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# Exploring the occupational health needs of oncology nurses: A qualitative study

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## Abstract:

**BACKGROUND:** Although the work environment of oncology nurses is highly complex and challenging, their occupational health needs are scarcely studied. This study aimed to explore the occupational health needs of oncology nurses.

**MATERIALS AND METHODS:** This qualitative descriptive study was conducted in 2018–2019. The participants consisted of 52 oncology nurses and 11 other key informants. They were chosen from eight cancer treatment centers in different cities of Iran. Data were collected through semi-structured individual interviews and analyzed using conventional content analysis.

**RESULTS:** The occupational health needs of oncology nurses were grouped into three main categories included needs for self-care, development of professional competency, and a safe and healthy work environment.

**CONCLUSION:** The work environment of oncology nurses needs to be optimized in terms of physical, psychological, organizational, and sociocultural conditions. Furthermore, the necessary measures should be taken to encourage oncology nurses to implement self-care, thus creating the preparedness to face the challenges of the workplace by developing their professional competencies.

## Keywords:

Occupational health, oncology nursing, qualitative research

## Introduction

Human resources are of the main elements in an organization, and the quality of their health affects success, survival, and achievements of the organization.<sup>[1]</sup> In health-care organizations, nurses are most vulnerable to occupational hazards such as biological, chemical, environmental, physical, and psychological risks.<sup>[2]</sup> Employment in cancer wards is very challenging, and oncology nurses suffer from more work-related issues compared with nurses working in other hospital wards.<sup>[3,4]</sup> Heavy workload due to the increased number of cancer patients, disease complexity, and lack of nursing staff might

negatively affect the occupational health of these nurses.<sup>[5]</sup>

The results of various studies in Iran and India showed that oncology nurses face problems relating to financial issues, lack of supplies, job safety, stressful work environment, and workload.<sup>[6-9]</sup> Other studies in Jordan, Saudi Arabia, and Turkey showed that oncology nurses experience job burnout, occupational stress, work-life conflict, death anxiety, and emotional fatigue.<sup>[4,10,11]</sup> These nurses also face occupational safety hazards due to their exposure to chemotherapy agents.<sup>[12,13]</sup> In fact, workplace deficiencies and challenges in caring for cancer patients can put additional physical, psychological, and spiritual strains on nurses.<sup>[14]</sup>

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The results of a meta-synthesis study show that support, training, and cooperative relationship with a trustworthy atmosphere can help oncology nurses to cope with work-related issues.<sup>[3]</sup> The results of another study indicated the need to improve workplace safety, provide protective equipment, design clinical guidelines, and implement health-monitoring programs for these nurses.<sup>[15]</sup>

In recent decades, occupational health approaches have shifted from personal risk factors, workplace safety, and control of harmful physical factors to health-promoting environments, and the comprehensive impact of psychological, social, cultural, and political factors on employees' health has been considered.<sup>[16]</sup> It seems, however, the majority of the studies have paid attention to certain aspects of the occupational health problems of this group of nurses and have not had a comprehensive view of the needs related to occupational health, whereas occupational health encompasses all aspects of staff health and well-being. Occupational safety and health in the workplace require maintaining and promoting the highest degree of physical, mental, and social health of employees.<sup>[17]</sup> In addition, the need is a relative and context-dependent abstract concept and is a function of time, place, perceptions, and mental beliefs of individuals. Hence, people in developed and developing countries will have a different understanding of the need.<sup>[18]</sup>

In addition, since a qualitative study has not been conducted in this regard, these needs have not been identified from the nurses' perspective. Identifying occupational health needs can cause a sense of worthiness, job satisfaction, job retention, and ultimately improved the quality of patient care.<sup>[2,19,20]</sup> Furthermore, addressing this issue can provide the necessary information for nurse managers and officials of oncology hospitals to design effective programs and interventions to improve the quality of oncology nurses' work environment. The present study aimed to explore the occupational health needs of oncology nurses in Iran.

## Materials and Methods

This qualitative descriptive study was conducted in 2018–2019. The participants of this study were 63 people, 52 of whom were nurses. In addition, to collect further information, the opinions of 11 experts (oncologists, a nursing instructor, a nurse manager, and occupational and environmental health experts) were used. Participants were chosen from eight cancer treatment centers affiliated to medical universities in different cities of Iran (i.e., Tehran, Isfahan, Mashhad, Shiraz, and Babolsar). Purposive sampling was performed, and maximum variation in terms of demographic

characteristics and workplace's geographical location was considered. Inclusion criteria defined for nurses were having bachelor's degree or higher in nursing, having work experience more than 1 year in oncology wards, and being willing to participate in the study.

Data were collected using in-depth and semi-structured individual interviews. All interviews were conducted face to face in the participants' workplaces in a quiet room. In order to maintain the uniformity of the interviews, the interview guide was used. All interviews began with a general question, such as a description of one of the work shifts, and then moved on to more detailed questions in line with the purpose of the research (as a nurse, what needs about your occupational health do you think the authorities should pay attention to? In your opinion, when an oncology nurse can be said to have occupational health?). The interviews lasted about 30–90 min, with the majority lasting approximately 45 min. All interviews were conducted and recorded by one of the researchers (MS) using a digital voice recorder. Data collection was continued up to data saturation.

To analyze the data, the conventional content analysis approach was used according to the proposed steps of Graneheim and Lundman.<sup>[21]</sup> After each interview, the first author listened to its recording and transcribed it word by word. Then, she identified statements related to occupational health needs as meaning units, condensed them, and coded them. After that, codes with common meaning were grouped into subcategories. Subcategories with conceptual similarity were grouped into main categories. Data were managed through MAXQDA software 10.0.(Udo Kuckartz, Berlin, Germany).

The study's credibility was met through doing member checking and sampling with maximum variation. To do member checking, several interview transcripts and their corresponding codes were provided to participants, and they were asked to confirm the congruence between their own experiences and the generated codes. To ensure the study's confirmability, some interviews were analyzed by three authors independently. To ensure the study's dependability, the findings were given to three external peers to check the accuracy of data analysis. Moreover, transferability of the study was met through a detailed description of participants' characteristics, sampling with maximum variation, and presenting some participants' quotations in the findings.

This study was approved by the Ethics Committee of Isfahan University of Medical Sciences with the ethics code IR. MUI. RESE ARCH. REC. 1397. 234. Ethical considerations included obtaining informed written consent, ensuring the confidentiality of information,

obtaining permission to conduct interviews and record participants' statements, and agreeing with them on the interview schedule.

## Results

Most participants were female (73.01%) and married (80.95%), and their mean age was 41.80. The findings regarding participants' background characteristics are presented in Table 1. By analyzing the data obtained from semi-structured interviews about the oncology nurses' occupational health needs, three main categories, including the need for self-care, need for the development of professional competency, and need for having a safe and healthy work environment (HWE), were obtained. These three categories included nine subcategories, as shown in Table 2, and explained in what follows.

### Categories

#### *Need for self-care*

Participants claimed that, due to some inevitable occupational hazards, nurses are required to take responsibility for their protection and self-care and adhere to safety principles and standards in performing care procedures.

**Table 1: Participants' characteristics**

Characteristics	n (%)
Age (years)	
20-30	6 (9.52)
31-40	24 (38.09)
41-50	20 (31.74)
>50	13 (20.63)
Job type	
Nurse	52 (82.53)
Oncologist	6 (9.52)
Nursing instructor	1 (1.58)
Occupational health expert	2 (3.17)
Environmental health expert	1 (1.58)
Nurse manager	1 (1.58)
Gender	
Male	17 (26.98)
Female	46 (73.01)
Marital status	
Single	12 (19.04)
Married	51 (80.95)
Nurses' educational level	
Bachelor's	49 (94.23)
Master's	3 (5.76)
Physicians and nurses' work experience in oncology care (years)	
1-5	11 (18.96)
6-10	22 (37.93)
11-15	8 (13.79)
16-20	11 (18.96)
21-25	6 (10.34)

### Physical self-care

Participants stated that they should pay attention to personal health status, sleep, rest, and exercise. In addition, they believed that they should observe the safety points in administering antineoplastic medicines. Some instances of participants' remarks included: "Well, we work in the department that chemotherapy drugs are used; we must take care of ourselves. We must prepare the drugs under the hood and use personal protective equipment" (P. 43), "I loved that the yoga was simple enough for a beginner to do after a rough day at work" (P. 12)," Self-care – it's looking after me to look after patients, so to speak; if I'm not of a good healthy physical state, I'm hardly likely to be able to support someone" (P. 8).

### Spiritual self-care

From the participants' point of view, for nurses not to suffer psychological trauma, they are required to have a positive attitude toward the process of life from birth to death and be able to achieve inner peace by applying spiritual beliefs. They believed that, through positive thinking, considering spiritual aspects of their work, and the appreciation of their major duty to the patient, they achieve extra energy facing harsh conditions.

"I always try to think about the positive aspects of working in oncology ward and forget about its negative aspects. I think, the more positive one's personality is, the more positive the events they experience. Without such a perspective, you will find it hard to cope with the situation (P. 34)" Another participant said: "Many people say this is the end of the world, but when I want to come to work, I cheer myself up. I dictate to myself that we should work energetically, so we and patients will suffer the least. This way, I relax" (P. 25). "I release events from the day, so I sleep in peace and wake in joy" (P. 18).

### *Need for development of professional competency*

Another occupational health need for oncology nurses was to have the competencies required to work in oncology wards and to obtain the necessary qualifications based on professional standards, labeled as professional competency.

### Psychosocial competencies

From the participants' point of view, oncology nurses need to enjoy the ability to empathize with and have compassion for cancer patients. Furthermore, the oncology nurse is required to have the ability to manage stress and psychological readiness to work in the ward and show appropriate emotional reactions facing stressful situations. They believe that recurrent admissions for the patient every week or two or three ... Therefore, you see the patient many times in a short period. This leads to the development of a friendly relationship between nurses and patients.

**Table 2: Main categories and subcategories of occupational health needs of oncology nurses**

Main categories	Subcategories
Need for self-care	Physical self-care Spiritual self-care
Need for development of professional competency	Psychosocial competencies Development of clinical knowledge and skills
Need for having a safe and healthy work environment	Appropriate and standard design for the physical structure of oncology ward Promoting mental health in the oncology setting Implementation of policies to support the oncology nurses' health Institutionalization of safety culture for handling hazardous drugs Promoting public knowledge about the roles of oncology nurses

"I try not to be too dependent on the patient because our patients come in a lot and are hospitalized regularly, and if we become very dependent emotionally, we will suffer a lot of psychological damage if the patient dies" (P. 9).

#### *Development of clinical knowledge and skills*

Participants stated that, due to the complex nature of the disease, they need to improve their knowledge and skills in care issues. They believed that if nurses have the specialized knowledge and skills of the oncology ward, they will be less stressed in difficult work situations.

"Experienced nurses should prepare and apply chemotherapy drugs. A nurse without sufficient mastery of drug therapy may have medication errors, accidental contact with drugs, or risk of chemotherapy agent extravasation, all of which create stress for the nurse" (P. 13). "In our educational system, there is not much specialized training for cancer nursing at the undergraduate level, and a graduate nurse must work as a general nurse in a highly specialized ward, while the oncology ward requires fully trained nurses to provide care to cancer patients there" (P. 23).

#### *Need for having a safe and healthy work environment*

Participants stated that, in addition to their role in ensuring occupational health, the role of the work environment and its characteristics should not be ignored. Creating a HWE plays an important role in ensuring the occupational health of these nurses.

#### *Appropriate and standard design for the physical structure of oncology ward*

From the participants' perspective, attention should be paid to the light, temperature, sound, ventilation, noise, and other environmental stimuli in the work environment to create a healthy physical environment. Moreover, to minimize exposure to hazardous drugs, chemotherapy drugs should be prepared in a well-equipped, standard room called a *cleanroom*; therefore, nurses are provided with adequate ventilation, standard hoods, and quality personal protective equipment (masks, aprons, gloves, and goggles). The nurses further stated that they were exposed to various work-related accidents and risks as a result of having to work in an unfavorable physical environment.

"For reducing nurses' exposure to high-risk drugs, the roofs of oncology wards should be high enough to have proper ventilation, and the treatment room should be separate and far enough away from the nursing station" (P20). "Oncology wards should be standard places in terms of environmental condition. For instance, poor ventilation for chemical gases generated in the process of treatment might develop physical problems" (P. 31).

#### *Promoting mental health in the oncology setting*

Participants also considered the issue of mental health in the workplace as one of the important dimensions of a HWE and emphasized on creating a peaceful and low-stress environment. In their opinion, regarding the stressful work environment, it is needed to take into account the factors that cause job stress in them and adopt strategies to reduce these factors. According to participants, there should be counselors and psychologists in cancer treatment centers to provide psychological services to nurses.

"Someone should be in the hospital when a nurse feels that she's physically well but mentally tired and can't work, at that moment when she feels she feels like crying, they can talk to her, and she becomes calm and returns to work" (P. 19).

The majority of the participants mentioned the need for individuals' support provided for each other in the workplace and the job support from officials and senior managers. According to them, there ought to be a safe atmosphere between employees and organizational officials or even between the nurse and the patient. A nurse with 14 years of experience said:

"The officials should support the nurses. This is not necessarily limited to financial support; the least they can do is to listen to the nurses and support them during hard times" (P. 22) "It was nice to hear appreciation from our administration and validation that we are working hard" (P. 59).

#### *Implementation of policies to support the oncology nurses' health*

From the participants' perspective, health control and monitoring are necessary in this work environment

due to inevitable contact with chemicals and biological materials, and specialized examinations should be performed for these nurses at different times (before employment and periodically).

Participants mentioned needs such as setting working hours, increasing the number of paid leaves, supporting pregnant or breastfeeding nurses to reduce exposure to chemotherapy drugs, and adjusting the number of staff to the number of patients. Optimizing the provision of welfare services and providing financial support were other needs that the organization is required to meet. One of the participating physicians stated:

“Certainly, the organization should provide more support to nurses; this support can be financial or, for example, they should reduce their work shifts, increase their leaves, give them recreational camps off and on, and provide welfare to nurses” (P. 45). “Sometimes the ward is so crowded by patients that the colleagues cannot even have a rest time. With adequate staffing in the ward, we can do our jobs in a timely manner and hand over the shift without concern about unfinished tasks” (P. 17).

#### Institutionalization of safety culture for handling hazardous drugs

Participants noted that, despite their awareness of the risks of exposure to chemotherapy agents, they did not closely adhere to the safety standards related to their preparation and administration. Adherence to safety standards should be emphasized so strongly that it turns into a part of organizational culture. In this regard, an occupational health expert said:

“Some safety-related educations should be provided frequently. Managers should also supervise occupational safety and require nurses to adhere to safety standards, so that adherence to safety turns into a part of organizational culture (P33).”

#### Promoting public knowledge about the roles of oncology nurses

Participants also emphasized the necessity of improving public knowledge about oncology nurses' roles and believed that patients and their families should respect their dignity and decisions. They also addressed their need for promotion of their position in the community and introducing their profession to the people and patients.

“Society's view of the nursing profession is not very good. In fact, nobody understands the status and value of nursing at all. They think nurses just do injections or give medicines, but in the wards such as oncology, the nurse works shoulder to shoulder with the physician” (P. 53).

## Discussion

The findings of the present study showed that oncology nurses themselves need to be cared for. In the study by Kamisli *et al.*, providing training and psychological support, gaining awareness of individual limitations, exercising, and physical activities to better deal with the problems of oncology nursing have been suggested.<sup>[10]</sup> Moreover, the results of a study showed that designing self-care programs and training oncology nurses in this field is required to promote their health.<sup>[22]</sup>

In the present study, the ability of empathy as well as patience, communication skills, and mental readiness were considered as nurses' psychosocial competencies. The results of the study showed that the most required skills for oncology nurses were patience, empathy, and work experience.<sup>[10]</sup> Participants of the present study believed that specialized training was needed for oncology nursing. The results of studies in Iran, Turkey, and Nigeria also showed that oncology nurses should specifically be trained through specialized cancer nursing education courses. These nurses need to receive training in preparing and the use of chemotherapy drugs and their job safety.<sup>[6,10,19]</sup>

In Iran, some oncology wards do not have optimal physical conditions, and most Iranian oncology nurses do not have access to standard chemotherapy rooms and personal protective equipment.<sup>[6,8]</sup> In accordance with the results of the present study, several studies in Jordan, Izmir, and Portugal reported nurses' dissatisfaction with their inappropriate physical work environment and lack of resources.<sup>[4,23,24]</sup> Designing an appropriate physical environment can have an impact on nurses' health and safety issues.<sup>[25]</sup>

In addition to improvement of physical environment, the participants of the present study needed for a relaxing work environment and strategies to modify their job stressors. In this regard, studies have emphasized the need for psychological support, training, and counseling in the field of stress management, and courses of intraward rotation in these nurses.<sup>[10,26,27]</sup> Receiving job support from colleagues and managers in the workplace was also important from the participants' perspective, as receiving support from colleagues and sharing common experiences with them has been reported to be an effective way to reduce burnout and job stress.<sup>[3,10]</sup> In contrast, having poor communication and conflict with other members of the treatment team has been identified as the highest source of stress for oncology nurses.<sup>[7]</sup>

According to the participants of the present study, the organization and its policies ought to be in line with the workforce's health. The results of a study showed

that the majority of the stressors of oncology nurses' work environment were associated with organizational aspects; therefore, improving organizational conditions has been suggested as one of the strategies to support nurses' health.<sup>[24]</sup> Similarly, a former study in Jordan showed that health-care organizations should provide the necessary support to these nurses by providing sufficient staff and equipment as well as providing financial resources to improve nurses' psychological state.<sup>[4]</sup>

Participating nurses also expressed the need to receive respect and appreciation from patients, since in Iranian society, the nursing profession has not yet acquired a worthy professional and the general public considers nurses as less knowledgeable than doctors.<sup>[28]</sup> Similarly, oncology nurses in Saudi Arabia face a lack of respect from patients and their family members; accordingly, increasing public awareness about the specialized role of oncology nurses through proper media usage is suggested.<sup>[11]</sup>

This study explored the occupational health needs of oncology nurses in university hospitals and provided no data about these needs among oncology nurses in private hospitals or outpatient clinics. Future studies are recommended to compare the occupational health needs of oncology nurses in different cancer care centers.

## Conclusion

The results of the present study showed that, to maintain and promote the occupational health of oncology nurses, it is necessary to create a safe and HWE. Furthermore, due to the urgent need of these nurses for self-protection and self-care, the necessary measures should be taken to encourage them to implement self-care, thus creating the preparedness to face the challenges of the workplace by developing their professional competencies.

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## Conflicts of interest

There are no conflicts of interest.

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