

Status of Pediatric Oncology Nurses to Achieve Global Standards: The Sample of Türkiye

Pediyatrik Onkoloji Hemşirelerinin Küresel Standartlara Ulaşma Durumu: Türkiye Örneklemini

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ABSTRACT

Objective: This study's purpose is to investigate the achievement of baseline standards for pediatric oncology nursing care in Türkiye.

Materials and Methods: The research was carried out with nurse administrators in 41 pediatric oncology clinics between March and May 2022. Data were collected by an 'Information Form' and 'Baseline Standards for Pediatric Oncology Nursing Care'.

Results: Most of the clinics did not meet the first standard related to staffing based on patient acuity. It was found that 80.5% of the clinics that applied formalized education in pediatric oncology clinics, and they met the second standard related to formalized orientation. Most of the clinics (92.7%) had continuing education and training and they met the third standard. Most of the clinics (82.9%) met the fourth standard related to multidisciplinary teamwork. Nearly half of the clinics met the fifth and sixth standards.

Conclusion: It was revealed that there are not many specialist nurses working in the clinics, that the nurse-to-patient ratio is relatively high, and nurses do not receive sufficient financial support for research. Institutions and societies must create strategies that specify pediatric oncology nurses to the achievement of baseline standards.

Keywords: Pediatric oncology, nursing, global standards

ÖZ

Amaç: Bu çalışmanın amacı, Türkiye'de bulunan pediyatrik onkoloji kliniklerinde çalışan hemşirelerinin küresel standartlara ulaşma durumunun incelenmesidir.

Materyal ve Metot: Araştırma Mart-Mayıs 2022 tarihleri arasında 41 merkezdeki pediyatrik onkoloji kliniğindeki sorumlu hemşirelere ulaşılarak gerçekleştirildi. Veriler 'Bilgi Formu' ve 'Pediyatrik Onkoloji Hemşireliği Bakımı Temel Standartları' ile toplandı.

Bulgular: Kliniklerin çoğu, hasta başına düşen hemşire sayısı ilgili ilk standardı karşılamadı. Standardize edilmiş eğitimin, kliniklerin %85'inde uygulandığı ve kliniklerin çoğunun formalize oryantasyona ilişkin ikinci standardı karşıladığı saptanmıştır. Kliniklerin çoğu (%92,7) sürekli eğitim ve öğretime sahipti ve üçüncü standardı karşıladılar. Kliniklerin çoğu (%82,9) multidisipliner ekip çalışmasına ilişkin dördüncü standardı karşıladı. Kliniklerin yaklaşık yarısı beşinci ve altıncı standartları karşıladı.

Sonuç: Kliniklerde uzman hemşire sayısının az olduğu, hemşire/hasta oranının göreceli olarak fazla olduğu ve hemşirelerin araştırmalar için yeterli maddi destek almadığı bulundu. Kurumların ve derneklerin pediyatrik onkoloji hemşirelerinin küresel standartlara ulaşmasında için stratejiler oluşturması kritik öneme sahiptir.

Anahtar Kelimeler: Pediyatrik onkoloji, hemşirelik, küresel standartlar

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INTRODUCTION

Childhood cancers are a heterogeneous group of malignancies consisting of many different diseases with different formation forms, etiologies, treatment methods, and acute and late side effects, and are reported as the second cause of death in children worldwide.¹⁻³ About 400,000 children are diagnosed with cancer each year,⁴ and almost nine out of ten of these children live in low- and middle-income countries (LMICs), where treatment is often unavailable or incredibly expensive.^{5,6} As a consequence, less than 30% of children with cancer survive in LMICs, compared to 80% or higher in high-income countries.^{7,8}

The International Society for Pediatric Oncology (SIOP) was established to prevent children from dying from cancer by improving access to treatment and care in LMICs.⁹ SIOP established various strategies and initiatives to improve the priority of childhood cancer promoting increasing awareness at the national and international levels, as well as extending the resources to perform strategies in cancer care.¹⁰ All these strategies aim to provide quality care to children and to remove these inequalities in LMICs.¹¹ To eliminate these disparities and improve the overall standard of care provided to children, professionals in the healthcare industry play an essential role. Especially pediatric oncology nurses, who are members of a multidisciplinary team, have great responsibilities in this regard.¹² Nurse Working Group was created at the 2011 SIOP congress to increase the quality of care in pediatric oncology nursing.¹³ The main purpose of this group is to provide access to effective and safe nursing care in LMICs. In this context, six baseline standards for pediatric oncology nursing care were developed.⁹ To realize these standards, local governments need to support pediatric oncology nurses in the context of orientation programs and continuing education practices.^{14,15} Nurses should comply with the standards prepared in line with the guidelines in pediatric oncology patient care.¹⁶

Within the scope of this information, this study's purpose is to investigate the achievement of baseline standards for pediatric oncology nursing care developed by the Nursing Working Group of the International Society of Pediatric Oncology in Türkiye.

MATERIALS AND METHODS

Ethics Committee Approval: Written permission was obtained from the Social and Human Sciences Research Ethics Committee of Koc University to conduct the study (Date: 24.03.2022, decision no: 2022.113.IR83.057). All nurses invited to the study were informed about the study and written consent was obtained. They were informed that if they want-

ed to withdraw from the study, they could leave without stating any circumstances. The research was conducted in accordance with the Declaration of Helsinki.

Study Design: This descriptive study purposed to investigate the achievement of baseline standards for pediatric oncology nursing care in Türkiye.

Study Setting: The research will be carried out between February and May 2022 by reaching 62 centers where the treatment and care of pediatric oncology patients in Türkiye are provided.

Data Collection Tools:

Information Form: This form was prepared by the researchers in line with the literature. In the study, a total of 7 questions about the descriptive characteristics of the participants (age, gender, educational status, working time, etc.) and 15 questions about the clinic where the participants worked (number of beds in the clinic, number of nurses working in the clinic, number of specialist nurses, number of pediatric oncologists, etc.) 22 questions were created.^{9,17,18}

Baseline Standard Pediatric Oncology Nursing Care: To increase the quality of care in pediatric oncology nursing, the Nursing Working Group was established within the Pediatric Oncology in Developing Countries (PODC) structure.^{9,11} This society comprises nurses from 23 countries as well as partnerships and advocates for nurses who want to improve pediatric oncology care.⁹ The main purpose of this group is to provide access to effective and safe nursing care in low and middle-income countries. In this context, six basic global standards for nursing care have been developed.¹¹ These standards have been converted into a form by the researchers. In a form consisting of six standards: Inpatient Staffing Plans, Orientation Program, Continuing Education, Multidisciplinary, Collaboration, Safety Resources, and Policies and Procedures.

Data Collection Procedure: To reach the administrator nurses of the pediatric oncology clinics in 62 centers by the researchers, the Turkish Oncology Nursing Association, and the Turkish Pediatric Oncology Group were contacted, and the contact addresses of the nurses were reached. Nurses whose contact addresses were reached were informed about the scope and purpose of the research. Nurses who volunteered to participate in the research were asked to complete a 'Survey Form' by sending them via email, WhatsApp, or social media.

Statistical Analysis: The data were analyzed using the IBM SPSS 28 package program. In the analysis of descriptive data, mean, standard deviation, percent, median, and interquartile range were used.

RESULTS

The research was carried out by reaching 41 centers from 62 pediatric oncology clinics in Türkiye and reaching the administrator’s nurses of pediatric oncology clinics.

The mean age of the pediatric oncology nurses was 36.12 ± 8.94 , 95.1% of the female, 29.3% of them

have 1-2 years of working experience in pediatric oncology, and %46.3 of them have 1-2 years of working experience as administrators of pediatric oncology. More of the nurses had bachelor’s degrees and 24.4% of them had a specialty in pediatric oncology nursing (Table 1).

Table 1. Descriptive characteristics of administrators of the Pediatric Oncology Nurses.

Variables	Statistical Analysis
Age (Mean ± SD)	36.12 ± 8.94
Gender (year) n (%)	Female 39 (95.1)
	Male 2 (4.9)
Working experiences in pediatric oncology (year n (%))	1-2 years 12 (29.3)
	3-5 years 5 (12.2)
	6-10 years 11 (26.8)
	>10 years 13 (31.7)
Working experiences as administrators of pediatric oncology (year n (%))	1-2 years 19 (46.3)
	3-5 years 3 (7.3)
	6-10 years 11 (26.8)
Education n (%)	>10 years 8 (19.5)
	High school 4 (9.7)
	Bachelor 26 (63.4)
Having a specialty in Pediatric Oncology Nursing n (%)	Graduated 11 (26.8)
	Yes 10 (24.4)
	No 31 (75.6)

The average number of beds in the pediatric oncology clinics was 21.85 ± 12.28 , the number of nurses working in the clinics was 13.87 ± 5.88 , and the number of specialist nurses was 0.95 ± 2.38 . More of the clinics were in the university hospital (65.9%), 24.4% of the clinics had specialist nurses, most of the clinics had a specialist pediatric oncology physician (87.8%), 58.5% of them had a specialist psy-

chologist, 48.8% of them had a specialist pharmacist, 36.6% of them had a social worker, 22% of them an occupational therapist, 61% of them had a hospital teacher, 87.8% of them had a medical secretary, 65.9% of them had a nutritionist, 24.4% of them had a day room for parents, 73.2% of them had kitchen/laundry room for parents and 70.7% of them had a playroom for children (Table 2).

Table 2. Descriptive characteristics of pediatric oncology clinic.

Variables	Statistical Analysis
Number of beds (Mean ± SD)	21.85± 12.28
Number of nurses (Mean ± SD)	13.87±5.88
Number of specialist nurses (Mean ± SD)	0.95±2.38
Type of institution n (%)	State Hospital 9 (22.0)
	University Hospital 27 (65.9)
	Foundation Hospital 5 (12.2)
Having a specialist pediatric oncology nurse n (%)	Yes 10 (24.4)
	No 31 (75.6)
Having a specialist pediatric oncology physician n (%)	Yes 36 (87.8)
	No 5 (12.2)
Having a specialist psychologist n (%)	Yes 24 (58.5)
	No 17 (41.5)
Having a specialist pharmacist n (%)	Yes 20 (48.8)
	No 21 (51.2)
Having a social worker n (%)	Yes 15 (36.6)
	No 26 (63.4)
Having an occupational therapist n (%)	Yes 9 (22.0)
	No 32 (78.0)

Table 2. Continue.

Having a hospital teacher n (%)	Yes	25 (61.0)
	No	16 (39.0)
Having a medical secretary n (%)	Yes	36 (87.8)
	No	5 (12.2)
Having a nutritionist n (%)	Yes	27 (65.9)
	No	14 (34.1)
Having day room for parents n (%)	Yes	10 (24.4)
	No	31 (75.6)
Having kitchen/laundry room for parents n (%)	Yes	30 (73.2)
	No	11 (26.8)
Having a playroom for children n (%)	Yes	29 (70.7)
	No	12 (29.3)

The first standard related to staffing is based on patient acuity. The nurse-to-patient ratio in clinics was 6.80±1.89, and it was determined that 31.7% of the centers reached this standard. The nurse-to-patient ratio in the intensive care unit and bone marrow transplant units was 2.97±1.35 and 22% of the clinics met this standard. 24.4% of the clinics had nurses who were experts in the field of oncology and 12.2% of them met the first standard that specialist nurses should not be included in rotations. Unfortunately, most of the clinics did not meet the first standard. The second standard is related to formalized orientation. It was found that 80.5% of the clinics applied a formalized pediatric oncology orientation program for new nurses and the duration of orientation was 10.04±11.46 weeks. It was determined that most of the clinics met the second standard according to the topics to be included in the orientation program. The third standard related to continuing education and most of the clinics (92.7%) had continuing education and training to increase pediatric oncology clinical skills and knowledge, more of them (78.0%) had a least ten hours of continuing education each year

and the duration of annual training was 14.26±13.94 hours. Most of the clinics met the third standard. The fourth standard is related to multidisciplinary teamwork. In most of the clinics (82.9%), a nurse participated in patient visits as well as all discussions with patients as well as parents or other caregivers about treatment plans and diagnosis plans. Most of the clinics met the fourth standard. The fifth standard is related to resources for safe care. 58.5% of the clinics had available resources for safe pediatric oncology care, 68.3% of the included intravenous pumps and hand-washing facilities, and 43.9% of them would only prepare chemotherapeutic agents in the lack of a pharmacist and the presence of suitable personal protective equipment. Unfortunately, nearly half of the clinics met the fifth standard. The sixth standard is related to evidence-based practice. 63.4 % of pediatric oncology nursing practices and policies are now evidence-based, and 26.8 % of nursing research projects that aim to enhance nursing policies and practices have received financial support. Unfortunately, most of the clinics did not meet the sixth standard (Table 3).

Table 3. Global pediatric oncology nursing standards.

Variables		Available	Not Available
Standard 1: Staffing based on patient acuity	A nurse-to-patient ratio of 1:5 for pediatric oncology units n (%)	13 (31.7)	28 (68.3)
	The number of patients per nurse in your clinic (Mean ± SD)	6.80±1.89	
	1:2 for critical care and bone marrow transplant units n (%)	9 (22.0)	32 (78.0)
	The number of patients per nurse in your clinic (Mean ± SD)	2.97±1.35	
	Clinics should have nurses who are experts in the field of oncology. n (%)	10 (24.4)	31 (75.6)
	Specialist nurses should not be included in rotations n (%)	5 (12.2)	36 (87.8)

Table 3. Continue.

Standard 2: Formalized orientation	A formalized pediatric oncology orientation program for new nurses n (%)	33 (80.5)	8 (19.5)
	The program should define specific learning objectives and include training in both theory and clinical skills, followed by 3–4 weeks of working with a skilled nurse n (%)	34 (82.9)	7 (17.1)
	A minimum of 2 weeks of theory/skills training in key topic areas and 3–4 weeks of clinical observation are required n (%)	31 (75.6)	10 (24.4)
Topics to be included in the orientation program	Orientation time in the clinic (Mean ± SD)	10.04±	11.46
	New nurses should successfully complete orientation before providing unsupervised patient care n (%)	36 (87.8)	5 (12.2)
	An overview of pediatric cancers n (%)	29 (70.7)	12 (29.2)
	Safe administration of chemotherapy and high-alert medication n (%)	39 (95.1)	2 (4.9)
	Infection control and prevention n (%)	40 (97.6)	1 (2.4)
	Patient and family education n (%)	37 (90.2)	4 (9.8)
	Palliative care, and early detection and management of oncology emergencies n (%)	34 (82.9)	7 (17.1)
Standard 3: Continuing education	Continuing education and training to increase pediatric oncology clinical skills and knowledge n (%)	38 (92.7)	3 (7.3)
	A minimum of 10 hours a year is recommended n (%)	32 (78.0)	9 (22.0)
	Annual training hours in the clinic (Mean ± SD)	14.26±	13.94
Standard 4: Multi-disciplinary teamwork	A nurse should be included in patient rounds and all meetings with patients and parents/caregivers regarding diagnosis and treatment plans n (%)	34 (82.9)	7 (17.1)
Standard 5: Resources for safe care	Available resources for safe pediatric oncology care n (%)	24 (58.5)	17 (41.5)
	These include intravenous pumps and hand-washing facilities n (%)	28 (68.3)	13 (31.7)
	Nurses should prepare chemotherapy drugs only if a pharmacist is not available and when provided with appropriate personal protective equipment n (%)	18 (43.9)	23 (56.1)
Standard 6: Evidence-based practice	Evidence-based pediatric oncology nursing policies and procedures to guide the delivery of quality nursing care n (%)	26 (63.4)	15 (36.6)
	Should be funded for locally directed research to develop relevant nursing policies and procedures in low- and middle-income countries n (%)	11 (26.8)	30 (73.2)

DISCUSSION AND CONCLUSION

Pediatric oncology nurses, regardless of where they work, may help to reduce disparities, and improve outcomes for children and adolescents with cancer by providing specialized nursing care, patient and family education, research, and advocacy.¹⁰ It is critical to build and expand a sustainable network strategy for pediatric oncology nursing.¹² In this study, it is aimed to investigate the achievement of baseline standards for pediatric oncology nursing care in Türkiye. It was revealed that most of the clinics (more than 80%) reached the second standard related to formalized orientation, the third standard related to continuing education, and the fourth standard related to multidisciplinary teamwork. Unfortunately, more of the clinics could not reach the first standard related to staffing based on patient acuity, the fifth standard related to resources for safe care, and the sixth standard related to evidence-based

practice.

Childhood cancers and their treatments are quite complex. Many professionals are realizing that high-quality specialist nursing care and nursing involvement in clinical decision-making is critical to improving the survival rate of pediatric oncology patients in low- and middle-income countries.^{17,18} For this, the nurses who will be providing care for pediatric oncology patients need to have a specialty in this area and the skills necessary to offer care for these individuals. Because of our research, we determined that the number of specialist nurses in most Turkish clinics is fairly low (24.4%). In addition, the nurse-to-patient ratio is slightly higher than the global standard. It is expected that the quality of life of children who receive care from an active and expert nurse will increase with the increase in the quality of care. Therefore, it is critical that nurses who care for pediatric oncology patients, who are vulnerable pop-

ulations, specialize in and support this.

The fifth standard is related to resources for safe care. Unfortunately, nearly half of the clinics met the fifth standard, and the appropriate personal protective equipment is limited for safe care. 2016 Updated American Society of Clinical Oncology/Oncology Nursing Society Chemotherapy Administration Safety Standards recommend that chemotherapy drugs are prepared by the pharmacist.¹⁹ In this study, pharmacists prepare chemotherapy drugs in 43.9% of clinics. Similarly, Morrissey et al.,²⁰ reported that nurses at L/LMIC report they prepare chemotherapy more frequently and have less access to personal protective equipment, such as nitrile gloves and liquid-resistant gowns, than nurses in high-resource environments. In the study of Sullivan et al.²¹ in 54 countries, 16.8% of countries did not meet the fifth standard related to resources for safe care and 32.7% of them partially met it. Safety standards can serve as the foundation for best practices, which are evidence-based processes that help ensure safe care and treatment within a strong culture of safety and quality.

Pediatric oncology nursing research in the last 50 years has produced evidence to support best practices in nursing care.²² In this context, it is so important to support pediatric oncology nurses' research and allow them to implement evidence-based practice in clinics. According to our findings, a small percentage of pediatric oncology nurses (26.8%) did not get funds for their study, whereas 63.4% embraced evidence-based pediatric oncology nursing policies and practices. The literature supports our study findings. A study by Mezgebu et al.,²² evaluated the status of pediatric oncology nursing research in three low- and middle-income countries, and it was concluded that lack of training, mentors, funding, and opportunities were challenges for nurses to conduct research. It was stated that nursing research education, financing, and protected time are three essential factors in guiding and motivating staff and academic nurses to engage in research that improves the treatment of children and adolescents with cancer in all countries²². In this direction, it is very important to provide advanced nurse training, specialization, support of hospital management, financing, and time opportunities for pediatric oncology nurses to perform evidence-based practices and research.

In conclusion, the safe delivery of nursing care to pediatric oncology patients is an important component of quality care. Despite these limitations, our results show that nurses most of the pediatric oncology clinics have nursing orientation programs, carry out continued education/ training, and have a multidisciplinary teamwork approach. Unfortunately, more of the clinics could not reach the nurse-to-patient ratio; they lack equipment for safe care, im-

plementing evidence-based practice, and financial support for conducting research. Low- and middle-income countries confront significant challenges in caring for children with cancer and their families, give information that was previously lacking in the literature, and suggest possibilities for future study.

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