

Beyond the Outpatient Clinic: High-Risk Clinical Exposure and Employment Inequities Among Wound, Ostomy and Continence Nurses in Türkiye

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ABSTRACT

Objective: Wound, Ostomy and Continence Nurses (WOCNs) frequently provide bedside care across multiple hospital settings, including intensive care units and other high-risk clinical environments. However, despite these responsibilities, many are administratively classified as outpatient nurses and may not receive the employment benefits available to staff formally assigned to high-risk units. This study aimed to describe WOCNs' involvement in high-risk clinical settings, their occupational exposures, and their employment benefits in Türkiye.

Methods: A descriptive cross-sectional study was conducted among 100 WOCNs working in seven geographical regions of Türkiye. Data were collected through an online questionnaire assessing demographic characteristics, time spent in high-risk clinical units during the previous month, occupational exposures, compensation status, and perceptions of working in these settings. Ethical approval and institutional permission were obtained prior to data collection. Quantitative data were analyzed using descriptive statistics, while qualitative responses were examined using content analysis.

Results: Participants had worked as WOCNs for a mean of 4.67 ± 4.75 years. During the previous month, WOCNs spent substantial time in high-risk clinical environments, particularly in intensive care units (median 40 [interquartile range (IQR), 10–80] hours), and palliative care centers (median 5 [IQR, 0–38.5] hours). The most frequently reported occupational exposures were blood (93%), feces (89%), and urine (83%). Although WOCNs regularly provided care in high-risk units, 76.0% reported not receiving the additional compensation available to staff officially assigned to these units. Qualitative findings revealed perceived inequities related to compensation, high infection exposure risk, excessive workload, barriers to certification, and assignments outside their area of expertise.

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Conclusion: The WOCNs in Türkiye spend a considerable proportion of their working time in high-risk clinical environments. Despite these responsibilities, most do not receive employment benefits comparable to those provided to staff formally assigned to high-risk units. The findings highlight a mismatch between administrative classification and actual clinical practice and support the need for workforce policies and employment regulations that better reflect the scope, risks, and responsibilities of specialist WOC nursing practice.

Keywords: Wound, ostomy and continence nurse, occupational exposure, high-risk units, workforce policy, employment rights, specialist nursing

INTRODUCTION

Wound, Ostomy, and Continence Nurses (WOCNs) constitute an important nursing specialty that encompasses specialized care services in wound care, ostomy care, and continence care (1). The development of WOCN worldwide dates back to the late 1950s. In particular, the enterostomal therapy programs launched at the Cleveland Clinic under the leadership of Dr. Rupert Beach Turnbull and Norma N. Gill, a person with an ileostomy, marked a significant turning point in the professionalization of this field (2). Programs that initially focused solely on the rehabilitation of individuals with stomas have, over time, expanded to include wound and incontinence care. As a result, stoma care nursing has become a multidisciplinary and evidence-based field of expertise (1). Today, through international organizations such as the World Council of Enterostomal Therapists (WCET) and the Wound, Ostomy and Continence Nurses Society (WOCN), educational standards are being established in this field, specialist qualifications are being defined, and care models aimed at improving patients' quality of life are being developed (3,4). In developed countries, WOC nurses perform their duties after obtaining a WOC specialist training certificate from an accredited body, following completion of an undergraduate or postgraduate degree (4).

WOCN development in Türkiye began in the 2000s. The first stoma therapy unit in Türkiye was established at Gazi University Hospital in 2000, marking a significant step toward the systematic provision of stoma care services (5,6). The professional identity of the field was subsequently strengthened by the establishment of the Wound, Ostomy and Incontinence Nurses' Society (Yara Ostomi ve İnkontinans Hemşireleri Derneği [YOIHD]), the development of certified training programs, and the definition of the duties, powers, and responsibilities of the Stoma and Wound Care Nurse in the Nursing Regulations in 2011 (6,7). Founded in Türkiye in 2008, the YOIHD is a professional nursing organization dedicated to supporting and advancing the career development of nurses

specializing in wound, ostomy, and incontinence care. Since 2000, the number of specialist nurses in this field has grown rapidly in Türkiye. The WOCNs in Türkiye obtain their certification by completing a 240-hour theoretical and practical training course approved by the Ministry of Health, in accordance with the Certified Training Standards for the Healthcare Sector (8). The number of Enterostomal Therapy Nursing Training Programs (ETNEP), which stood at zero in 2000, has risen to approximately 10 (9); the number of nurses certified through these programs has exceeded 650; according to YOIHD, the number of stoma therapy units has reached 36 (10), while the number of chronic wound care units reported by the Ministry of Health reached 59 as of May 2026 (11).

Nowadays, stoma and wound care units provide patients with care and rehabilitation services, as well as education and counseling, to reduce complications and improve quality of life (6). The WOCNs assume significant responsibilities within the healthcare team in their roles as caregivers, educators,

HIGHLIGHTS

- Wound, ostomy, and continence nurses (WOCNs) routinely deliver bedside care in intensive care units, isolation rooms, emergency departments, and other high-risk clinical settings.
- Occupational exposure among WOCNs includes frequent contact with blood, feces, urine, and hazardous body fluids.
- Despite working in high-risk environments, 76% of WOCNs reported receiving no additional compensation designated for staff working in high-risk units.
- Administrative classification as outpatient nurses does not reflect the actual scope, responsibilities, or occupational risks of WOC nursing practice.
- The findings of the study support policy reforms to ensure equitable recognition, occupational protection, and compensation for specialist WOCNs.

consultants, researchers, and managers (5,6,12). The WOCNs work across a wide range of areas, from determining the stoma site prior to surgery to postoperative stoma and peristomal skin care, wound care, prevention of complications, and selection of appropriate care products (6,13). In addition, they play an active role in helping patients develop self-care skills (14), adapt to changes in body image (15), and improve their quality of life (13,16). By adopting evidence-based care practices, WOCNs continue to provide patient and family education, support multidisciplinary teamwork, and contribute to improving care outcomes (6,7).

In Türkiye, WOCNs carry out their duties either as an independent unit or as part of a consultation system within health-care institutions. The WOCNs provide stoma and wound care services to patients of all ages in hospitals, not only in stoma therapy, colorectal surgery outpatient clinics, and chronic wound units, but across all departments (17,18). The WOCNs also provide care to patients in areas designated by the Ministry of Health in Türkiye as requiring special attention (19). These units include: operating rooms, angiography units, intensive care units (ICUs), palliative care centers, delivery rooms, neonatal units, pediatric wards, burn units/centers, dialysis units, emergency departments/outpatient clinics, closed psychiatric wards, alcohol and substance use treatment centers, child monitoring centers, isolation rooms, and organ, tissue, and bone marrow transplant units. The WOCNs play a role in patient care in these units and are exposed to high-risk bodily fluids such as blood, urine, feces, and exudate while providing care (20). The risk increases when nursing interventions such as wound culture collection, application of topical agents, mechanical debridement, drain management, and assistance with surgical or chemical debridement are performed.

Furthermore, WOCNs have provided care services during exceptional conditions, such as the COVID-19 pandemic, and have faced numerous physical and psychosocial risks (18,21,22). During the pandemic, WOCNs faced situations that threatened staff safety, such as the risk of exposure to COVID-19—a highly contagious infection—the risk of developing pressure injuries associated with medical devices due to the use of personal protective equipment, and being separated from their families (23,24). All these physical, biological, and psychosocial risk factors to which WOCNs are exposed clearly highlight the demanding nature of their working conditions and the high level of clinical responsibility they take on. For these reasons, appropriate regulations governing the working conditions of WOCNs are warranted.

Although WOCNs are frequently perceived as outpatient-based specialists, their clinical practice extends far beyond dedicated wound and stoma care units. In many healthcare settings, WOCNs provide bedside consultation and direct patient care in intensive care units, isolation rooms, emergency departments, palliative care centers, and other environments associated with increased occupational risk. Consequently, their actual workplace exposure may differ substantially from their formal administrative classification. Within the current healthcare system in Türkiye, WOCNs are generally classified as ‘poly-clinic nurses’. As a result, WOCNs are deprived of employment benefits, such as shift allowances and the risk-related components of revolving-fund supplements provided to colleagues formally assigned to units such as ICUs, operating rooms, or emergency departments. However, WOCNs spend a significant portion of their working hours in the hospital’s high-risk and critical care units, managing complex cases directly at the patient’s bedside. As part of their duties in these settings, they work under demanding conditions that involve a high risk of infection, exposure to drug-resistant microorganisms, and the management of complex and open wounds, as well as stoma care—all of which place a heavy physical, biological, and psychological burden on them. Although studies have explored the roles, competencies, and work experiences of WOCNs (25,26), little is known about the extent of their involvement in high-risk clinical environments and whether their employment benefits reflect their actual workplace exposure. To our knowledge, no previous study has quantitatively examined the relationship between WOCNs’ time spent in high-risk units, occupational exposure, and access to employment benefits associated with high-risk clinical work. Addressing this gap is important for workforce planning, occupational health, and the recognition of specialist nursing roles. Understanding the discrepancy between WOCNs’ formal employment classification and their actual clinical exposure is essential for ensuring equitable workforce policies, occupational protection, and recognition of specialist nursing practice.

This study aimed to describe WOCNs’ involvement in high-risk clinical settings, their occupational exposures, and their employment benefits in Türkiye. Specifically, the study addressed the following questions:

1. What is the extent of WOCNs’ involvement in high-risk clinical units?
2. What occupational risks and exposures do WOCNs encounter while delivering care in these settings?
3. Is there a mismatch between WOCNs’ actual clinical exposure and the employment benefits they receive, and how do they perceive this situation?

MATERIALS AND METHODS

Study Design and Sample

This study employed a descriptive cross-sectional design to examine WOCNs' involvement in high-risk clinical environments, occupational exposures, employment benefits, and perceptions regarding their working conditions. Quantitative and qualitative data were collected concurrently through an online survey. The study was conducted online between April 1 and 10, 2023. The study population consisted of nurses working as WOCNs in Türkiye. No formal sampling procedure was used; the study included 100 nurses who were members of YOIHD, were working as WOCNs at the time of the study, and volunteered to participate. At the time of the study, the society had a total of 212 registered members. The study's response rate was 47.17%.

Data Collection Tools

The study used a questionnaire developed by the researchers based on the literature (17,22). The questionnaire was reviewed by researchers experienced in WOC nursing and nursing workforce research to ensure clarity, relevance, and content appropriateness prior to data collection. The questionnaire consisted of three parts and 31 questions. The first part contained nine questions on nurses' demographic characteristics, including age, gender, educational level, years of service, and certification status. The second part consisted of 20 questions, including the amount of time WOCNs had spent working in specialist units during the previous month and the total number of patients they had cared for. The third part contained two open-ended questions: (i) What risks have you been exposed to during your work experience in units with specific characteristics as a WOCN? (ii) What are your views on your work experience in units with specific characteristics as a WOCN?

For the purposes of this study, high-risk units were defined according to the Turkish Ministry of Health regulations identifying clinical areas eligible for additional compensation due to increased occupational risk. These units include ICUs, operating rooms, emergency departments, isolation rooms, burn units, palliative care centers, dialysis units, transplantation units, and other designated specialized clinical settings.

Procedure

The data collection questionnaire was created as an online survey (Google Forms; Google LLC, Mountain View, CA, USA). The online questionnaire was sent to nurses via the WhatsApp (Meta Platforms, Inc., Menlo Park, CA, USA) group comprising

YOIHD members. To prevent nurses from completing the survey more than once, the survey was set to 'Limit to one response'. Data were collected by repeatedly sending messages to the group. It took approximately 5–10 minutes to complete the questionnaire.

Data Analysis

IBM SPSS Statistics, version 20.0 (IBM Corp, Armonk, NY, USA), was used to analyze the data obtained in the study. The research data were analyzed using descriptive statistics (frequencies, percentages, means, standard deviations, minimums, and maximums). The normality of continuous variables was evaluated using the Shapiro-Wilk test. Continuous variables with a normal distribution were expressed as mean and standard deviation, whereas non-normally distributed variables (e.g., time, number of polyclinic visits) were expressed as median and interquartile range (IQR).

The qualitative data obtained from the open-ended survey questions were analyzed using conventional content analysis based on the Miles and Huberman framework (27). In the content analysis, the data were examined independently by two researchers (BI, ŞG), and similar concepts were grouped together to form themes and subthemes. The themes and subthemes developed by the researchers were reviewed by the other members of the research team, and consensus was reached on the final themes and subthemes (28). The Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines were used to analyze and report the qualitative findings (29).

Ethical Considerations

Ethical approval for the study was obtained from the Gazi University Clinical Non-Interventional Research Ethics Committee on March 21, 2023, with decision no. E-77082166-604.01.02-618184. Institutional permission was obtained via e-mail from the YOIHD. In the first part of the survey questionnaire, participants were provided with preliminary information about the study and provided informed consent. The study was conducted in accordance with the Declaration of Helsinki.

RESULTS

The study findings are presented in two sections: quantitative and qualitative results.

Quantitative Results

The mean age of the participating nurses was 37.49 ± 7.80 , the mean length of service in the nursing profession was

15.94 ± 8.67 years, and the mean length of service as a WOCN was 4.67 ± 4.75 years. Among the participants, 53.0% were aged between 36–49 years, 89.0% were female, and 95.0% held a bachelor's degree or higher. Overall, 37.0% of the nurses worked in the Central Anatolia Region, and 31.0% worked in a stoma and wound care unit. Half of the participants (50.0%) held a WOCN certificate approved by the Ministry of Health. Most participants (76.0%) did not receive the additional compensation provided to staff working in high-risk units (Table 1).

During the previous month, WOCNs spent the most time in intensive care units (median 40 [IQR, 10–80] hours), followed by isolation rooms (median 10 [IQR, 2–30] hours), and the

palliative care center (median 5 [IQR, 0–38.5] hours). The units in which nurses spent the least time were the operating rooms, delivery rooms, angiography units (median 0 [IQR, 0–0] hours), dialysis units, organ, tissue and bone marrow transplantation units (median 0 [IQR, 0–0] hours), and closed psychiatric wards (median 0 [IQR, 0–0] hours) (Table 2).

During the previous month, the highest number of patients cared for by WOCNs was reported in intensive care units (median 40 [IQR, 12.75–103.75] patients), followed by emergency departments or outpatient emergency settings (median 3 [IQR, 0–39] patients), and palliative care centers (median 6.5 [IQR, 0–20] patients). The fewest patients were cared for in dialysis and transplantation units (median 0 [IQR,

Table 1. Demographic characteristics of WOCNs (n = 100).

Variables	n	Variables	n
Age		Unit of employment	
≤35	42	Chronic Wound/Wound Care Unit	39
36–49	53	Stoma and Wound Care Unit	31
≥50	5	Stoma Therapy Unit	5
Gender		General Surgery Clinic	5
Female	89	ICUs	5
Male	11	Diabetic Foot/Wound Outpatient Clinic	2
Education level		Burn and Wound Care Unit	2
High school	5	Endoscopy Unit	2
Bachelor's degree	61	Palliative Care Center	2
Master's/PhD degree	34	Other (Home care unit, internal diseases clinics)	7
Region		WOCNs' certification status	
Central Anatolia Region	37	Yes, approved by the Ministry of Health	50
Marmara Region	32	Yes, approved by other organizations	13
Aegean Region	15	No	37
Mediterranean Region	6	Status of additional payment receipt	
Black Sea Region	4	Yes	24
Eastern Anatolia Region	4	No	76
Southeastern Anatolia Region	2		
		Variables	$\bar{X} \pm SD$ (Min.–Max.)
		Age (y)	37.49 ± 7.80 (23–59)
		Years working in the profession (y)	15.94 ± 8.67 (2–41)
		Years working as a WOCN (y)	4.67 ± 4.75 (1–22)

$\bar{X}$: Mean, SD: Standard deviation, Min: Minimum, Max: Maximum, WOCN: Wound, Ostomy, and Continence Nurse, ICU: Intensive care unit.

Table 2. WOCNs' working hours and the number of patients they cared for in high-risk units over the past month (n = 100).

Units with specific risks	Working hours (hours)	Number of patients under care
	Median (IQR) (Min.–Max.)	Median (IQR) (Min.–Max.)
ICUs	40 (10–80) (0–200)	40 (12.75–103.75) (0–500)
Isolation rooms	10 (2–30) (0–300)	0 (0–0) (0–13)
Emergency department/outpatient clinic	1 (0–32) (0–240)	3 (0–39) (0–900)
Palliative care center	5 (0–38.5) (0–240)	6.5 (0–20) (0–256)
Burn unit/center	0 (0–0) (0–180)	0 (0–0) (0–80)
Operating room/delivery room/angiography unit	0 (0–0) (0–120)	0 (0–0) (0–130)
Dialysis/organ and tissue transplant/bone marrow transplant units	0 (0–0) (0–20)	0 (0–0) (0–13)
Closed psychiatric wards	0 (0–0) (0–30)	0 (0–0) (0–5)

IQR: Interquartile range, Min: Minimum, Max: Maximum, ICU: Intensive care unit.

0–0] patients), closed psychiatric wards (median 0 [IQR, 0–0] patients), and operating rooms, delivery rooms or angiography units (median 0 [IQR, 0–0] patients).

In their daily practice, nurses most frequently reported exposure to blood (93%), feces (89%), and urine (83%) in both stoma and wound care units and in high-risk units. The least frequently reported occupational exposures were sharps injuries (2%), radiation (2%), and scabies (1%) (Table 3).

Qualitative Results

Nurses' views on working in high-risk clinical units were organized into two themes: disadvantages and advantages. The themes and subthemes are presented in Table 4.

Theme 1: Disadvantages

Five subthemes were identified under the theme of disadvantages: high risk of exposure to infectious diseases, lack of additional compensation, excessive workload, barriers to participation in WOCN certification programs, and assignment of certified WOCNs to duties outside their area of expertise.

Table 3. Occupational exposures of WOCNs during their work* (n = 443).

Variables	%
Blood	93
Feces	89
Urine	83
Sweat	80
Saliva	65
Wound exudate	11
Infected wound (purulent drainage, odor)	8
Drainage	6
COVID-19	3
Sharp-object injuries	2
Radiation	2
Scabies	1

WOCN: Wound, Ostomy, and Continence Nurse.

*n was calculated from multiple responses.

Table 4. WOCNs' views on working in specialized units.

Theme	Sub-theme
Disadvantages	• High risk of exposure to infectious diseases
	• Lack of additional compensation
	• Excessive workload
Disadvantages	• Barriers to participation in WOC certification programs
	• Certified WOCNs are being assigned to roles outside their field
Advantages	• WOCNs receiving additional payment

WOCN: Wound, Ostomy, and Continence Nurse.

Subtheme 1: High risk of exposure to infectious diseases

WOCNs who participated in the study reported facing many risks within the hospital. The WOCNs described their experiences related to this subtheme;

'We were at high risk of infection during the pandemic and still are; since we provide care in every department of the hospital, we are exposed to many infections.' (Participant 64, 37 years old, female).

'With blood spurting onto my face, dealing with feces and foul-smelling, infected wound fluids, I continued to perform the care that the patient's spouse, daughter, and mother refused to do—out of self-sacrifice, professional ethics, responsibility, and conscience—under extremely difficult conditions, adhering fully to the ethical guidelines of WOCN because I am so dedicated to this specialty...' (Participant 94, 48 years old, female).

Another participant stated:

'Services are provided to all units. During this process, one is exposed to the risks of all units.' (Participant 100, 36 years old, female)

Subtheme 2: Lack of additional compensation

Participants reported that they did not receive additional compensation from hospital administration despite providing specialized services in high-risk clinical settings. Participants expressed their views as follows:

'Although I provide services in a specialist area, I am treated as an outpatient clinic staff member when it comes to pay. The

treatment we receive is unfair. Although I work 5 hours a day in high-risk ICUs, management ignores this, and assigns us to different areas. Regulations on stoma and wound care are essential.' (Participant 99, aged 45, female)

'As WOCNs, we are the only unit that comes into contact with patients the most, enters the same environment, and performs our duties at the patient's bedside after our colleagues in clinical and ICUs. There must be some recognition for this effort, and additional payment should be made for this.' (Participant 95, 33 years old, female)

'Despite working in high-risk units, we are treated as if we were outpatient clinic nurses and receive the lowest incentive payments; we want improvements in this regard.' (Participant 59, aged 28, female)

Subtheme 3: Excessive workload

Participants noted that WOCNs work across multiple departments in addition to hospital stoma therapy units and described the resulting workload:

'The imbalance between the number of patients and the number of nurses is truly exhausting in terms of workload. The number of nurses should be increased to a certain extent.' (Participant 66, 26 years old, male)

'The work we do is very risky and exhausting; we approach the patient holistically. Our job isn't just about providing education—it involves providing care. All patients in the hospital with wounds or stomas are under our responsibility.' (Participant 81, 52 years old, female)

'As a certified WOCN, I have cared for patients for long hours without distinguishing between clinical units, including those under contact isolation. Even though there are colleagues and units that handle specialized care without even touching the patient, I hope our voices are heard.' (Participant 91, 44 years old, female)

Subtheme 4: Barriers to participation in WOCN certification programs

Some stoma and wound care nurses reported not having a WOCN certificate. One participant described her experience as follows:

'I have been a wound care nurse for 10 years, but I don't have a certificate. I want to enroll in the launched certificate program. As the person who set up the specialist unit, I am being, and

have been, subjected to bullying. I was removed from my post...' (Participant 98, aged 44, female).

Subtheme 5: Assignment of certified WOCNs to duties outside their area of expertise

One participant reported working in a department outside her area of expertise:

'My new place of work is a public hospital, and I am unable to work in a department that matches my qualification.' (Participant 71, aged 40, female)

Theme 2: Advantages

One subtheme was identified under the theme of advantages: receipt of additional compensation by WOCNs.

Subtheme 1: WOCNs receiving additional payment

One participant described her experience as follows: *'About six months ago, I asked my supervisor for a percentage of my working hours in the intensive care units, and my request was approved; I've been receiving it for six months now.'* (Participant 70, 35 years old, female)

DISCUSSION

This study demonstrated that WOCNs in Türkiye routinely provide care in high-risk clinical settings, including intensive care units, isolation rooms, emergency departments, and other specialized settings. Despite their substantial involvement in these environments and their frequent exposure to biological hazards, most participants reported not receiving the employment benefits and additional compensation provided to staff formally assigned to high-risk units.

Most nurses in the study were based in stoma and wound care units or chronic wound care units; however, they also worked in general surgery clinics, intensive care units, diabetic foot clinics, endoscopy units, and palliative care centers (Table 1). A multicenter, cross-sectional study conducted in China involving WOCNs (n = 123) reported that 77.24% of nurses worked in a stoma clinic and only 10.57% worked as full-time WOCNs. The study found that other nurses worked as WOCNs on a part-time basis while also working in the hospital in roles such as clinical nurse, manager, or instructor (25). In another study, 22.90% of WOCNs (n = 218) worked full-time (26). A cross-sectional study conducted in China (n = 247) found that 69.6% of WOCNs worked part-time in clinics, taking on duties

in more than one area (30). These findings are consistent with our research results and demonstrate that WOCNs have diverse areas of practice and employment arrangements. This variation may reflect the absence of standardized national and international frameworks defining the roles, employment settings, and working conditions of WOCNs.

In Türkiye, nurses are generally required to work 40 hours per week, corresponding to approximately 160 hours per month. WOCNs in this study reported spending a median of 40 hours (IQR: 10-80) per month in ICUs, 10 hours (IQR: 2-30) in isolation rooms, and 5 hours (IQR: 0-38.5) in other high-risk units, such as palliative care centre (Table 2). These findings indicate that WOCNs spend a significant percentage of their working hours providing patient care in critical and high-risk environments. The qualitative findings further support this observation, as one WOCN reported: *'...Although I work five hours a day in high-risk ICUs, management turns a blind eye to this, and we are assigned to work in different areas...'* These findings highlight the importance of aligning employment conditions and benefits with the actual clinical environments in which nurses provide care.

In hospitals, WOCNs carry out key interventions including promoting patient self-care, preventing complications, and supporting psychosocial adjustment (31). According to Turkish legislation, wound debridement, identification of the affected body area, pressure ulcer care, and burn/wound debridement are among the procedures that nurses may perform both independently and in collaboration with a doctor (1). When performing these procedures, WOCNs are exposed to physical, chemical, biological, psychosocial, and ergonomic risk factors (32). In our study, WOCNs reported exposure to both physical hazards, including blood, feces, urine, sweat, saliva, exudate, infected wound material, drain contents, COVID-19, sharps injuries, and scabies, in both stoma and wound care units and other specialized units (Table 3). Similarly, the qualitative findings identified a high risk of exposure to infectious diseases as a major disadvantage of working in these settings (Table 4). In a study evaluating wounds resulting from earthquakes, signs of infection were observed in 62.9% of wounds, and exudate was present in 65.0% (20). Similarly, a study of patients attending a wound clinic (n = 158) reported that 43.0% had a small amount of exudate, 15.8% had an infection, and 12.0% had an odor (33). These findings underscore the need to identify occupational hazards encountered by WOCNs and implement appropriate organizational and individual measures to reduce these risks.

During the COVID-19 pandemic, which affected healthcare systems worldwide, WOCNs faced a high risk of infection while providing patient care and were also assigned to duties outside

their usual work units (18,22,34–36). A study conducted in Türkiye reported that 51.3% of WOCNs ($n = 271$) were assigned to units other than their usual workplaces during the COVID-19 pandemic (18). During this period, nurses were exposed not only to SARS-CoV-2 infection but also to the risk of medical device-related pressure injuries associated with the use of personal protective equipment (36,37). Furthermore, the postponement of surgical procedures during the pandemic led to a decline in the number of patients undergoing colorectal surgery, and WOCNs were assigned to different departments by management (36). In the present study, three WOCNs reported exposure to COVID-19 (Table 3). Assigning nurses to duties outside their areas of expertise or without consideration of their preferences may contribute to psychological stress and burnout, reduced organizational commitment, lower work productivity, and interpersonal conflict among staff (38).

Clear regulatory frameworks are important for professional development. In China, the country with the world's second-largest population, the development of legal regulations governing WOC nursing has been recommended (12). In a study conducted with WOCNs in China, 58.30% of nurses reported that there was no performance-based system in place, and 63.80% reported that there was no promotion system for their professional positions. Similarly, 73.90% of nurses reported not receiving additional compensation, which is comparable to the 76% observed in our study (26). Nurses working in public hospitals in Türkiye receive additional payments for working in the specialist units listed in Table 2. However, despite the occupational risks associated with their work, stoma and wound care units are not classified as specialized units, and WOCNs do not receive additional payment (39). Approximately 25% of nurses in our study reported receiving additional compensation, while the rest did not (Table 1). This issue represents an important concern regarding the employment rights and working conditions of WOCNs. A study conducted in Türkiye ($n = 103$) reported that nurses are more likely to choose to work in areas designated as high-risk by the Ministry of Health because of the financial benefits (38). It is recommended to review the definition of high-risk units in Turkish regulations (40). Recognizing stoma and wound care units as specialized units, along with their employment conditions, could support the development of the WOC nursing workforce.

The study found that only half of the nurses held a WOCN certificate approved by the Ministry of Health. The literature indicates that ostomy care provided by clinical nurses is inadequate, that nurses lack experience in managing peristomal skin complications, and that ongoing training in this area is required (16,41,42). Care provided by certified WOCNs may improve patient satisfaction, reduce preventable

complications, and enhance the quality of nursing care. The study suggests that the reasons WOCNs do not participate in certification programs include the absence of a stoma care unit in the hospital, insufficient support from hospital management, certification programs being offered in another city, and lack of financial resources.

One key issue highlighted in the study is that WOCNs were assigned to duties outside their areas of expertise. Participants reported that, in addition to their primary responsibilities in wound and stoma care, they were assigned tasks such as clinical nursing, preparing duty rosters, and performing administrative duties. In the qualitative data, this issue was reported as follows: *'My new place of work is Public Hospital A, and I am unable to work in a department that matches my qualification.'* A descriptive study conducted with specialist nurses in Türkiye ($n = 83$) found that 34.9% of nurses were working in a department unrelated to their area of specialization, and that the majority of these nurses (68.97%) had not requested a transfer to a department related to their area of specialization from the hospital management (43). These findings suggest that nurses who have received specialized theoretical and practical training may nevertheless be routinely assigned to roles that do not utilize their specialist competencies. This may reflect organizational staffing requirements, limited opportunities for specialist practice, or nurses' reluctance to challenge administrative decisions. Reports from YOIHD workshops have also emphasized the need to increase the number of certified WOCNs. According to these reports, expanding the number of certified specialists is essential for standardizing specialized care and improving patient outcomes nationwide (39,44).

This study has several limitations. Participation was limited to WOCNs who were members of a professional nursing association and volunteered to participate; therefore, the findings may not fully represent all WOCNs working in Türkiye. In addition, data regarding time spent in high-risk units, occupational exposures, and receipt of additional compensation were based on self-report and were not verified through institutional records, which may have introduced recall and reporting bias. Furthermore, WOCNs who were not members of the professional communication network used for recruitment may not have been reached.

Despite these limitations, the study has several strengths. To our knowledge, this is one of the first studies to examine WOCNs' involvement in high-risk clinical environments, occupational exposures, and employment-related inequities. The study included participants from all seven geographical regions of Türkiye, providing a nationwide perspective on WOC nursing practice and increasing the potential transferability of

the findings across healthcare settings. In addition, participants were actively working in a variety of healthcare institutions, allowing the study to capture real-world experiences from diverse clinical environments. The integration of quantitative and qualitative findings provided a comprehensive understanding of the discrepancy between WOCNs' actual clinical responsibilities and the employment benefits they receive. The findings provide evidence that may inform workforce planning, occupational health policies, and the recognition and compensation of specialist nursing roles.

CONCLUSION

The findings reveal a clear mismatch between the administrative classification of WOCNs and their actual clinical responsibilities and workplace exposures. This discrepancy may

contribute to employment inequities and inadequate recognition of specialist nursing practice. Workforce policies and employment regulations should be reviewed to ensure that compensation, occupational protection, and professional recognition more accurately reflect the scope and risks of WOC nursing practice.

Healthcare organizations should also support the appropriate utilization of certified WOCNs by enabling them to practice within their areas of expertise and recognizing their contributions across high-risk clinical settings. Future multicenter national and international studies are needed to examine further the relationship between specialist nursing roles, occupational exposure, workforce retention, and employment outcomes.

Ethical Approval: Ethical approval for the study was obtained from the Gazi University Clinical Non-Interventional Research Ethics Committee on March 21, 2023, with decision no. E-77082166-604.01.02-618184.

Informed Consent: In the first part of the online survey form, participants were given preliminary information about the research and informed consent was obtained.

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