank=22.44, sum of ranks=875.00), it was seen that

human relations and communication skills were lower. Also, when we look at the effect size [Cohen's $d=(38681-46270)/34740.158491=0.21845$], we can say that there was a weak effect. When senior manager nurses were evaluated by mid-level manager nurses in the "management of nursing care" sub-dimension, it was seen that the management skills of nursing care were significantly lower ($p=0.003$). When senior manager nurses were evaluated by mid-level manager nurses in the "human resources management" sub-dimension, it was seen that human resources management skills were significantly lower ($p=0.031$). When senior manager nurses were evaluated by mid-level manager nurses in the "management and leadership" sub-dimension, it was seen that their management and leadership skills were significantly lower ($p=0.002$). When the senior manager nurses were evaluated by mid-level manager nurses in the "professionalism" sub-dimension, it was seen that their professionalism skills were significantly lower ($p=0.001$).

Lower-level managers (charge nurses) were evaluated by service nurses. A questionnaire consisting of 123 skills that lower-level managers should possess was administered in the lower-level managers (31 participants). In Table 5, the number of people (n), mean and total scores, and the answers given by the lower-level manager nurses and the service nurses who evaluated them were compared using the Mann-Whitney U test under 5 main headings. A significant difference was found when the charge nurses

TABLE 4: Self-evaluation of senior managers and their evaluations by mid-level managers.

Skills	Groups	Number of individuals (n)	Mean	Mann-Whitney U	Wilcoxon W	Z	Exact significance [2*(1-tailed significance)]
Human relations and communication	Senior-level managers	9	33.44	95.000	875.000	-2.138	0.033 ^a
	Middle-level managers	39	22.44				
Management of nursing care	Senior-level managers	9	36.72	65.500	845.500	-2.921	0.003 ^a
	Middle-level managers	39	21.68				
Human resources management	Senior-level managers	9	33.50	94.500	874.500	-2.143	0.031 ^a
	Middle-level managers	39	22.42				
Management and leadership	Senior-level managers	9	36.94	63.500	843.500	-2.961	0.002 ^a
	Middle-level managers	39	21.63				
Professionalism	Senior-level managers	9	38.22	52.000	832.000	-3.267	0.001 ^a
	Middle-level managers	39	21.33				

^aMann-Whitney U test; ^bNot corrected for ties.

TABLE 5: Self-evaluation scores of the lower-level managers and their evaluations made by service nurses.

Skills	Groups	Number		Mann-Whitney U	Wilcoxon W	Z	Exact significance [2*(1-tailed significance)]
		of participants (n)	Mean				
Human relations and communication	Lower-level managers	31	231.50	457.500	706.500	-1.736	0.000 ^b
	Nurses	363	194.60				
Management of nursing care	Lower-level managers	31	36.72	440.500	704.500	-2.018	0.001 ^b
	Nurses	363	21.68				
Human resources management	Lower-level managers	31	33.50	558.500	716.500	-0.066	0.533 ^b
	Nurses	363	22.42				
Management and leadership	lower-level managers	31	36.94	446.000	705.000	-1.906	0.000 ^b
	Nurses	363	21.63				
Professionalism	Lower-level managers	31	38.22	474.000	708.000	-1.457	0.015 ^b
	Nurses	363	21.33				

*Mann-Whitney U test; ^bNot corrected for ties.

were evaluated in the human relations and communication sub-dimensions by nurses in 95% confidence interval ($U=457.500$, $N_{\text{charge}}=31$, $N_{\text{nurse}}=363$, $p=0.005$). When lower-level nurses were evaluated by nurses in the “Management of Nursing Care” sub-dimension, it was seen that the management skills of nursing care were lower, thus there was a statistically significant difference ($p=0.001$). When the low-level manager nurses were evaluated by clinical nurses in the “human resources management” sub-dimension, it was seen that there was no statistically significant difference in human resources management skills ($p=0.533$). When the low-level manager nurses were evaluated by clinical nurses in the “management and leadership” sub-dimension, it was seen that their management and leadership skills were significantly lower ($p=0.000$). When the low-level manager nurses were evaluated by clinical nurses in the “Professionalism” sub-dimension, it was seen that their professionalism skills were significantly lower ($p=0.015$).

DISCUSSION

According to the literature review on the skills that nurses should possess, based on the technical skills, human resources skills, and conceptual skills that Katz created, the study conducted by Chase on the Executive Nurse Competency Tool and the study by the AONE (2011) on the skills of executive nurses support each other. As a result of these studies, it is seen that the evaluation of managerial skills includes perceived skill/competence levels in five main areas,

namely, communication and relationship management, leadership, healthcare knowledge, professionalism, and job skills.^{14,25} These results are in agreement with this study.

In the comparison of self-evaluations and those by their subordinates regarding the occurrence of the skills created by the Delphi method in senior executive nurses, it was seen that the evaluations made by mid-level manager nurses were lower in all sub-skills; therefore, there were statistically significant differences (Table 4, $p<0.05$).

In a study involving 20 executive nurses from different regions of the United States, it was reported that 60% of the senior nurse managers considered “human relations skills” as one of the most important of the 5 managerial skills.^{26,27} Findings in Mathena’s study, which included 55 nurse managers, similarly showed that communication skills take the first place. In Mathena’s study, it was determined that interpersonal relations skills are one of the first three skills in terms of skills that are important for the success of nurse managers.²⁸ According to Anderson, executive nurses should have good communication skills/competence in order to resolve and effectively manage conflicts within an organization.²⁹ In another study, it was reported that many nurses could not report the mistakes made, and the reason for this was that their managers had a negative impact on nurses and they had fear of losing their job.³⁰ It was emphasized that a manager nurse with supportive and communicative competence creates a safer working environment and

creates respect and trust among nurses.³¹ The high score of the “human relations and communication” sub-title in this study supports the literature (Table 5, $p<0.05$).

It is emphasized by the American Executive Nurse Organization that senior executive nurses are effective in creating a positive working environment and must have high-level skills to provide exceptional patient care.¹⁴ In addition, it is emphasized that it is an important factor for executive nurses to successfully manage the financing of nursing services in order to ensure the effectiveness of hospital finance management.¹⁵ However, due to the limited role of nurse managers in finance management in Türkiye, there is no expectation about the skills on this subject, and no assessments regarding this skill were made.

Various studies have been conducted on international differences in managerial skills. The managerial competency assessment method was used to evaluate 1,436 managers from four East Asian countries and 3,193 managers from the United States, and the results of this research indicated that there are cultural factors that shape the competencies, personalities, and behavioral preferences of managers. It is normal for the outcomes of managerial competencies assessed to be affected by perceptions of their status, the need for consultation, and the degree of openness in communication between managers and subordinates. The study also highlighted that technical skills are similar in the evaluation of managers of different nationalities and cultures. In addition, it was revealed that all skills of American managers were different from the skills of those from the other countries (they scored higher).³²

When self-evaluations of lower-level manager nurses (charge nurses) were compared with those made by their subordinates (service nurses) regarding the presence of the skills identified with the Delphi method, it was found that their subordinates' evaluations were lower in “human relations and communication”, “nursing care management”, “management and leadership”, and “professionalism”, and there were statistically significant differences (Table 5, $p<0.05$).

Among the competencies/skills required of nurse managers, “interpersonal skills” (communica-

tion skills, exchanging opinions, conflict management, etc.) were considered very important especially for those in leadership positions.^{16,28} Communication skills are stated as a basic competence area for effective managers.³³ In order to increase the reliability level of the organization and to develop the management structure, managers should not be in a position of “blaming others” for mistakes and create a culture of open communication about preventing mistakes.³⁴

Executive nurses should have knowledge regarding the processes used in patient care standards, coordinated care, existing nursing practices, and health service delivery. In addition, manager nurses are expected to follow policies related to health services and to take a representative role in the processes related to nursing laws and other regulations. It is stated that manager nurses who are considered successful are effective in creating practice environments that create effective patient care results.³⁴ The results of another study conducted by Baxter and Warshawsky also support these results, and it was stated that manager nurses are effective in creating positive patient outcomes and positive working environments, and also they positively affect the quality of nursing care.³⁴ To this end, nurses in managerial positions need to create healthy working environments for all employees, and while developing and maintaining this, they should also have the competencies that will enable them to achieve organizational goals.³³ Executive nurses are expected to be competent not only in assessing quality, safety, and productivity but also in establishing an atmosphere of trust among employees to maintain excellent nursing practices.¹⁵ The results of this study are similar to those reported in previous studies (Table 5, $p<0.05$).

In the study by Jennings et al., in which they reviewed 140 articles, they identified 894 “leadership and managerial competencies”. Of these, 862 were defined as common competencies for both leadership and management. They listed some of their leadership competencies as follows: personal characteristics, interpersonal skills, thinking skills, vision setting, communication, initiating change, improving people, health care knowledge, management, and business skills; and they argued that management skills reflect leadership skills.³⁵ They also reported

that the leadership behavior of managers should be considered as an important variable in terms of affecting the subordinates directly. In this study, the “management and leadership” sub-title received a high score, supporting the literature (Table 5, $p<0.05$).

LIMITATIONS

In the first stage of the research, although it was aimed to identify the skills required of manager nurses in Türkiye, due to the nature of qualitative methods, it did not reveal full coverage; therefore, the results cannot be generalized. In the second part of the study, because the participants had difficulty in allocating time for the research due to the heavy workloads we experienced difficulties in data collection. This study includes only the manager nurses of public hospitals in one province.

IMPLICATIONS FOR NURSING MANAGEMENT

In Türkiye, since there is no study conducted by professional organizations on the skills that manager nurses should have, the results of this study can be used as follows:

- The Manager Nurses Association of Türkiye may use the results.
- The skills that senior- and lower-level manager nurses should possess were identified, and this list may be used as data in the training of manager nurses assigned to nursing services management in private and public health institutions.
- A “Scale for Executive Nurse Skills” may be developed in line with the obtained data.
- By applying this “Scale for Executive Nurse Skills” in different institutions, factors affecting skill development may be assessed.

- They may be used as a data source in the creation of training modules and/or certificate programs aimed at improving skills in manager nurses.

CONCLUSION

The skill list of senior, lower-level manager nurses was created under 5 main headings. When the status of possessing these skills was assessed by the subordinates of the superiors, it was found that the subordinates evaluated them significantly lower than their self-evaluations.

Acknowledgments

The authors thank all participants for their participation in the research. We would like to express our deepest gratitude.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Gülcan Çiftçiöğlü, Ülkü Baykal; **Design:** Gülcan Çiftçiöğlü, Ülkü Baykal; **Control/Supervision:** Gülcan Çiftçiöğlü, Ülkü Baykal; **Data Collection and/or Processing:** Gülcan Çiftçiöğlü; **Analysis and/or Interpretation:** Gülcan Çiftçiöğlü, Ülkü Baykal; **Literature Review:** Gülcan Çiftçiöğlü; **Writing the Article:** Gülcan Çiftçiöğlü, Ülkü Baykal; **Critical Review:** Gülcan Çiftçiöğlü, Ülkü Baykal; **References and Fundings:** Gülcan Çiftçiöğlü.

REFERENCES

1. Ahani A, Nilashi M, Ahmadi H. Evaluating the barriers of hospital information system implementation using analytic network processes (ANP) method. *Journal of Soft Computing and Decision Support Systems*. 2016;3(4):30-8. [\[Link\]](#)
2. Al-Moosa NH, Sharts-Hopko N. Using change management to redesign oman's health professions education sector. *Health Professions Education*. 2017;3(2):108-12. [\[Crossref\]](#)
3. Nilsson J, Engström M, Florin J, Gardulf A, Carlsson M. A short version of the nurse professional competence scale for measuring nurses' self-reported competence. *Nurse Educ Today*. 2018;71:233-9. [\[Crossref\]](#) [\[PubMed\]](#)
4. Zuriguel-Pérez E, Lluch-Canut MT, Agustino-Rodríguez S, Gómez-Martín MDC, Roldán-Merino J, Falcó-Pegueroles A. Critical thinking: A comparative analysis between nurse managers and registered nurses. *J Nurs Manag*. 2018;26(8):1083-90. [\[Crossref\]](#) [\[PubMed\]](#)
5. Ayuso-Murillo D, Colomer-Sánchez A, Herrera-Peco I. Communication skills in ICU and adult hospitalisation unit nursing staff. *Enferm Intensiva*. 2017;28(3):105-13. English, Spanish. [\[Crossref\]](#) [\[PubMed\]](#)
6. Kavuncubaşı Ş, Yıldırım S. Hastane ve Sağlık Kurumları Yönetimi. Hastane Organizasyonu. Kavuncubaşı Ş. 5. Baskı. Ankara: Siyasal Kitabevi; 2018. p.111-3.
7. Buchbinder S, Shanks N. An overview of health care management. *Introduction to Health Care Management*. 2nd ed. UK: Jones & Bartlett Publishers; 2011. p.28-81.
8. Groves KS. Talent management best practices: how exemplary health care organizations create value in a down economy. *Health Care Manage Rev*. 2011;36(3):227-40. [\[Crossref\]](#) [\[PubMed\]](#)
9. Lambeth JM. Research foci for career and technical education: Findings from a national Delphi study [Doctoral dissertation]. Texas A&M University; 2008. Erişim Tarihi: 09.06.2020. Retrieved from [\[Link\]](#)
10. Guo KL. A study of the skills and roles of senior-level health care managers. *Health Care Manag (Frederick)*. 2003;22(2):152-8. [\[Crossref\]](#) [\[PubMed\]](#)
11. Pillay R. Managerial competencies of hospital managers in South Africa: a survey of managers in the public and private sectors. *Hum Resour Health*. 2008;6:4. [\[Crossref\]](#) [\[PubMed\]](#) [\[PMC\]](#)
12. Toygar SA, Akbulut Y. Managerial skills of hospital administrators case study of Turkey. *Journal of Health Management*. 2013;15(4):579-94. [\[Crossref\]](#)
13. Thrall TH. Nurturing your nurse managers. *Hosp Health Netw*. 2006;80(4):71-2, 74, 2. [\[PubMed\]](#)
14. AONE, Nurse Executive Competencies. Supports the institute of medicine's recommendations on the future of nursing. *Nurse Leader*. 2011;9(6):17-22. Erişim Tarihi: 07.08.2020. [\[Crossref\]](#)
15. Cathcart EB, Greenspan M. The role of practical wisdom in nurse manager practice: why experience matters. *J Nurs Manag*. 2013;21(7):964-70. [\[Crossref\]](#) [\[PubMed\]](#)
16. Spence Laschinger HK, Wong CA, Grau AL, Read EA, Pineau Stam LM. The influence of leadership practices and empowerment on Canadian nurse manager outcomes. *J Nurs Manag*. 2012;20(7):877-88. [\[Crossref\]](#) [\[PubMed\]](#)
17. Hong Q, Pluye P, Fàbregues S, Bartlett G, Boardman F, Cargo M, et al. *Mixed Methods Appraisal Tool (MMAT) Version 2018. User guide*. McGill. 2018;1-11. [\[Link\]](#)
18. Patton MQ, ed. *Bütün M, Demir SB, çeviri editörleri. Nitel Araştırma ve Değerlendirme Yöntemleri*. 2. Baskı. Ankara: Pegem Akademi; 2014.
19. Toma C, Picioreanu I. The Delphi technique: Methodological considerations and the need for reporting guidelines in medical journals. *International Journal of Public Health Research*. 2016;4(6):47-59. [\[Link\]](#)
20. McColl E, Jacoby A, Thomas L, Soutter J, Bamford C, Steen N, et al. Design and use of questionnaires: a review of best practice applicable to surveys of health service staff and patients. *Health Technol Assess*. 2001;5(31):1-256. [\[Crossref\]](#) [\[PubMed\]](#)
21. Boynton PM. Administering, analysing, and reporting your questionnaire. *BMJ*. 2004;328(7452):1372-5. Erratum in: *BMJ*. 2004;329(7461):323. [\[Crossref\]](#) [\[PubMed\]](#) [\[PMC\]](#)
22. Keeney S, Hasson F, McKenna HP. *The Delphi Technique in Nursing and Health Research*. 1st ed. Chichester, West Sussex: Wiley-Blackwell; 2011. [\[Crossref\]](#)
23. Williams PL, Webb C. The Delphi technique: A methodological discussion. *Journal of Advanced Nursing*. 1994;19(1):180-6. [\[Crossref\]](#) [\[PubMed\]](#)
24. Vernon W. The Delphi technique: A review. *International Journal of Therapy and Rehabilitation*. 2009;16(2):69-76. [\[Crossref\]](#)
25. Chase LK. Nurse manager competencies, doctor of philosophy degree in nursing in the graduate college of the University of Iowa, 30-60. *Research Online*. 2010. Erişim tarihi: 04.05.2020 [\[Link\]](#)
26. Corning SP. Profiling and developing nursing leaders. *J Nurs Adm*. 2002;32(7-8):373-5. [\[Crossref\]](#) [\[PubMed\]](#)
27. *Management Study Guide [Internet]*. Copyright © Management Study Guide 2022. Levels of Management - Top, Middle and Lower. Erişim tarihi: 06.05.2020. Available from: [\[Link\]](#)
28. Mathena KA. Nursing manager leadership skills. *J Nurs Adm*. 2002;32(3):136-42. [\[Crossref\]](#) [\[PubMed\]](#)
29. Anderson OR. Assessing nurse manager competencies in military hospital [Doctoral thesis]. Minnesota: Walden University; 2016. Erişim tarihi: 08.05.2020. [\[Link\]](#)
30. Hewitt P. Nurses' perceptions of the causes of medication errors: an integrative literature review. *Medsurg Nursing*. 2010;19(3):159-67. [\[Link\]](#)
31. Rouse RA, Al-Maqbali M. Identifying nurse managers' essential communication skills: an analysis of nurses' perceptions in Oman. *J Nurs Manag*. 2014;22(2):192-200. [\[Crossref\]](#) [\[PubMed\]](#)
32. Chong E. Managerial competency appraisal: a cross-cultural study of American and East Asian managers. *Journal of Business Research*. 2008;61(3):191-200. [\[Crossref\]](#)
33. Fennimore L, Wolf G. Nurse manager leadership development: leveraging the evidence and system-level support. *J Nurs Adm*. 2011;41(5):204-10. [\[Crossref\]](#) [\[PubMed\]](#)
34. Baxter C, Warshawsky N. Exploring the acquisition of nurse manager competence. *Nurse Leader*. 2014;12(1):46-59. [\[Crossref\]](#)
35. Jennings BM, Scalzi CC, Rodgers JD 3rd, Keane A. Differentiating nursing leadership and management competencies. *Nurs Outlook*. 2007;55(4):169-75. [\[Crossref\]](#) [\[PubMed\]](#)