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AN ANALYSIS OF PRESCHOOL EDUCATION INSTITUTIONS IN TERMS OF CHILD HEALTH AND SAFE

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ABSTRACT

Children who spend a significant portion of their time in preschool education institutions have not yet developed the ability to protect their own health and safety. Therefore, during the time children spend at school, the institution's indoor and outdoor spaces should be equipped to be safe and functional, meeting basic needs in terms of temperature, humidity, ventilation, cleanliness, and health conditions. The compliance of preschool education institutions with physical/spatial conditions concerning child health and safety was evaluated using descriptive analysis techniques based on the opinions of 57 school administrators in the Kırıkkale province.İn terms of spatial suitability, 70.2% of schools with open play areas did not have separate areas arranged for greening efforts, animal care, and plant cultivation. Regarding physical suitability, 87.7% of the schools did not have an infirmary, 75.4% lacked a sleeping room, and in terms of health and safety, 93% did not have a nurse, 78.9% did not have a teacher with first aid certification, and 47.4% did not conduct routine health screenings for students. Additionally, it was found that most schools (61.4%) did not have a fire escape, 52.6% lacked a fire exit, and 38.6% did not have a security guard at the entrance doors.Accordingly, this study demonstrates that the physical and spatial conditions of preschool education institutions are insufficient in terms of child health and safety, and it suggests improvement efforts to address these deficiencies.

Keywords: Preschool education institution, child health, school safety, school health nurse

1. INTRODUCTION

Individuals begin learning from the sounds they hear in the external environment while still in the womb and, after birth, they learn fundamental skills such as eating and speaking by imitating their parents, who serve as role models (Guryan et al., 2008). A study conducted at New York University found that babies learn the language spoken by their parents while in the womb and respond to this language after birth (Ogden, 2016). Preschool education starts within the family during the early years of life and is structured by being influenced by all the social structures around it and the value judgments of the society in which it exists (Taşdelen, 2003). With the transition from an agricultural society to an industrial society, childhood education moved from being a family-provided education in the home environment to being institutionalized (Arslan, 2005). In our country, planning and regulations for the development of preschool education are made in the resolutions of the Ministry of National Education (MEB), the efforts of the Ministry of Family and Social Services (ASHB), state development plans,

and various regulations (Martı, 2020; MEB, 2020a).

Preschool education institutions must meet physical/spatial standards to ensure the safety and health of children (Varlı, 2023, Baran, Yılmaz and Yıldırım, 2007). These institutions should be equipped with the necessary technical infrastructure of the current age, designed to support children's cognitive development, adhere to health conditions, and provide a safe environment free from risks and dangers. The concept of school safety encompasses the entire process from the moment a child leaves home to go to school until they return home (Memduhoğlu and Taşdan, 2007). The indoor and outdoor spaces of schools should be designed as comfortable and warm environments where children can feel safe, explore, observe, and play (Varlı, 2023, Çalışandemir and Şimşek Çetin, 2022; Özburak and Akkar, 2017; Özkubat, 2013).

The work carried out within the scope of school health services should be conducted in collaboration with healthcare workers, school staff, and the families of the children. Providing individuals who receive early childhood education with access to health screening opportunities helps them develop healthy eating habits at a young age, reduces the incidence and spread of infectious diseases through preventive measures, and enables early detection of health problems such as chronic diseases (Kaytaz and Öztürk, 2019). At this stage, school health nurses are vital members of the school health team, implementing health screenings and managing health issues (Koçoğlu and Emiroğlu, 2011; Başcı, 2018; Holmes et al., 2016; National Association of School Nurses [NASN], 2018; Schroeder et al., 2018).

In our country, the duties, authorities, and responsibilities of school health nurses are clearly specified in the "Nursing Regulation" No. 27515, as amended on April 19, 2011, but a precise definition has not been provided. The school nurse can manage health issues by implementing nursing interventions such as health education, counseling, case management, treatment, and monitoring. School health encompasses all efforts to control any factors negatively affecting health in and around the school, as well as evaluating, promoting, ensuring, maintaining, and maximizing the health of students and school staff (Sağlık Bakanlığı [SB], 2008; Türk Tabipleri Birliği, 2005). To sustain life, an individual must first be healthy and have their safety protected.

Today, with the increasing number of mothers working towards this goal, the number of children receiving preschool education is also increasing each year. Children who spend most of their time in preschool education institutions have not yet gained the ability to protect their own health and safety. Therefore, the areas where children sit, walk, eat, etc., should be equipped in a safe and functional manner, ensuring that the institution's indoor and outdoor spaces meet the conditions for temperature, humidity, ventilation, cleanliness, and health. This study aims to determine the opinions of preschool education institution administrators regarding the suitability of the physical/spatial conditions of schools in terms of child health and safety.

2. MATERİAL

In this study, 123 institutions located within the borders of Kırıkkale province were considered. Preliminary work was conducted with 15 of these institutions, and 4 institutions were closed during this period. A total of 33 institutions were excluded from the study because they did not have a kindergarten, and 14 were excluded because their administrators were not willing to participate in the research. The current study was conducted descriptively with a total of 57 preschool education institutions, including 51 kindergartens and preschools affiliated with the Ministry of National Education (MEB), one nursery affiliated with Law No. 657, and five nurseries and daycare centers affiliated with the Ministry of Family, Labour and Social Services (ASHB).

The necessary approvals to conduct the study in the planned preschool education institutions were obtained from the Kırıkkale Provincial Directorate of National Education and the Ethics Committee for Non-Interventional Clinical Research of the Faculty of Medicine at Kırıkkale University. Before the interviews, schools were contacted and informed about the study, appointments were made with school officials, the purpose of the study was explained both in writing and verbally, consent was obtained, and the surveys were collected through face-to-face interviews, taking an average of 30 minutes. The data were analyzed using the SPSS-17 software package. Descriptive analysis techniques were employed to evaluate the data, and percentages, frequencies, and averages were calculated.

3. RESULTS

The findings obtained from observations conducted in preschool education institutions within the borders of Kırıkkale province, both affiliated and not affiliated with the Ministry of National Education (MEB), have been organized according to the survey questions. The data, compiled into documents, have been grouped under sub-dimensions and presented in percentage frequency tables.

3.1.Administrative and School Health Findings

Based on the analysis of the research data, 66.7% of the preschool administrators interviewed were male. The age group of the administrators was predominantly 34-43 years, making up 50.9%, with an average age of 41.9 (min/max = 24-63). Among the administrators interviewed, 38.6% had graduated in preschool teaching, while 47.4% had graduated from other departments of the faculty of education. Additionally, 66.7% of the administrators reported participating in some course, seminar, or conference related to preschool education. Within the scope of the research, 89.5% of the preschool education institutions were affiliated with the MEB, while 10.5% were not affiliated with the MEB. The average number of students in these institutions was found to be approximately 49.4 (min/max = 10-170).

Table 1. Responses of Administrators Regarding Health Facilities in Preschool Education Institutions (n:57)

OPINIONS	Yes		No	
	n	%	n	%

The presence of an affiliated nurse/doctor at the institution	4	7.0	53	93.0
The adequacy of toilets and washbasins for students at the institution	56	98.2	1	1.8
The separation of toilets for male and female students at the institution	49	86.0	8	14.0
The implementation of healthy eating programs	51	89.5	6	10.5
The possession of first aid certificates by teachers	45	78.9	12	21.1
The presence of a first aid kit at the institution	53	93.0	4	7.0
The verification of vaccination cards during student registration	34	59.6	23	40.4
The monitoring of students' weight and height at the institution	53	93.0	4	7.0

59.6% of the institutions check vaccination cards during the school enrollment process, and 93% regularly monitor students' weight and height throughout the year. It was observed that 93% of the institutions have a first aid kit, and 78.9% have teachers with first aid certification, but only 7% have an on-call nurse or doctor (Table 1).

According to Table 2, 94.7% of the institutions provide health education to families, and 100% provide it to students. The data indicates that both families and children receive education on healthy nutrition, active living, and accident prevention, while parents also receive education on toilet and sleep habits. 52.6% of the administrators stated that health screenings are conducted for students in the institution, with health reports (35.1%), vision and hearing screenings (10.5%), contagious disease screenings (7%), and oral and dental examinations (14%). A total of 19 special needs students require regular health monitoring, including seven with autism, four with Down syndrome, five with intellectual disabilities, and three with orthopedic impairments. Additionally, nine students with chronic illnesses were identified, including four with heart failure, three with diabetes, one with asthma, and one with epilepsy.

During the 2019-2020 academic year, there were four injuries requiring emergency intervention, three fractures, one fall from a height, and one asthma attack. Moreover, there were also four cases of measles and three cases of chickenpox.

Table 2. Health Education Topics Provided by Preschool Education Institutions and Health-Related Issues Encountered (n:57)

OPINIONS	**Yes**		**No**	
	n	**%**	**n**	**%**
Providing health education to parents	**54**	**94.7**	**3**	**5.3**
Eating habits and nutritional issues	51	89.5	6	10.5
Toilet habits and issues in toilet training	42	73.7	15	26.3
Sleep habits and sleep issues	28	49.1	29	50.9
Personal hygiene and care	24	42.1	43	57.9
Active lifestyle	12	21.1	45	78.9
Ways to protect from accidents	7	12.3	50	87.7
Behavioral problems	10	17.5	47	82.5
Providing health education to students	**57**	**100**	**0**	**0**
Hand washing	57	100	0	0
Oral and dental health	54	94.7	3	5.3
Healthy eating	49	86.0	8	14.0
Active lifestyle and exercise	16	28.1	41	71.9
Nail care	9	15.8	48	84.2
Accident prevention methods	6	10.5	51	89.5
Health Screenings for Students	**30**	**52.6**	**27**	**47.4**

Health report	20	35.1	37	64.9
Vision and hearing screening	6	10.5	51	89.5
Infectious disease screening	4	7.0	53	93.0
Oral and dental screening	8	14.0	49	86.0
Presence of Special Needs Children in Institutions	**16**	**28.1**	**41**	**71.9**
Autism	7	12.3	50	87.7
Down syndrome	4	7.0	53	93.0
Orthopedic impairments	3	5.3	54	94.7
Intellectual disability	5	8.8	52	91.2
Presence of Children with Chronic Illnesses in Institutions	**8**	**14.0**	**49**	**86.0**
Heart failure	4	7.0	53	93.0
Diabetes	3	5.3	54	94.7
Asthma	1	1.8	56	98.2
Epilepsy	1	1.8	56	98.2
Encountering Accidents and Trauma Events in Institutions	**8**	**14.0**	**49**	**86.0**
Falls	7	12.3	50	87.7
Collisions	7	12.3	50	87.7
Playground accidents	7	12.3	50	87.7
Encountering Situations Requiring Emergency Intervention in Institutions	**8**	**14.0**	**49**	**86.0**
Falling from height	1	1.8	56	98.2
Fractures	3	5.3	54	94.7
Injuries	4	7.0	53	93.0
Bee stings	1	1.8	56	98.2
Asthma attacks	1	1.8	56	98.2
Febrile seizures	1	1.8	56	98.2
Encountering Infectious Diseases in Institutions	**6**	**10.5**	**51**	**89.5**
Measles	4	7.0	53	93.0
Chickenpox	3	5.3	54	94.7

3.2. Findings on the Physical/Spatial Conditions of Preschool Education Institution

Table 3. Opinions of Preschool Education Institution Administrators on the Physical and Spatial Suitability of the School Building (n:57)

OPINIONS	Yes		No	
	n	%	n	%
SCHOOL BUILDING AND SURROUNDINGS				
The school's distance from traffic	41	71.9	16	28.1
The presence of warning signs indicating a school zone around the school area	35	61.4	22	38.6
The proximity of the school building to natural areas such as parks, gardens, and forests	25	43.9	32	56.1
The distance of the school building from coffeehouses, places where alcoholic beverages are consumed and sold, and electronic game centers (at least 100 meters away)	49	86.0	8	14.0
The distance of the school building from pits, cliffs, stream beds, etc.	56	98.2	1	1.8
The distance of the school building from health hazards such as base stations, factories, and transformers	47	82.5	10	17.5
The school's distance from noise and crowds	41	71.9	16	28.1
OUTDOOR AREA				
The presence of an open-air playground that is twice the area covered by the school building	44	77.2	13	22.8
The open area being enclosed by fences for security purposes	55	96.5	2	3.5
The presence of natural or artificial surface materials like soil and grass in the open-air playground	45	78.9	12	21.1
The presence of natural areas with plants, shrubs, and trees in the open-air playground	44	77.2	13	22.8
The presence of separate areas for animal care and plant cultivation	17	29.8	40	70.2
The open area being protected against street animals	54	94.7	3	5.3
SCHOOL BUILDING STRUCTURE				

The school's capability to meet children's needs on a single floor	44	77.2	13	22.8
Classrooms being designed to provide at least 1.5 square meters per child	51	89.5	6	10.5
School doors opening outward	45	78.9	12	21.1
The presence of arrangements for disabled children in school entrances, stairs, corridors, etc.	47	82.5	10	17.5
The presence of building insulation to prevent heat loss	37	64.9	20	35.1
The presence of protective measures such as coverings or roundings on the corners of school walls to prevent injuries	43	75.4	14	24.6
The suitability of classroom window heights	53	93.0	4	7.0
The appropriateness of stair step heights for children	50	87.7	7	12.3
The proper lighting of stairs and corridors	55	96.5	2	3.5
The use of flooring materials in the building that are easy to clean, antibacterial, and hygienic	55	96.5	2	3.5
SCHOOL INTERIOR				
The presence of separate areas for each child to change clothes and shoes	45	78.9	12	21.1
The presence of furniture suitable for children's height	57	100	0	0
The sturdiness of furniture and play equipment	57	100	0	0
The suitability of toilet and sink heights for children	55	96.5	2	3.5
The presence of a kitchen with sections for food preparation, dishwashing, and food storage suitable for the number of children	35	61.4	22	38.6
The presence of an indoor play area for children outside the classroom	32	56.1	25	43.9
The presence of flooring in the playroom designed to prevent injuries	49	86.0	8	14.0
The presence of wall features in the playroom to prevent collisions and injuries	40	70.2	17	29.8
The presence of resting equipment such as cots and beds for each child who spends more than four hours a day at the school	14	24.6	43	75.4
The presence of a health room in the school	7	12.3	50	87.7

3.2.1. Findings on the Surroundings of the School Building: According to the data presented in Table 3, 71.9% of the administrators stated that the school building is located away from traffic, and 61.4% mentioned that there are warning signs around the school indicating the presence of a school. Additionally, 43.9% of the administrators reported that the building is close to natural areas such as parks, gardens, and forests, and 71.9% said that the school building is located away from crowded and noisy areas. The data also revealed that the vast majority of the institutions (98.2%) are situated away from potentially dangerous areas such as pits, cliffs, and riverbeds, 86% are distant from places like coffeehouses, establishments where alcoholic beverages are consumed and sold, and electronic game centers, and 82.2% are far from factories, base stations, and other elements that pose health risks.

3.2.2. Findings on the Exterior and Structural Features of the School Building: All administrators stated that the yard is surrounded by walls and railings. Additionally, 77.2% reported that the building is single-story, allowing children to meet their needs, and that there is an open-air play area twice the size of the building's footprint. Furthermore, 89.5% mentioned that the classrooms and yard are designed to provide at least 1.5 square meters of space per child in the yard. Additionally, 82.5% indicated that adjustments have been made at the building entrance, stairs, and corridors to accommodate children with disabilities. Moreover, 75.4% noted that the corners of walls are protected to prevent injuries, and 96.5% reported that the other floors have antibacterial and hygienic properties (Table 3).

3.2.3. Findings on the Interior Features of the School Building: All administrators reported that the furniture is appropriately sized for children and that the play equipment is sturdy and regularly maintained. Furthermore, 78.9% stated that there is a designated area for each child to change clothes and shoes, and 96.5% said that the height of the toilets and sinks is suitable for children. Additionally, 86% indicated that the flooring in the playroom is designed to prevent injuries, and 70.2% said that the walls are similarly arranged to prevent injuries. However, only 61.4% of the institutions have a kitchen suitable for children's needs, 56.1% have an indoor playroom, 24.6% have rest equipment for each child, and 13.3% have an infirmary (Table 3).

3.3. Findings on Environmental Health and Safety of Preschool Education Institutions

The evaluation revealed that first aid cabinets in the institutions are present and up-to-date, the cleanliness of toilets and sinks is adequate, indoor humidity and temperature are appropriate, pest control measures are in place, and non-slip materials are used on stairs. However, only 61.4% of the institutions have a security guard at the entrance, and 47.4% have a fire exit.

Among the 57 institutions included in the study, it was found that two lack fire extinguishing equipment, three do not have emergency exits marked with signs, four have unsafe electrical outlets, twelve have not taken precautions for sharp edges and corners, and eleven do not regularly clean windows and doors (Table 4).

Table 4. Opinions of Preschool Education Institution Administrators on the Environmental Health and Safety of the School Building (n:57)

OPINIONS	Yes		No	
	n	%	n	%
The ease of access to the first aid cabinet and the currency of its contents	57	100	0	0
The presence of a nurse in the school	7	12.3	50	87.7
The presence of fire extinguishing equipment	55	96.5	2	3.5
The presence of a fire escape	22	38.6	35	61.4
The proper signage of normal and emergency exits	54	94.7	3	5.3
The presence of an unlocked fire exit in the school building	27	47.4	30	52.6
The appropriateness of temperature and humidity levels in all rooms used by children	57	100	0	0
The anchoring of furniture to the walls	56	98.2	1	1.8
The protection of all electrical outlets or their placement at a height out of children's reach	53	93.0	4	7.0
The protection of all sharp edges and corners with safety tapes	45	78.9	12	21.1
The use of non-slip tape on stairs	57	100	0	0
The regular cleaning of toilets and sinks	57	100	0	0
The monthly cleaning of glass windows and doors with appropriate cleaning materials	56	98.2	1	1.8
The pest control for harmful animals, insects, and poisonous plants	57	100	0	0
The visibility of the outdoor area to staff members	54	94.7	3	5.3
The presence of security personnel at the entrance gate	35	61.4	22	38.6
The presence of security cameras in the external surroundings	56	98.2	1	1.8

4. DİSCUSSİON

In this study, the opinions of administrators regarding the suitability of the physical/spatial conditions of preschool education institutions for child health and safety were examined based on the Minimum Standards Guide for Preschool Education Structures (2015), the Preschool Education and Primary Education Institutions Regulation (2014), the Regulation on the Opening, Closing, and Naming of Institutions (2017), and the Regulations on the Establishment and Operation Principles of Private Nurseries, Daycare Centers, and Private Children's Clubs (2015). The findings obtained were discussed in the context of the existing literature.

To enhance the quality and efficiency of the training provided in institutions, there is a need for well-trained teachers, educational scientists, and competent administrators in their respective fields. In the study, it was observed that teachers who served as institution administrators did not graduate from preschool teaching or elementary school teaching programs. This finding is inconsistent with the Regulation on the Establishment and Operation Principles of Private Daycare Centers and Private Children's Clubs published in the Official Gazette in 2015. Accordingly, it was noted

that the majority of administrators (66.7%) had attended a course or conference related to preschool education. When selecting administrators for daycare centers and nurseries affiliated with the Ministry of Family and Social Policies, a bachelor's degree in social services, guidance and psychological counseling, psychological services in education and psychology, child development and education, preschool education, kindergarten teaching, or elementary school teaching is required (ASHB, 2015). To enhance, develop, and ensure the continuity of the quality of children's education, health, and safety, it is particularly necessary for principals, vice principals, and teachers involved with kindergarten to either be selected from the field of preschool education or receive training from professionals specializing in early childhood and child health. However, while ensuring these, physical arrangements must be made in educational environments to ensure the health and safety of children.

4.1.In terms of physical suitability: Preschool education institutions should be designed structurally to support children's development physically, cognitively, sensorially, and socially, in accordance with their individual characteristics (Özdemir, Bacanlı and Sözer, 2007). In this context, while evaluating criteria such as sunlight, wind, lighting, ventilation, insulation, safety, and cleanliness (MEB, 2015a; Akbaba and Turhan, 2016; Babaroğlu, 2018; (Zembat, Tunçeli & Yavuz, 2020), the design should also be at a level that can meet the needs of children on a single floor (OEİKY, 2014). The schools included in the study do not meet this standard as specified in the Preschool Education and Primary Education Institutions Regulation (2014), but it was observed that the kindergartens within the primary education premises were designed on the ground floor, with a separate corridor, entrance, and toilets. The building designs did not overlook arrangements for disabled students, providing entrance ramps and disabled toilets. Institution administrators stated that disabled students received education on the ground floor. This is of great importance for their adaptation to the environment.

Since children's mental perceptions are receptive, they are open to all positive and negative influences in their environment. In the design of school buildings, it should not be forgotten that the physical environment plays an active role in the development of the child. Since the entrance area of the school is the first place children encounter, the design of furniture and the choice of colors are crucial for helping children adapt to school and overcome school phobia (Şenalp and Çınar, 2022, MEB, 2015b; Özkubat, 2013). At the entrances of the institutions included in the study, there is an open-front locker for each child. This practice is important to prevent and control the spread of diseases (Akyüz, Uygun and Kafadar, 2005). In schools without lockers, it was observed that the entrance areas had boards displaying children's activities, monthly meal lists, or announcements, as well as chairs and tables designed for families. In these schools, students hang their belongings on hooks in the classroom, leading to clutter and a negative environment in terms of hygiene.

Adjusting the number of students to the school area capacity and the number of staff is necessary for children to receive a healthier, safer, and higher-quality education. When organizing classrooms, the usage area

allocated for each student should be 1.5 m², and the classrooms should be arranged for a minimum of 20 and a maximum of 25 students (Şenalp and Çınar, 2022, MEB, 2020b). The examination revealed that the majority of the institutions in the study were designed according to this standard, with an average of 49.4 children being educated in these institutions.

In order for students to eat healthily, institutions should have kitchens or dining rooms that meet health standards; in schools without these facilities, classrooms should be used for this purpose, provided they are kept clean (MEB, 2015a). Some of the schools in the study have kitchens, while others stated they did not need one because they operate on a double-shift system. This result is consistent with previous studies (Kubanç, 2014; Karaküçük, 2008). This situation can lead to unhealthy eating habits among children, potentially causing nutritional issues later in life.

Given that preschool children are in their play age, closed play areas, which are the most needed and functionally active spaces, were observed in half of the schools included in the study. However, deficiencies were noted in the flooring and wall coverings of these rooms. Although the materials in the play area were sufficient for child development, the lack of annual inspections and repairs in most institutions, as well as the irregular cleaning of plush toys and carpets without considering children's allergies, pose health risks. The maintenance and cleaning of toys should be done regularly and categorized, with each toy stored in closed containers according to its group. Plush toys, which can cause allergies, should be washed regularly with non-chemical products and dried thoroughly to prevent microorganism growth (Erzurum, Soyluk and İlerisoy, 2020; Avila-Aguero et al., 2004; Randle and Fleming, 2006). Additionally, annual inspections of toys such as ball pits, climbing ropes, and tunnels in the playrooms should be conducted to prevent accidents and injuries.

Nap rooms, used for resting and sleeping after play and activities during the day, were found in all nurseries and daycare centers, five kindergartens, and three preschool classes, totaling 14 schools. Other schools stated they did not need nap rooms because they operate on a double-shift system. This result is consistent with other studies (Baran et al., 2007; Karaküçük, 2008; Kubanç, 2014).

4.2.In terms of spatial suitability: The environmental conditions of the location, as well as the building features, should be considered when designing a school (Varlı, 2023). School buildings should be close to natural areas such as parks, gardens, and forests, allowing children to interact with the outdoors and have fun while learning about nature. They should also be far from cliffs, stream beds, factories, transformers, and entertainment venues selling inappropriate beverages, which pose health and safety risks (Regulation on Opening, Closing, and Naming Institutions, 2017; Primary Education and Education Law, 1961). Some of the institutions in our study were found to be non-compliant with this regulation and law regarding their surrounding environment. Most institutions are located in city centers, far from natural areas such as parks and gardens. In this context, it can be said that the institutions fall short of complying with the standards related to the surroundings of the buildings and that there

are significant deficiencies in the presence of warning signs around the school. Schools being close to traffic or lacking safe pedestrian crossings and signs around the school can create conditions conducive to traffic accidents.

When designing kindergarten buildings, independent structures without staircase issues should be preferred, allowing children to move freely, and should be planned with a maximum of a basement, ground floor, and first floor (MEB, 2015a; Kaya and Ulusoy, 2018; Babaroğlu, 2018). Properly designed outdoor spaces enable children to benefit from daylight, interact with nature, move freely, express themselves comfortably, and provide a sense of well-being both physically and mentally (Deretarla, 2012; Beliay et al., 2016; Orçan Kaçan et al., 2017; Özburak and Akkar, 2017). In this respect, the characteristics of school gardens and outdoor playgrounds are important. Outdoor activities and exercises can develop the musculoskeletal system and reduce the risk of modern diseases such as cardiovascular diseases and obesity (Çalışandemir and Şimşek Çetin, 2022; Demirel et al., 2014). During garden activities where such exercises and activities are carried out, the visibility of children by teachers facilitates quick intervention in case of potential danger. The presence of the teacher ensures that children feel safe. In our study, attention was paid to ensuring that teachers could easily see the children from all angles while designing the school gardens.

Inadequate physical and spatial conditions of the institutions, lack of teacher supervision, leaving students alone, and running or pushing on stairs can lead to collisions and falls (Memduhoğlu and Taşdan, 2007). The intervention of teachers, who are directly involved with the students and present at all times during emergencies encountered in schools, is crucial.

4.3.In terms of health and safety: Health screenings and education should begin in early childhood to ensure a healthy society. Determining the health status of children is necessary to identify potential issues they may encounter before starting school or in the school environment and to monitor their growth (SB, 2008). For this purpose, health screenings are conducted during registration and throughout the school term. In some of the institutions within our study, a health report is required at registration, while half of the students undergo health screenings and dental check-ups throughout the year. Additionally, the majority of the institutions reported that teachers conduct monthly height and weight measurements. Besides these measures, health education in schools aims to improve children's health quality and ensure continuity. Accordingly, families receive education on nutrition, toilet training, sleep issues, personal hygiene, active living, and accident prevention. Students are taught about healthy eating, hand and nail care, oral health, and exercise. However, the education provided in institutions for children with autism, Down syndrome, intellectual disabilities, orthopedic impairments, and chronic illnesses such as heart failure, diabetes, asthma, and epilepsy is inadequate. These children with special needs should be reported to the Ministry of Education and the Ministry of Health to ensure they receive necessary education from professionals in their field (Law on Disabled People, 2005).

When designing the physical and spatial layouts of institutions, the age groups,

illnesses, and special needs of the children should be considered to ensure suitability for their use. Children are prone to accidents due to their curiosity, desire to learn, touch, and taste, hyperactivity, and incomplete muscle development (Zembat, Tunçeli and Yavuz, 2020; Koç, 2015; İnal and Özcebe, 2020). Accidents can range from minor injuries to severe consequences. In the schools within the scope of our study, administrators reported that they rarely encounter situations requiring urgent intervention for accidents and trauma such as falls and collisions. It was determined that school accidents occur most frequently in the playgrounds, followed by stairs and classrooms.

In the event of an accident or life-threatening situation, first aid should be administered until professional help is available. The initial emergency health support provided in such situations is critically important. To enhance the knowledge and skills of teachers, who interact closely with students and are with them at all times, in basic first aid, it is essential for them to participate in certification programs. It was found that 21.1% of the schools included in the study had teachers without first aid certificates. These schools also had students with chronic illnesses and special needs, and incidents of infectious diseases and emergencies were reported during the school term. These findings indicate a need for more knowledgeable teachers in child health and first aid, as well as for health personnel to conduct school health activities.

Every school should have an infirmary equipped with medical supplies such as dressing materials, burn creams, sterile gauze pads, cervical collars, and elastic bandages. According to Article 50 of Section 7 of the Preschool Education and Primary Education Institutions Regulation (2014), "A nurse may be employed to carry out health services and school infirmary work and procedures." Our study shows that only 7% of the schools comply with this regulation, with these schools having a nurse and an infirmary. School nurses play a critical role in promoting the biopsychosocial health and well-being of school-aged children within the school environment, identifying unmet health needs of a broad child and adolescent population. Having a qualified school nurse in every school and a school doctor in every district strengthens the relationship between health and education (Holmes et al., 2016).

Early detection of potential growth and developmental disorders, establishing treatment plans within the school, determining preventive measures for accidents, and reducing the incidence and spread of infectious diseases through protective measures are critical roles for nurses in situations such as hyperactivity disorder, diabetes, life-threatening allergies, asthma, and seizures (Zembat, Tunçeli and Yavuz, 2020; C.O.S. Health, 2016; Koçoğlu and Emiroğlu, 2011; Ayaz, 2014). Despite this, school nurses in our country are only employed in private sector schools or state-affiliated boarding schools and dormitories (Yıldız, 2016). The lack of school nurses is evident, especially at a time when there is an increase in chronic illnesses and special needs among children, as well as a rise in infectious diseases. As the number of school nurses increases, the work in school health will become more widespread, enhancing the health and well-being of students and, consequently, the community (Şahin and Küçükali, 2019).

Preschool children, who have not yet completed their motor and cognitive development, make the physical safety of preschool education institutions, in addition to child health, crucial, especially concerning natural disasters like earthquakes and floods, and emergencies such as fires (Sayın and Kutsal, 2021). For safety, preparedness for natural disasters and emergencies is essential, with an emergency action plan in place, and periodic drills conducted in cooperation with relevant institutions to address any deficiencies (MEB, 2018b; Öztürk, 2013). The schools in the study were found to conduct regular fire drills; however, the absence of fire exits and security personnel in half of the schools, although consistent with other studies, poses a negative aspect in terms of child health and safety. There is no separate standard for fire safety in preschool education institutions. Therefore, institutions must comply with the Regulation on Fire Protection of Buildings (2017).

To ensure the physical safety of children, security cameras should be installed in school buildings to monitor the surroundings, and school entrances and exits should be controlled. Consistent with other studies, nearly all schools within the scope of our study have cameras, and approximately two-thirds have security personnel. Additionally, it was observed that students arriving by school bus are received by a school staff member, strangers are not allowed inside daycare centers, and garden areas and playground equipment are insufficient. Having security personnel at schools ensures that preventive measures are taken against potential incidents in and around the school.

During the study, it was observed that 37 schools had received the School Clean Certificate and White Flag. Schools that apply for the White Flag Certificate to the Provincial Directorate of National Education are inspected based on the criteria determined within the protocol for cleanliness and hygiene. Schools that score 90 or above out of 100 during the inspection are awarded a "Certificate," "White Flag," and "Brass Plaque," which are valid for three years and symbolize school health and cleanliness (HSGM, 2020; Şimşek et al., 2019).

5. CONCLUSİON

Improving the physical and spatial conditions of preschool education institutions in terms of child health and safety is a significant responsibility of the Ministry of Health and the Ministry of Education. School health nurses are effective health professionals in identifying health needs in schools and ensuring the continuity of education. Establishing infirmaries in other educational institutions, as in boarding schools, and assigning at least one health personnel to these infirmaries could positively impact the relationship between health and education, thereby enhancing health and well-being.

We recommend reviewing the articles of the regulations prepared for the physical and spatial conditions of schools to resolve inconsistencies. While designing structures, architects, engineers, pedagogues, child development experts, education scientists, and occupational health and safety specialists should collaborate to create a high-quality, safe, and healthy environment.

Comprehensive studies are needed to evaluate the physical and spatial conditions of preschool education institutions in terms of child health and safety across different regions, incorporating various research methods and involving teachers, parents, or students in the sampling.

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