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A cross-sectional study of the determinants of missed nursing care in the private sector: Hospital/unit/staff characteristics, professional quality of life and work alienation

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Abstract

Aim: To analyse missed nursing care in a sample of private hospitals.

Background: The nursing research on understanding and preventing missed nursing care, a critical element in omitted patient safety, is increasing.

Methods: This is a descriptive, correlational and cross-sectional study. Data were collected from 897 nurses working in 25 private hospitals in Turkey through an online survey, which included an Introductory Information Form, MISSCARE Survey, Professional Quality of Life and Work Alienation Scales.

Results: The most frequently missed nursing care was ambulation, and the least was patient assessment. Measurements of the missed nursing care statistically differed in terms of nurses' gender, weekly work hours, overtime work and perception of nurse adequacy, and the hospital's accreditation status. There was a correlation between the missed nursing care and Powerlessness subscale of work alienation.

Conclusion: Nurses missed less complex care more frequently, and long working hours and inadequacy of nurses increased missed care. There is no correlation between the professional quality of life and missed care.

Implications for nursing management: Nurse managers should plan actions to reduce nursing workloads and the instances of missed nursing care. Furthermore, they should develop solutions to make nursing care meaningful and allow nurses to feel empowered.

KEYWORDS

missed nursing care, nursing, powerlessness, professional quality of life, work alienation

1 | INTRODUCTION

Patient safety is a salient issue in the health care sector globally. Increasing patient safety is critical in preventing negative outcomes in nursing care and attaining goals at a desired level of quality (Walton et al., 2010). Errors in health care are divided into two categories: medical errors and omission errors. Studies have focused mainly on medical errors in recent years. However, omission errors, directly related to the quality of care and patient safety, have remained in the background. Detecting omission errors, which results in more serious problems, is more difficult than detecting medical errors (Kalisch, Tschannen, Lee, & Friese, 2011). Thus, it is crucial to determine and prevent omission errors. Missed nursing care (MNC), an omission error, was first described as *'any aspect of required patient*

care that is omitted either in part or whole or delayed' by Kalisch and Williams (2009, p. 211).

Studies in the last decade have associated MNC with patient falls, decreased patient satisfaction, heart failure, acute myocardial infarction, phlebitis in emergency services, various hospital infections, medical errors, pressure ulcers, delayed discharge, physical disability and increased mortality (Brooks-Carthon, Lasater, Rearden, Holland, & Sloane, 2016; Carthon, Lasater, Sloane, & Kutney-Lee, 2015; Kalisch, 2016; Lake, Germack, & Viscardi, 2016; Schubert, Clarke, Aiken, & Geest, 2012). Also, MNC is said to affect safety and cost-effectiveness internationally for patients and health care systems (Kalisch, 2016; Lake et al., 2016). Therefore, MNC has recently been examined with an increasing interest. Studies have been conducted on the associated factors (Bragadóttir, Kalisch, & Tryggvadóttir, 2017; Duffy, Culp, & Padrutt, 2018; Jones, Hamilton, & Murry, 2015; Kalisch, Gosselin, & Choi, 2012a; Kalisch et al., 2011; Labrague et al., 2019; Palese et al., 2015), reasons of MNC (Ball et al., 2016; Blackman et al., 2015) or its consequences on patients and nurses (Papastavrou, Andreou, & Efstathiou, 2014).

Research from the different parts of the world illustrates omission in nursing care. This has resulted in research focused on MNC. Only a single study (Kalisch, Terzioglu, & Duygulu, 2012b) was found to have investigated MNC in Turkey; consequently, further data and evidence are needed about this subject. This study aimed to provide comprehensive information about MNC throughout the private hospitals in Turkey.

2 | CONCEPTUAL FRAMEWORK

Donabedian's (2005) classic theory of quality care relationships to a conceptual framework was adapted to the Missed Nursing Care Model to guide the conceptualization, design and analysis of the study (Figure 1). According to this model, the research includes hospital, unit and staff characteristics, professional quality of life of nurses and work alienation as structural factors, and MNC as a process factor. Staff or patient outcomes were not included in the model.

2.1 | Hospital, unit, staff characteristics and MNC

In the studies investigating correlations between hospital, unit and nurse characteristics, and MNC, hospital characteristics were in general *'size, hospital type, city/region, case mix index, teaching intensity and Magnet status'*; unit characteristics were *'nurse staffing, nurse/patient ratio, work schedules, hospital days and type of nurse staffing'*; and nurse characteristics were *'demographics, work hours per week, overtime work and absenteeism'* (Bragadóttir et al., 2017; Kalisch & Lee, 2012; Kalisch et al., 2011; Kalisch, Xie, & Ronis, 2013). Jones et al. (2015) conducted a review of 54 articles that focused on MNC and have reported that as antecedents of MNC in the related literature, the nurse *(age, gender, education, position, job title, shift, etc.)*, patient *(severity of illness/acute etc.)*, hospital *(size, magnet status, etc.)*, unit *(patient population, staffing, etc.)* and work environment *(teamwork, resource adequacy, etc.)* variables were discussed the most. Similar characteristics are discussed in this study too. Unlike others, this study included the Professional Quality of Life (ProQOL) Scale and Work Alienation Scale (WAS) as compositional factors of nurses.

2.2 | ProQOL, WAS and MNC

Much is known about both the reasons and the most frequently omitted components of MNC. The recent studies state that factors associated with the care environment, such as documentation or technology procedures in the care management process, lack of personnel and intensive patient admission and discharge activities, are among the reasons of MNC. Also, they show that ambulation, mouth care and drug administration components of MNC are usually omitted by nurses (Ball et al., 2016; Bragadóttir et al., 2017; Duffy et al., 2018; Jones et al., 2015; Kalisch, Gosselin, et al., 2012; Lake et al., 2016; Palese et al., 2015; Papastavrou et al., 2014; Smith, Morin, Wallace, & Lake, 2018).

Although there is comprehensive knowledge about MNC and its reasons, much is still unknown about the factors affecting MNC and its effect on nurses. The related literature discussed the relationship between MNC and variables such as teamwork (Kalisch & Lee, 2010;

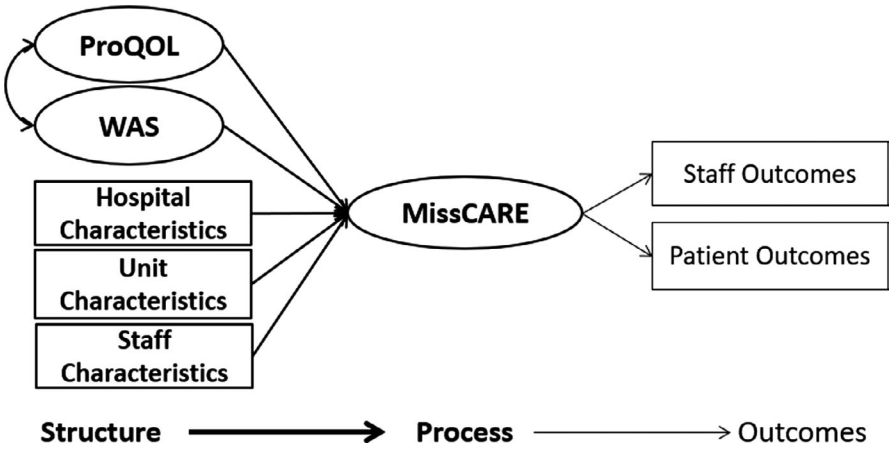

FIGURE 1 Conceptual framework. ProQOL: Professional Quality of Life; WAS: Work Alienation Scale. *Note:* Variables included in the research model are indicated in bold lines

Kalisch et al., 2013), patient satisfaction (Lake et al., 2016), nurse work environment, collective efficacy (Smith et al., 2018), nurse workload (Orique, Patty, & Woods, 2016), personality traits (Drach-Zahavy & Srulovici, 2019) and patient safety culture (Kim, Yoo, & Seo, 2018). Fitzpatrick (2018) stated that there is a need for research investigating the relationship between MNC and nurses' sense of professional responsibility, moral distress, work alienation and professional quality of life. These are important issues that should be investigated as they directly relate to nurses' professional satisfaction and general health.

The number of studies on MNC in Turkey was not satisfactory, and there were no data on private sector. This study aimed to make a contribution to the current knowledge about MNC and compare it with the literature by: (a) examining the most MNC types throughout Turkey; (b) comparing MNC according to hospital, unit and staff characteristics; and (c) investigating the relationship between nurses' ProQOL and WAS levels and MNC, which has not been compared before.

3 | METHODS

3.1 | Design

This is a descriptive, correlational and cross-sectional study.

3.2 | Sample and participants

The study population comprised 2,984 nurses working in 13 provinces of Turkey at 26 private hospitals providing health care services across Turkey. A total of 897 nurses from these hospitals participated in this study (Table 1). Front-line managers and nurses who were directly included in patient care were included in the study. Polyclinics and similar daytime units, daily services, and mid-level and top executive nurses were excluded.

3.3 | Data collection and instruments

Data were collected online in June 2019 by sending an online survey link to the nurses. The link consisted of five pages. The participants received information about the research team and aims of the study on the first page of the online survey before giving informed consent.

3.3.1 | Introductory information form

This form comprised 20 questions about nurses' personal and professional characteristics (age, gender, educational status, etc.) and unit characteristics (nurse/patient ratio, weekly work hours, etc.). Hospital characteristics (accreditation, training time per nurse, etc.) were obtained directly from the top nursing management of the hospital group.

3.3.2 | MISSCARE Survey-Turkish

Section A of this survey was used, which was developed by Kalisch and Williams (2009) and adapted to Turkish by Kalisch, Terzioglu, et al. (2012). Section A consisted of 21 statements covering care that should be provided by nurses but was not. This was indicated by the options "always", "frequently", "occasionally" and "rarely" that referred to the frequency of missed nursing care. In the data collection tool, it was stated to the participants to consider the "last 3 months" while answering the scale. Percentage of the responses to each statement was considered while calculating the scale score. Higher percentages meant that nursing care was not provided or missed. The mean score of all items provided the MNC score of the scale. The internal consistency of the Turkish version of the scale was found to be $\alpha = .94$ (Kalisch, Terzioglu, et al., 2012). Internal consistency of the present study was $\alpha = .99$.

3.3.3 | Work alienation scale

This scale was developed by Mottaz (1981) and translated into Turkish by Sayü (2014). The Turkish version of the scale consisted of 17 items under three subscales (Meaninglessness, Powerlessness and Self-Estrangement). The responses were scored as a 5-point Likert type scale with 1 = totally disagree and 5 = totally agree. A higher score indicated higher alienation level. Sayü (2014) has reported that internal consistency was between $\alpha = .89$ and .90 for subscales and $\alpha = .93$ for the total. However, in this study, internal consistency was between $\alpha = .70$ and .78 for subscales and $\alpha = .88$ for the total.

3.3.4 | Professional quality of life scale

This was developed by Stamm (2005) and adapted to Turkish by Yeşil et al. (2010). The scale consisted of 30 items in three subscales (Compassion Satisfaction, Burnout and Compassion Fatigue). The items were scored between 'never = 0' and 'very often = 5'. A higher score from the scale indicated degradation in ProQOL. Yeşil et al. (2010) have reported that internal consistency was between $\alpha = .62$ and .84 for subscales and $\alpha = .85$ for the total. However, in this study, internal consistency was between $\alpha = .77$ and .95 for subscales and $\alpha = .93$ for the total.

3.4 | Ethical considerations

The Ethics Committee of the Social and Human Sciences of Istinye University gave the approval (Date: 13.06.2019; Decision number: 2019/07-04). The Directorate of Nursing Services of the hospital group gave written permission. The authors adapting the scale to Turkish gave permission by email. Finally, an online survey link was

TABLE 1 Hospital characteristics

No	City/region	Number of nurses	Number of participants	Bed size	Bed occupancy rate (%)	Accreditation	Teaching status	Training time per nurse
1	Ankara/Central Anatolia	116	54	95	45.0	National	Uni. Hosp.	17.6
2	Ankara/Central Anatolia	117	17	210	50.0	National	Uni. Hosp.	6.8
3	Antalya/Mediterranean	209	87	145	93.0	National	Hospital	7.2
4	Bursa/Marmara	147	43	139	64.0	National	Hospital	9.4
5	Canakkale/Marmara	46	15	64	50.0	National	Hospital	14.7
6	Elazıg/Eastern Anatolia	86	22	128	50.0	National	Hospital	16.7
7	Istanbul/Marmara	185	37	122	69.0	JCI & National	Hospital	22.6
8	Istanbul/Marmara	77	12	84	37.0	National	Hospital	13.8
9	Istanbul/Marmara	100	13	189	45.0	National	Uni. Hosp.	9.2
10	Istanbul/Marmara	110	39	144	50.0	National	Uni. Hosp.	15.6
11	Istanbul/Marmara	208	39	293	62.0	JCI & National	Uni. Hosp.	13.9
12	Istanbul/Marmara	139	66	133	41.0	National	Uni. Hosp.	9.3
13	Istanbul/Marmara	136	39	450	33.0	National	Hospital	11.9
14	Istanbul/Marmara	79	40	173	34.0	National	Hospital	11.5
15	Istanbul/Marmara	150	28	159	33.0	National	Hospital	30.3
16	Kocaeli/Marmara	112	25	118	64.0	National	Hospital	18.3
17	Kocaeli/Marmara	125	38	145	79.0	National	Hospital	11.8
18	Mersin/Mediterranean	94	45	172	48.0	National	Hospital	8.9
19	Mersin/Mediterranean	60	21	133	46.0	National	Hospital	11.8
20	Ordu/Black Sea	104	22	195	45.0	National	Hospital	10.3
21	Samsun/Black Sea	169	56	319	37.0	National	Hospital	25.2
22	Samsun/Black Sea	55	28	75	40.0	National	Hospital	15.1
23	Trabzon/Black Sea	89	33	158	39.0	National	Hospital	3.1
24	Trabzon/Black Sea	93	34	111	51.0	National	Hospital	18.2
25	Tokat/Black Sea	81	34	101	32.0	National	Hospital	16.3
26	Usak/Aegean	97	10	131	30.0	National	Hospital	24.1

Note: National: The hospital accredited by the Ministry of Health according to local standards; JCI: Joint Commission International; Uni. Hosp.: University Hospital.

sent to all nurses; however, only those who volunteered and provided their consent were considered in data collection.

3.5 | Analyses

Data were analysed using IBM SPSS Statistics 21 (licensed by university is Istanbul University-Cerrahpasa) software. Data were analysed through internal consistency (Cronbach's alpha internal consistency coefficient), descriptive analysis (number, percentage, minimum, maximum, mean and standard deviation), parametric (independent-samples *t* test and one-way ANOVA–Tukey's HSD) and non-parametric (Mann–Whitney *U* and Kruskal–Wallis–Bonferroni-corrected Mann–Whitney *U*) comparative analyses, and correlative analyses (scatter plots and Pearson's moment–product correlation). While analysing the hospital, unit and staff variables that had a significant difference in MNC levels, the total score of the scale and each item were analysed individually. Thus, the characteristics that had a significant difference in MNC components emerged though they did not have a difference in total MNC scores.

4 | RESULTS

Nurses' age ranged between 19 and 62, most of them were female (83.9%) and were graduates of vocational schools of health (62.1%). They had a mean tenure in the profession of 5.26 ± 5.59 years, a mean tenure in a hospital of 2.94 ± 2.69 years and a mean tenure in a unit of 2.68 ± 2.46. Most nurses worked in inpatient units (54.6%) and were staff nurses (84.1%). The majority worked in shifts (79.4%) between 46 and 59 hr a week (48.3%) and worked overtime (87.3%). The number of patients under their responsibility ranged from 1 to 30 per shift, and the patients stayed in the unit for 13.50 ± 17.73 days. Of the nurses, 29.2% stated they had a missed care event and most of them found the number of nurses in their unit insufficient (47.0%) (Table 2).

TABLE 2 Participant characteristics (*N* = 897)

	n	%
Age groups*(R:19–62; M:25.13; SD: 6.32)*		
≤25 years	662	73.8
≥26 years	235	26.2
Gender		
Female	753	83.9
Male	144	16.1
Educational level		
Medical vocational high school	557	62.1
Associate degree	173	19.3
Graduate and postgraduate	167	18.6
Tenure in profession *(R:1–44; M:5.26; SD: 5.59)*		
≤1 year	206	23.0
2–5 years	413	46.0
≥6 years	278	31.0
Tenure in hospital *(R:1–17; M:2.94; SD: 2.69)*		
≤1 year	363	40.5
2–5 years	410	45.7
≥6 years	124	13.8
Tenure in unit *(R:1–17; M:2.68; SD: 2.46)*		
≤1 year	405	45.2
2–5 years	388	43.3
≥6 years	104	11.6
Unit		
Inpatient units	490	54.6
Intensive care units	407	45.4
Position		
Staff	754	84.1
Front-line manager	143	15.9
Work schedule		
Shifts	712	79.4
Only daytime	185	20.6
Weekly working time *(R:20–75; M:51.78; SD: 6.93)*		
≤45 hr	261	29.1
46–59 hr	433	48.3
≥60 hr	203	22.6
Overtime work		
Yes	783	87.3
No	114	12.7
Overtime work hours (*n*:783) *(R:1–20; M:9.15; SD: 4.47)*		
≤8 hr	350	44.7
≥9 hr	433	55.3
Nurse/patient ratio (*n*:893)*(R:1–30; M:5.67; SD: 2.46)*		
≤ 5 patients	502	56.2
6–10 patients	370	41.4
≥11 patients	21	2.4
Hospitalization days (*n*:835) *(R:1–100; M:13.50; SD: 17.73)*		
≤7 days	466	55.8
8–15 day	170	20.4
≥16 day	199	23.8
Missed care experience		
Yes	262	29.2
No	635	70.8
Perception of nurse adequacy		
Not enough	422	47.0
%25	139	15.5
%50	177	19.7
%75	120	13.4
%100 enough	39	4.3

Note: R: range; M: mean; *SD*: standard deviation; *n*: frequency; %: percentage.

4.1 | Frequency of MNC components

The most missed nursing care events were "ambulation three times daily as ordered (33.8%)", "PRN medication within 15 min (33.4%)" and "feeding patient when the food is still warm (33.4%)", respectively. The least missed ones were "patient assessments performed each shift (19.0%)" and "handwashing (19.3%)" (Figure 2).

4.2 | Comparisons of the MNC according to hospital, unit and staff characteristics

Regarding hospital characteristics, a significant difference was found in accreditation of the hospital only on the overall MNC score. The MNC level was higher in hospitals which have Joint Commission International (JCI) accreditation than in hospitals that have local accreditation by the Ministry of Health. Comparing the components, there were significant differences in the region, type of hospital and training time per nurse in terms of some components ($p < .05$). MNC was found to be higher in hospitals with less training time per nurse in a university, and in the Eastern Anatolian Region ($p < .05$; Table 3). In relation to the number of beds and bed occupancy rates of the hospitals, no significant difference was found either in the scale total or in the items ($p > .05$).

There was also no significant difference in the overall MNC score of any unit characteristics ($p > .05$). However, the results were different in the item-based comparisons. Those who worked in intensive care units, had patients hospitalized for less than seven days, and had nurse/patient ratios 1/11 or higher had higher scores with a significant difference in several components ($p < .05$; Table 3).

Nurses' gender, weekly work schedule, overtime work and perception of nurse adequacy in the unit had a significant difference in the overall MNC score ($p < .05$). MNC measurements of male nurses,

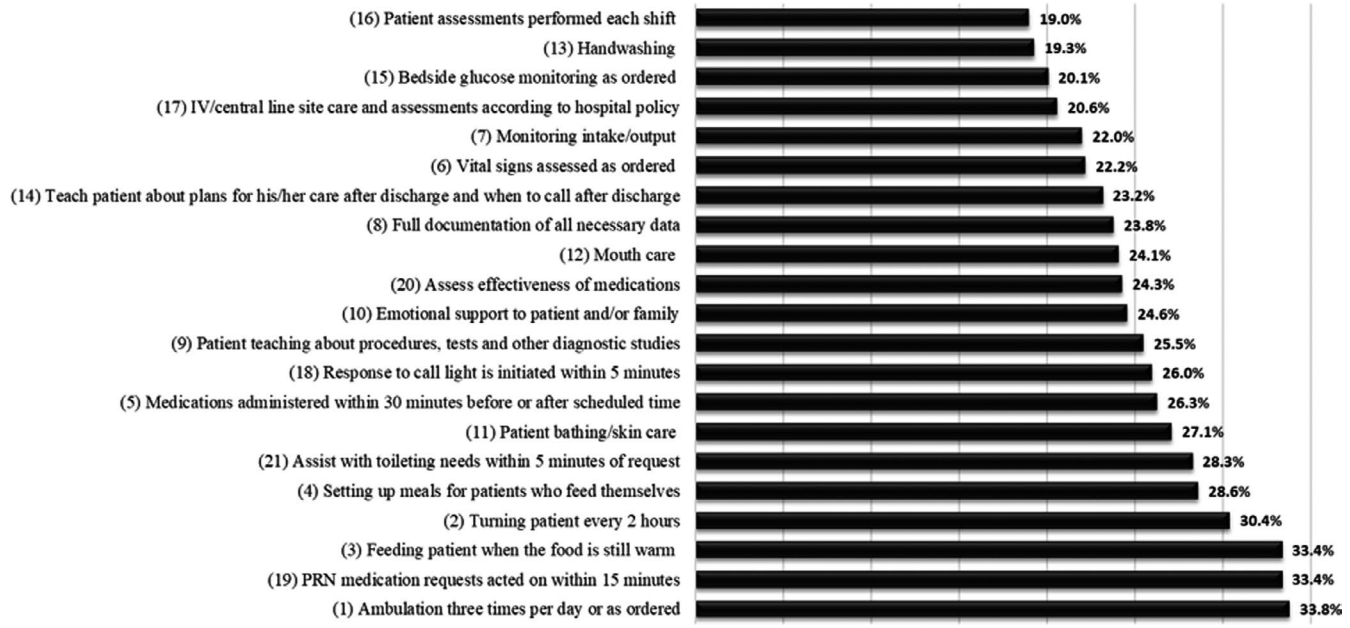

FIGURE 2 Frequency of missed nursing care components. *Notes:* Occasionally, frequently and always answers were considered as MNC. MNC component numbers were given in parentheses. Nurses' responses cover the last 3 months

those who worked over 60 hr per week, those who worked for more than 9 hr and those who perceived the number of nurses inadequate, were higher. Though not significant in the scale total, MNC scores of younger nurses, those who had tenure in the profession of less than a year, were higher, while the scores of nurses with associate degrees were lower ($p < .05$; Table 3). Regarding the nurses' tenure in the hospital or unit, no significant difference was found either in the scale total or in the items ($p > .05$).

4.3 | Relationships between ProQOL, WAS and MNC

There was no significant correlation between the ProQOL subscales and MNC ($p > .05$). No significant correlation was found between the total WAS score, Meaninglessness and Self-Estrangement subscales, and MNC. Among WAS subscales only, there was a positive, weak and significant correlation between Powerlessness and MNC ($r = .104$, $p < .05$). The results are shown in Figure 3.

5 | DISCUSSION

This study was conducted in a group of private hospitals with branches in many cities of Turkey and recruiting many nurses. Thus, the results are significant as they provide information throughout the country and reflect the status of the private sector. Some findings, such as hospital, unit and staff characteristics making a significant difference in MNC, from the international literature were analysed in terms of Turkish validity and the correlation between MNC and ProQOL and WAS.

5.1 | Frequency of MNC components

In this study, the most frequent MNC component was ambulation three times per day as ordered. Similarly, a study conducted in Turkey showed that the most MNC was emotional support and ambulation, respectively (Kalisch, Terzioglu, et al., 2012). Griffiths et al. (2018) have also reported that the most missed aspect of care was ambulation. However, care components stated to be missed most in the related literature may vary. For instance, a study conducted in Korea showed that the most missed MNC components were emotional support and full documentation of the necessary data (Min, Yoon, Hong, & Kim, 2019). This is assumed to be associated with varied nursing care policies across countries or institutions. Priorities of nurses during care depend on the nursing labour force of countries and professional training of nurses. Also, long work hours, work overload and high nurse/patient ratios reduce the time that nurses allocate for patients' emotional needs and patient training, so this results in omission (Min et al., 2019). Patient assessment, glucose monitoring and intake/output monitoring documented in patients' files, and components related to medical care were less frequently missed. Similarly, Willis et al. (2015) have reported that MNC components relating directly to medical orders were missed less often.

5.2 | Comparisons of the MNC according to hospital, unit and staff characteristics

Region of the hospital, teaching status, bed size, bed occupancy rate and training time per nurse did not have a significant effect comparing overall MNC levels. Ausserhofer et al. (2014) have reported that bed size and technological level did not have a significant effect.

Three findings of this study are worth highlighting. At first, the authors predicted that the MNC level would decrease with increasing educational level. On the contrary, both the graduate/ postgraduate degree and high school level nurses had the highest MNC scores in this study. Although there was no significant difference according to the total MNC scores, the associate degree nurses' scores were significantly lower in the components of "mouth care", "bedside glucose monitoring" and "assist with toileting needs". Despite that no study was found in the related literature making such a comparison, the authors estimate that this may be caused by the distribution of tasks according to the complexity of nursing interventions. The second is the MNC level in university hospitals with high teaching status was higher although there was no significant difference between the groups. However, Bragadóttir, Kalisch, Smáradóttir, and Jónsdóttir (2016) have stated that MNC levels in teaching hospitals were significantly higher, while Ausserhofer et al. (2014) have discussed that teaching status did not have an effect. The third one, unlike what is stated in the literature (Kalisch & Lee, 2012), is the determination that MNC level is higher in hospitals with JCI accreditation than in hospitals with local accreditation. There are two possible reasons why MNC level is higher in JCI-accredited hospitals having a high teaching status. The first reason may be that the scale used in the study was self-reporting. The points of view and awareness of the nurses working in a university hospital or JCI-accredited hospital on MNC may have increased. Therefore, nurses may tend to give themselves low scores although they provide the care. The second one may be that the standards are higher in JCI-accredited hospitals and university hospitals in terms of patients' care needs and nursing care. In addition, nurses may admit that they missed care for some reasons and found it difficult to meet expectations.

This study showed that unit type, duration of patient hospitalization and the nurse/patient ratio did not make a significant difference in overall MNC score. However, there was an increase in MNC components as the nurse/patient ratio increased and care components such as "PRN medication", "response to nurse call" and "assisting with toilet" that should be addressed as soon as possible were missed. Min et al. (2019) have stated that a higher nurse/patient ratio increased MNC level.

Regarding staff characteristics that had a significant difference in MNC, higher scores were obtained by male nurses, those who worked longer hours and had overtime, and those who perceived the number of nurses as inadequate. Only the study by Bragadóttir et al. (2016) has found that males had higher scores, while other studies stated that gender had no consistent effect (Jones et al., 2015). Weekly work time is 45 hr in Turkey for the private sector and is longer than in many other countries. Although studies have reported that overtime work has no significant effect (Kalisch & Lee, 2010; Kalisch et al., 2013), nurses in this study worked for 52 hr with additional overtime work of 9 hr. In a sense, this can be identified as "over–overwork" and resulted in very significant differences in MNC levels reported by the nurses. According to Bragadottir et al. (2016), MNC level increases as the perception of nurse adequacy reduces, which supports this study. The study results have shown that nurses' age, educational status or experiences are not significant components of MNC. Long work hours, heavy patient loads, overtime work and inadequate number of nurses are determinants of MNC.

5.3 | Relationships between ProQOL, WAS and MNC

No significant difference was found between ProQOL and MNC, while a significant but weak correlation was found between MNC and only Powerlessness subscale of the WAS. Aydın and Özeren (2019) have stated that weakness, which is a component of work alienation, comes about when employees have the feeling they will not leave a mark in their job or profession and their ideas are not adequately considered by the managers. Therefore, no matter how weak the correlation is, MNC level can be higher when nurses are passive regarding patient care and when they do only their duties. Nurse managers who want to reduce MNC in their unit or hospital should help staff nurses feel gratification for doing a valuable job and care about their ideas.

5.4 | Limitations of the study

This study is important as it provides in-depth information about MNC in the private sector but has limitation regarding generalizability of the results since it did not provide information regarding the public sector. Data were collected through self-reporting by voluntarily participating nurses. Thus, the results of MNC are not as reliable as direct observations. Finally, the study did not include staff and patient outcomes as the sample consisted of participants from different hospitals and cities.

5.5 | Implications for nursing management

The most frequent MNC was stated to be the mobilization and feeding of patients, when appropriate, which are generally provided by patients' relatives in Turkey. It is known that family caregivers generally participate in the caring process for patients with Alzheimer's disease, schizophrenia and cancer or older patients and children, in developed health care systems (Caqueo-Urizar et al., 2016; Cohen, Auslander, Dror, & Breuer, 2016; Hagedoorn et al., 2019; Nemati, Rassouli, Ilkhani, & Baghestani, 2018). However, this situation is different in Turkey. At least one family caregiver stays in clinics with patients during inpatient process (except the ICU or other critical areas) even if the patient is being treated in a private or public hospital. One reason for this is can be explained by the traditional expectations. Patients' relatives feel an obligation to accompany the patient during inpatient time. The second reason is nursing shortage. Family caregivers have a basic role in patient care because of lack of nursing employment in Turkey, which is ranked lowest according to the number of nurses per 10,000 people between the OECD countries (OECD, 2019). However, with the effect of the increasingly

TABLE 3 Comparisons according to hospital, unit and staff characteristics (*N* = 897)

			n	*M* (*SD*)	MISSCARE	Items
Hospital Characteristics	Region	Marmara	434	1.42 (0.65)	KW = 9.618 *p* = .087	15, 19 a > b
		Central Anatolia	71	1.35 (0.64)		
		Black Sea	207	1.36 (0.61)		
		Aegean[b]	10	1.07 (0.09)		
		Mediterranean	153	1.37 (0.58)		
		Eastern[a]	22	1.55 (0.82)		
	Teaching status	University Hospital[a]	162	1.43 (0.66)	*t* = 0.880 *p* = .379	3 a > b
		Hospital [b]	734	1.38 (0.62)		
	Accreditation	JCI and National[a]	39	1.64 (0.79)	*z* = −2.365 *p* = .018*	2,3,5,6,7,8,10,11,12, 13,17,18,19,20,21 a > b
		National[b]	857	1.38 (0.62)		
	Training time per nurse	<15 hr[a]	568	1.42 (0.66)	*t* = 1.917 *p* = .056	2,4,5,6,7,8,9,11,12,19 a > b
		≥15 hr[b]	328	1.34 (0.57)		
Unit Characteristics	Unit	Inpatient units[a]	490	1.40 (0.64)	*t* = 0.623 *p* = .533	1, 18 b > a
		Intensive care units[b]	406	1.38 (0.62)		
	Hospitalization days	≤7 days[a]	466	1.37 (0.63)	F:1.084 *p*:.339	1 b,c > a
		8–15 days[b]	170	1.45 (0.67)		
		≥16 days[c]	198	1.36 (0.58)		
	Patient/nurse ratio	≤ 5 patients[a]	501	1.36 (0.61)	KW:4.308 *p*:.116	1,3,5,11,12,13,18, 19,20,21 c > a,b
		6–10 patients[b]	370	1.40 (0.62)		
		≥11 patients[c]	21	1.83 (1.08)		
Staff Characteristics	Age groups	≤25 years[a]	662	1.41 (0.66)	*t*:1.471 *p*:.142	1,7,8,9,14,15,16,19 a > b
		≥26 years[b]	234	1.34 (0.54)		
	Gender	Female[a]	753	1.37 (0.62)	*t*:−2.070 *p*:.040*	9,15,16,21,22 b > a
		Male[b]	143	1.49 (0.67)		
	Educational status	MVHS[a]	556	1.41 (0.66)	*F*:1.882 *p*:.153	12,15,21 a,c > b
		Assoc. D.[b]	173	1.31 (0.48)		
		Grad/Post Grad. D.[c]	167	1.42 (0.69)		
	Position	Staff[a]	753	1.40 (0.64)	*t*=.991 *p*=.322	4,7,8 a > b
		First-line[b]	143	1.34 (0.55)		
	Tenure in profession	≤1 years[a]	206	1.42 (0.70)	*F*:0.616 *p*:540	9,16 a > b,c
		2–5 years[b]	413	1.39 (0.64)		
		≥6 years[c]	277	1.36 (0.55)		
	Weekly work hours	≤45 hr[a]	261	1.39 (0.66)	F:5.031 p:007**	2,3,9,10 c > a,b
		46–59 hr[b]	432	1.34 (0.54)		
		≥60 hr[c]	203	1.50 (0.77)		
	Overtime work (*n*:782)	≤8 hr[a]	349	1.33 (0.58)	t:−2.363 p:0.018*	3,4,6,15,16 b > a
		≥9 hr[b]	433	1.44 (0.68)		
	Missed care experience	Yes[a]	262	1.42 (0.55)	t:0.843 p:0.400	1,19 a > b
		No[b]	634	1.38 (0.66)		
	Perception of nurse adequacy	Not enough[a]	422	1.43 (0.65)	KW: 10.537 p:0.032*	5,19,21 a,b > c,d,e
		%25[b]	138	1.40 (0.63)		
		%50[c]	177	1.33 (0.60)		
		%75[d]	120	1.33 (0.62)		
		%100 enough[e]	39	1.31 (0.55)		

(Continues)

	n	*M* (*SD*)	MISSCARE	Items
Overall MISSCARE Score		1.39 (0.63)		

Note: KW: Kruskal–Wallis; t: independent-samples *t* test; z: Mann–Whitney *U*; F: one-way ANOVA.
National: The hospital accredited by the Ministry of Health according to local standards; JCI: Joint Commission International.
MVHS: Medical Vocational High School; Assoc. D.: associate degree; Grad/Post Grad. D.: graduate and postgraduate degree.
M: mean; *SD*: standard deviation; *n*: frequency; %: percentage.
The subgroups of independent variables with significant differences in comparison analysis were encoded with letters (a, b, c, etc.).
$^{*}p<.05$
$^{**}p<.01$.

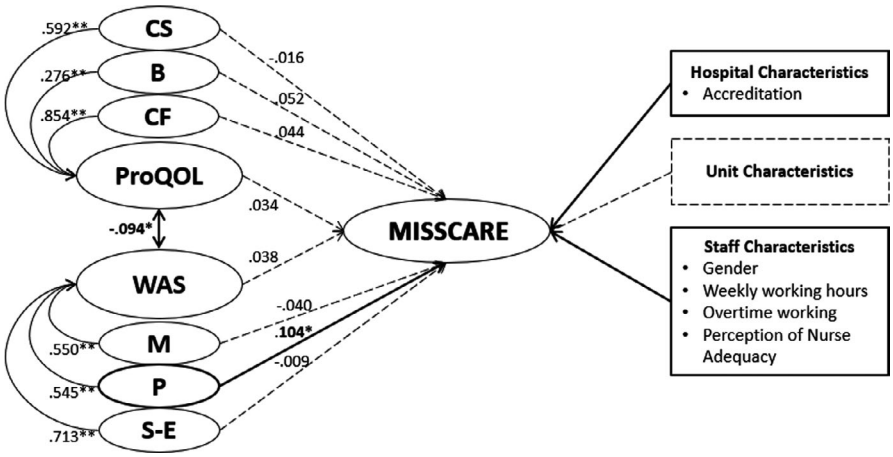

FIGURE 3 Study results according to the research model. ProQOL: Professional Quality of Life; CS: Compassion Satisfaction; B: Burnout; CF: Compassion Fatigue; WAS: Work Alienation Scale; M: Meaninglessness; P: Powerlessness; S-E: Self-Estrangement. *Note:* The variables that have a significant relationship or difference were indicated by bold lines ([]), and those that have a non-significant relationship or difference were indicated by dashed lines ()

intense city and working life, relatives of patients have begun to have some difficulties in doing so. To close the gap between the required nursing care and the existing one, assistant nurses are started to be trained (The Official Gazette, 2014). It is planned to employ assistant nurses in clinical settings, after they have completed their occupational training.

However, assistants can take an active role in reducing this gap by performing non-complex MNC components that are left to the relatives of patients. An appropriate labour force, keeping nurses' workload at reasonable levels and providing necessary sources for care are among nurse managers' duties. Therefore, nurse managers should adhere to the conditions in Nursing Personnel Recommendation of the International Labor Organization (ILO, 1977; Article 6), employing assistant nurses to undertake responsibilities in nursing care in accordance with national laws to reduce the workload of nurses. Therefore, the qualified nursing labour force can be used effectively for care needs including more complex care and decision-making.

The results showed that some characteristics of hospital (e.g. training time per nurse), unit (e.g. nurse/patient ratio) and staff (e.g. age groups), which did not make a significant difference in MNC total, were significant at component level. This may stem from the single-factor structure of the MNC scale used in this study. Although the scale has been adapted to Turkish and is valid and reliable, in the Turkish sample, developed measurement tools that include more than one subscale are needed. Unit-specific MNC measuring tools should be developed as nursing care differs by patient populations. Nurse managers should collaborate with nurse educators in this regard.

6 | CONCLUSIONS

This study indicated that the least MNC was patient assessments and central line care that were included in the daily workflow of nurses and predetermined by the care protocols of hospitals. The staff characteristics such as weekly work hours, overtime working and perception of nurse adequacy made a significant difference in MNC, rather than hospital and unit characteristics. It is interesting that MNC level reported in hospitals with JCI accreditation was found to be high in this study. Finally, MNC levels of nurses did not have any relationship with compassion satisfaction, burnout and compassion fatigue, which were components of ProQOL. Nevertheless, a positive correlation was found in Powerlessness only among components of WAS.

This study is important as it provides comprehensive information about private sector in Turkey. However, due to the limitations of MNC measurement tool, a specific measurement tool is needed in general for Turkish culture, appropriate to nursing legislation at national level including nursing roles, and in particular for different patient populations and their care needs.

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CONFLICT OF INTEREST

No conflict of interest has been declared between the authors.

AUTHOR CONTRIBUTIONS

FEB, HA, GTE and EG designed the study. FEB, EG, HA and GTE collected and analysed the data. FEB, HA, GTE and EG wrote the manuscript.

ETHICAL APPROVAL

The study was approved by the Ethics Committee of Social and Human Sciences of Istinye University, dated 13.06.2019 and numbered 2019/07-04.

SUBMISSION DECLARATION

This study has not been published elsewhere before.

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