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RESEARCH ARTICLE
Interior Architecture

Examining The Interior Design of Pediatric Outpatient Clinics and Pediatric Wards in Hospitals

Hastanelerde Yer Alan Çocuk Poliklinikleri ve Çocuk Servislerinin İç Mekân Tasarımlarının İncelenmesi

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ABSTRACT

With the increase in the education level of parents today, attitudes towards children have become more conscious and attentive. This has led to children being more valued in society, and their needs being given more importance in various fields, including healthcare structures. Healthcare facilities are fundamental structures that should be accessible to everyone under equal conditions. Economic and social differences among children should not hinder their access to healthcare services. Additionally, these structures should be designed as spaces where children can feel physically and mentally comfortable.

In pediatric outpatient clinics and wards within healthcare facilities, ergonomic designs should be implemented, taking into account the anthropometric measurements of children. Moreover, interior designs should include elements that help children relax psychologically. Architectural design elements such as color, texture, and material should be carefully selected in this context. Furthermore, lighting systems should be designed to enhance the visual and psychological environment of the space, ensuring that children feel safer and more comfortable. All these design elements should be planned by hospital standards, with attention given to the arrangement of circulation areas. Similar design principles should be observed in the interiors of pediatric outpatient clinics and wards and the hospital's entrance and waiting areas. Children should feel secure when entering the hospital and not experience stress during the waiting process.

This study examined hospitals in different cities to assess the impact of interior designs in pediatric outpatient clinics and wards on child psychology. It also conducted a literature review on child psychology and physical development, compiling current information in these areas and developing solutions for existing problems.

Keywords: Interior Design, Pediatric Outpatient Clinic, Pediatric Ward, Healthcare Structures

ÖZET

Günümüzde ebeveynlerin eğitim seviyesindeki artışla birlikte, çocuklara yönelik tutumlar daha bilinçli ve özenli hale gelmiştir. Bu durum, çocukların toplumda daha değerli bir konuma gelmesine neden olmuş ve çeşitli alanlarda çocukların gereksinimlerine daha fazla önem verilmesini sağlamıştır. Bu alanlardan biri de sağlık yapılarıdır. Sağlık yapıları, her bireyin eşit koşullarda erişim sağlayabilmesi gereken temel yapılar arasında yer almaktadır. Çocukların ekonomik ve sosyal farklılıkları, sağlık hizmetlerine erişimlerinde engel teşkil etmemelidir. Ayrıca, bu yapılar çocukların fiziksel ve ruhsal olarak rahat hissedebilecekleri alanlar olarak tasarlanmalıdır.

Sağlık yapılarında yer alan çocuk polikliniği ve çocuk servislerinde, çocukların antropometrik ölçüleri göz önünde bulundurularak, onlara uygun ergonomik tasarımlar gerçekleştirilmelidir. Bunun yanı sıra, iç mekân tasarımlarında çocukların psikolojik açıdan rahatlamasını sağlayacak unsurlara yer verilmelidir. Bu bağlamda, kullanılan renk, doku ve malzeme gibi mimari tasarım unsurları özenle seçilmelidir. Ayrıca, aydınlatma sistemleri, mekânın görsel ve psikolojik ortamını iyileştirerek, çocukların kendilerini daha güvende ve rahat hissetmelerini sağlayacak şekilde tasarlanmalıdır. Tüm bu tasarım unsurları, hastanelerin standartlarına uygun bir şekilde planlanmalı ve sirkülasyon alanlarının düzenlenmesine dikkat edilmelidir. Sadece çocuk polikliniği ve çocuk servislerinin iç mekanlarında değil, aynı zamanda hastane giriş ve bekleme alanlarında da benzer tasarım ilkeleri gözetilmelidir. Çocuklar, hastaneye giriş anından itibaren kendilerini güvende hissetmeli ve bekleme sürecinde stres yaşamamalıdır.

Bu çalışmada, farklı şehirlerde bulunan hastaneler incelenerek, çocuk polikliniği ve çocuk servislerinde gerçekleştirilen iç mekân tasarımlarının çocuk psikolojisi üzerindeki etkileri incelenmiş ve değerlendirilmiştir. Ayrıca, çocuk psikolojisi ve fiziksel gelişim konularında literatür taraması yapılarak, bu alanlardaki güncel bilgiler derlenmiş ve mevcut sorunlara yönelik çözüm önerileri geliştirilmiştir.

Anahtar Kelimeler: İç Mekân, Çocuk Polikliniği, Çocuk Servisi, Sağlık Yapıları

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INTRODUCTION

Functionality is considered the most critical element in healthcare facilities, where solutions to health problems encountered in human life are produced. It is essential to ensure that patients' transport and treatment processes are carried out effectively and that hospital staff can perform their duties efficiently. In this context, the adequacy of physical spaces within the hospital should be ensured, and attention should be paid to design elements such as color, texture, light, and material.

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The increase in the number of educated individuals has led to a corresponding rise in conscious parents, increasing the attention given to children. This situation now requires a more comprehensive needs analysis and implementation process in designing pediatric outpatient clinics in hospitals.

Childhood, a stage in human life lasting 18 years, is when individuals benefit from healthcare services through pediatric outpatient clinics. The design of these clinics should include interior solutions that meet children's physical and psychological needs. Interior designs should be arranged considering children's perceptual, emotional, social, and cognitive processes.

Compared to other developed countries, Turkey is inadequate in creating spaces for children. The Declaration of the Rights of the Child clearly states that children have the right to adequate nutrition, shelter, play, and healthcare services (Temel, 2015).

This study evaluated the interior design criteria of pediatric clinics, designed specifically for children with different physical and psychological development needs compared to adults. The design phase examined aspects such as spatial layout, functionality, material selection, furniture preferences, lighting solutions, and ergonomics criteria. Data obtained from pediatric outpatient clinics in two different hospitals located in two different cities were used to examine these aspects, and analyses of design solutions were conducted through a comparative method.

INTERIOR DESIGN IN HEALTHCARE STRUCTURES

Building Materials Used in Hospitals

The materials used can vary from design to design. However, every design should maintain consistency, and the building materials should be selected to complement this coherence. The materials used in the interior design of healthcare structures should have the following characteristics:

- ✓ They should be resistant to wear and water.
- ✓ Surfaces should be easy to clean.
- ✓ They should be suitable for protection against food acids and compatible with cleaning using antiseptic materials.
- ✓ They should be fire-resistant and should not release toxic gases in case of fire.
- ✓ Materials' finishes and joints should be applied cleanly and without gaps, preventing pests and insects from entering and contributing to maintaining hygiene and cleanliness standards.
- ✓ Porous and heavily textured materials should be avoided as much as possible (Özgen, 2021).

Wall Surface Coatings

The materials used for interior walls in healthcare structures should be selected to minimize dust, chemical, and vapor emissions. If sectional materials are used, these pieces should be large and non-porous. Additionally, all materials used should have antibacterial properties and be easy to clean (Özgen, 2021).

- ✓ Plaster: Not used directly as a finishing surface; additional coating materials are required. It may need regular maintenance and cleaning due to its capacity to harbor bacteria, helping to prevent unwanted growths like mold and mildew on the walls. However, plaster offers fire-retardant properties.
- ✓ Latex Paint is typically not preferred in healthcare structures because it is less resistant to wear and tear and may require frequent renewal.
- ✓ Oil-Based Paint: May be yellow and peel over time due to its chemical composition. The drying time is longer compared to other materials.
- ✓ Oxicoat/Oxipaint: Suitable for use on walls and ceilings, with fire-resistant properties. It can eliminate odors and is resistant to moisture, providing mold resistance.
- ✓ Wallpaper is a versatile coating material offering various options, such as textured or non-textured, matte or glossy finishes, and different color and pattern alternatives. Depending on the type of material used, it may have properties such as water resistance, easy cleanability, and antibacterial characteristics.
- ✓ Ceramic: Often preferred in wet areas due to its water-resistant and easy-to-clean surface.
- ✓ Vinyl with Fabric Backing: This durable material typically lasts 6-10 years and is highly resistant to tearing, wear, and impact.

Floor Surface Coatings

Floor coverings in healthcare structures should be easy to repair, durable, suitable for the environment, and provide sound and thermal insulation with easy-to-clean surfaces. According to Hosking and Hasggard (1999), floor surfaces are categorized into soft and complex groups. Hard floor coverings include granite, tiles, terrazzo, marble, ceramic, wood, epoxy, cork tiles, rubber tiles, PVC, linoleum, and vinyl. Soft surface materials include some PVC-containing materials, soft rubber, and carpet.

- ✓ PVC is a plastic-based material that is easy to maintain and clean. It can be resistant to wear but is flammable.
- ✓ Linoleum: It is made from a combination of limestone, linseed oil, resins, cork, dryers, and pigments on a jute fiber backing. This composition makes the material fire-resistant. It is also low allergenic and antistatic.
- ✓ Marmoleum: An enhanced version of linoleum made more durable by a specific company.
- ✓ Epoxy: It is hygienic and antibacterial, allowing for clean finishing details. However, its multi-step application process can make it lengthy to install.
- ✓ Vinyl Flooring: Resistant to wear, cost-effective, and long-lasting.
- ✓ Ceramic: A heat-resistant material with glazed surfaces that are waterproof. It is cost-effective and easy to clean, but ceramic surfaces may require careful use due to their slipperiness.
- ✓ Carpet: It is generally low in durability but offers antibacterial, fire-resistant, and anti-allergic properties. However, it can be challenging to clean, potentially leading to odor formation over time.
- ✓ Kinetex: It provides sound insulation on soft surfaces while offering easy cleanability, durability, and resistance to dirt on hard surfaces.
- ✓ Wood: A low-cost material with insulation and acoustic properties, providing an aesthetic appearance.

Ceiling Coatings

Ceiling materials should have water resistance, easy cleanability, and antibacterial properties.

- ✓ Suspended Ceilings: These are commonly used in hospitals to conceal lighting and ventilation systems. There are various types of suspended ceilings, including metal, mineral wool, and gypsum board. During installation, different materials such as fabric, wood, plastic, aluminum, gypsum board, and plaster can be used.
- ✓ Stretch Ceilings: A type of suspended ceiling resistant to fire, available in various colors and textures, made using PVC membrane fabric. They are often used with lighting systems, with paint and plaster applications being typical.
- ✓ Cladding Ceiling: A covering material directly mounted on the ceiling surface.

INTERIOR COMPONENTS

- ✓ Shape: Planning is required in advance when creating a form. Various forms, such as negative and positive forms, can be utilized in formal design. The terms active form and negative form also exist; active form refers to high-volume objects, while negative form represents empty spaces.
- ✓ Form: Form can be defined as giving an object a three-dimensional shape. Form can vary in shape, such as rectangular, triangular, oval, and square.
- ✓ Color: Color perception occurs through the light spectrum reflected from surfaces and perceived by the eye. These light signals are transmitted to the brain via the optic nerves, where they are processed. This process can result in various effects on individuals' psychological and physical states. The primary factors determining color used in interior designs are visual, tactile, and auditory elements (Dündar, Aktas, 2023).
- ✓ Texture: Texture complements other architectural elements, such as color and form, playing a critical role in interior design. Texture can be categorized into natural and artificial and further classified into subcategories like fine, soft, and rough. The properties of texture can change under the influence of light, affecting the overall aesthetic perception of the space.
- ✓ Light: The balance between natural and artificial light should be adequately planned in interiors. First, the potential for natural light use in the space should be determined, and artificial lighting solutions should be planned accordingly.

- ✓ Lighting: This can be defined as the illumination of a space with natural light during the day and artificial light in the evening and nighttime. The main source of natural lighting is the sun, with environmental factors such as the building's location and climate influencing this amount of light. Artificial lighting is provided using various light sources and methods, which can be adapted to the space's functional and aesthetic needs.
- ✓ Furnishings: This term refers to the furniture and accessories used in interiors. They are selected and arranged to enhance the functionality and support the aesthetic features of the space.
- ✓ Space Organization: Spaces are organized to serve specific purposes. In space design, factors influencing the design, such as cultural, traditional, and aesthetic elements, should be considered alongside meeting the needs.
- ✓ Function: Refers to the design of the space to meet the needs and purposes of the users.
- ✓ Ergonomics: Ensuring optimal usage conditions by considering the human body's physical dimensions and functional abilities in design processes and work environments.

THE RELATIONSHIP BETWEEN CHILDREN AND SPACE

Spaces must be physically, socially, and psychologically suitable for children's healthy development. Verbal and visual representations, known as architectural representation tools, can evaluate children's perception of spaces, and design solutions can be formulated accordingly.

Child development is shaped by the interaction of genetic and environmental factors and continuously changes and progresses under the influence of environmental effects. The foundation of the skills children acquire in later stages of life is based on their physical development processes. Neural development begins at birth and is completed within a few years. A child's nervous system, muscles, nerve cells, fibers, and neurons are fully formed at birth. Over time, these structures grow and mature.

Various factors influence this growth and maturation, including the physical environment in which children spend their time. The design of spaces, particularly in healthcare and educational facilities, plays a crucial role in supporting children's cognitive, emotional, and social development. Well-designed spaces can provide security and comfort, promote positive interactions, and stimulate learning and creativity.

Architects and designers must consider the unique needs of children, including their physical size, sensory preferences, and psychological needs when designing spaces intended for their use. This includes appropriate scale and proportions, color choices that create a calming environment, and features that encourage exploration and engagement. By creating environments that are functional and nurturing, designers can significantly contribute to the well-being and development of children.

MATERIALS AND METHODS

Requirements in Pediatric Clinics

Each area has unique needs, making it essential to accurately identify them during the design process and aim to meet the comfort and requirements of users at similar levels. In pediatric clinics, the broad age range of patients leads to various needs. Therefore, preventing confusion and accurately determining the number of users during the needs assessment stage is crucial. Pediatric clinics should be designed to provide a comfortable environment for users physically, socially, and psychologically. The clinic, catering to individuals aged 0-18, should be organized to suit all age groups and design elements should be selected considering the users' needs; for instance, the waiting area should have suitable furniture for children and adults.

Healthcare facilities must serve various user groups, including patients, companions, visitors, and healthcare staff. Research indicates that a well-designed healthcare facility can shorten patients' recovery times. The waiting area, one of the first spaces a child encounters upon entering the hospital, is crucial for making a first impression. This area affects the psychological state of both the patient and the companion. Thus, every design choice the architect makes should be considered part of the interior space's reflection. For example, the furniture in the waiting area should be integrated into the interior design, and appropriate materials should be chosen. Alongside furniture selection, the choice of color is also a significant factor, as colors can influence psychological states and accelerate the recovery process. Additionally, circulation areas in healthcare facilities should be well-considered.

Interior Spaces in Pediatric Clinics

Waiting Area: Children often spend a considerable amount of time in the waiting area during hospital visits, which can be a stressful and anxiety-inducing experience. Therefore, designs that can psychologically soothe children are essential. The furniture in the waiting area should be functional and harmonious with the interior design. The

pediatric clinic, designed for individuals aged 0-18, should cater to the needs of all age groups while also considering the comfort of accompanying adults.

Examination Room (Doctor's Office): Each medical department in healthcare facilities has examination rooms tailored to specific needs based on the department's function. The requirements for these rooms may vary depending on their purpose and function. During the space design process, examination rooms must be located on main lines that are easily accessible and where circulation is not complex. This approach ensures efficient use and workflow for both patients and healthcare personnel.

Play Area: Designing areas where children can play to relieve stress and relax is crucial. Pediatric clinics should include play areas catering to different age groups' needs, offering activities appropriate for each group. This can positively affect children's physical and psychological health, making their hospital experience more comfortable and positive.

Features of Pediatric Wards

Healthcare facilities have various service areas designed according to the types of medical conditions treated. These areas differ across hospitals and are arranged to provide comfort and ease for healthcare workers and users, catering to specific medical needs. This consideration also applies to pediatric wards; the designs, which accommodate a wide age range of children and their companions, should be planned to meet the needs of each age group, emphasizing aesthetics and functionality.

The amount and color of lighting required for different areas in healthcare facilities can vary. The regulations for healthcare buildings specify that "sufficient natural light must directly illuminate the space." Additionally, it is stated that "wards and all areas used by patients, corridors, and entrances should be illuminated and adequately ventilated."

The choice of furniture for patients and companions can vary depending on the hospital's concept and budget. However, the furniture and its features used in healthcare facilities should comply with the standards set out in relevant regulations.

Ensuring a hygienic and sterile environment is of paramount importance in healthcare facilities. Therefore, the selected building materials should possess hygienic and sterile properties, harbor minimal bacteria on surfaces, be easy to clean, and have a long lifespan.

FINDINGS

General Information about Hospital A

Hospital A is located in Istanbul, in the Marmara Region of Turkey. It is recognized as the third-largest healthcare investment project in the country. The hospital complex consists of eight hospitals. The main hospital is divided into six blocks, housing departments such as pediatrics, gynecology, oncology, cardiovascular surgery, neurology, and orthopedics. Additionally, two adjacent buildings are dedicated to physical therapy and psychiatry. The hospital boasts 982 clinics, 2,721 beds convertible into intensive care units if necessary, 28 delivery rooms, 90 operating rooms, a burn center with 16 beds, and 495 intensive care units for newborns and adults (URL-2).

Analysis of the Entrance Section of Hospital A

The entrance area of Hospital A is designed to allow users to enter the interior space directly from their vehicles without waiting for vehicle circulation.

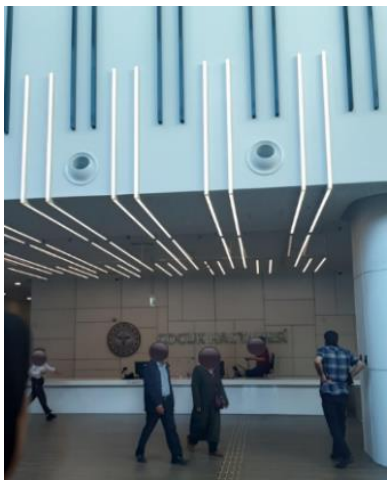
Picture 1. A Hospital Main Entrance Exterior View (Resource: Şengül, 2023)

This section describes the interior design elements of Hospital A's entrance area. Upon entering the building, visitors find two distinct food sales areas on the right and left sides of the entrance, each offering different products. The differentiation between these sales areas and the circulation spaces is achieved through the use of different flooring materials. Ceramic tiles with various colors and patterns have been chosen for their durability and ease of cleaning, providing a distinct look and feel. The junctions between the tiles are finished with metal floor transition profiles.

The walls and ceilings are painted in white, providing a clean and bright environment. Directional signage is prominently displayed on the walls to guide users. The space benefits from abundant natural light through large windows, supplemented by surface-mounted linear LED lighting systems, which ensure consistent and energy-efficient illumination throughout the area.

Picture 2. Hospital A Entrance Food Areas (Resource: Şengül, 2023)

As users move through the space, they pass through an orange-highlighted frame to reach the reception area. The reception point is emphasized by linear LED lights of varying lengths mounted on the ceiling around it. The wall behind the reception desk is designed with a combination of wall panels in various sizes and rectangular shapes, and beige color has been chosen to highlight the metal 'Children's Hospital' sign mounted on it. Additionally, guiding signs are placed on the walls to direct users. By universal design principles, tactile surfaces are used on the floor to enhance accessibility. These surfaces are designed to help individuals with disabilities orient themselves and move around within the space.



Picture 3. Hospital A Consultation (Resource: Şengül, 2023)

Arranging the clinics along the main circulation route is a preferred solution in hospitals. This layout facilitates easy clinic access for both users and healthcare personnel. In A Hospital, the entrances to the clinics are positioned along the main circulation route. Additionally, there are stores and play areas for children within the circulation area.

Picture 4. Internal Circulation of Hospital A Resource: (Şengül, 2023)

The circulation areas have been customized with different flooring materials. Durable and easy-to-clean ceramic tiles in various colors and patterns have been chosen for the floor covering. The junctions of the ceramics are finished with metal floor transition profiles. White paint has been applied to the walls and ceiling. Beige, cream, and gray tones have been used throughout the space to create a sense of calm, security, and relaxation. This color choice aims to optimize the psychological effects of the space and leave a positive impression on users.

In the circulation area, decorative beige laser-cut wall panels have been designed, and plants have been placed in metal-profiled fiber planters. The space's lighting combines natural light from large windows with surface-mounted LED lighting systems. Various forms of LED lighting and lighting combinations have also been used, with some ceiling areas featuring decorative baffle ceiling systems.

Picture 5. Hospital A Store Example (Resource: Şengül, 2023)

Floor information boards have been hung on the walls throughout the circulation areas to guide users within the hospital.

Picture 6. A Hospital Floor İnformation Boards (Resource: Şengül, 2023)

Waiting Areas at A Hospital

At A Hospital, waiting areas have been created in both the clinics and circulation areas, and play areas for children have been incorporated into these spaces. The circulation areas have been customized with different materials on the flooring. Durable and easy-to-clean ceramic tiles in various colors and patterns have been used for the flooring. The joints of the ceramics are covered with metal floor transition profiles. Skirting boards, used decoratively throughout the space, are painted gray to match the lighting, door frames, and planters. White paint has been applied to the walls and ceiling. Lighting is provided through recessed linear LED lights and surface-mounted oval LED lights in the suspended ceiling.

The furniture in the waiting areas within the clinics and the furniture in the circulation areas are selected in different forms, colors, and textures. Green metal-framed waiting chairs with gray fabric in the circulation areas have been chosen, accompanied by green metal-framed planters with plants. Additionally, round-shaped waiting chairs with orange fabric have been used in areas near the children's play area, with the central area of the chairs combined with planters to hold plants.

Picture 7-8. Furniture in the Circulation Area of Hospital A (Resource: Şengül, 2023)

The area surrounding the children's play area is enclosed with game fences in beige and orange colors to match the overall design of the space. On the floor, there are easy-to-clean, non-slip, and durable tatami mats (EVA mats) to reduce the risk of falls and injuries.

Picture 9. Playground on the Circulation Area (Resource: Şengül, 2023)

Ceramics were preferred for the flooring in circulation areas, and wood laminate was used for the flooring in the waiting areas within the clinics.

Picture 10-11. Furniture in the Polyclinic Area of Hospital A (Resource: Şengül, 2023)

In the clinics' waiting areas, unlike the circulation areas, there are no plants. The waiting sofas in these areas feature group seating in gray, turquoise, and navy blue, with materials similar to those in the circulation areas. While recessed LED spotlights with white light were used in the suspended ceilings, colorful plant-themed murals were painted on the walls. Additionally, glass films with patterns matching the wall paintings were applied to the aluminum glass partitions.

Picture 12-13. Lighting of the Waiting Area in the Polyclinic Area (Resource: Şengül, 2023)

In the clinic, round white surface-mounted LED lighting has been chosen. The walls are painted white, and a suspended ceiling application has been implemented.

Examination of the Clinic at A Hospital

At the clinic entrance, material differences on the floor have been used to separate and customize the waiting and circulation areas. Ceramic tiles in different colors and patterns have been used for flooring, with metal floor transition profiles at the tile joints. White paint has been applied on the walls and ceiling, with directional signage on the walls. Lighting in the space combines continuous linear LED systems with recessed LED lighting. Green metal-profiled waiting chairs with grey fabric have been chosen for the furniture. Beige, cream, orange, and grey tones have been used throughout the space.

Picture 14. Waiting Area Outside the Polyclinic Area (Resource: Şengül, 2023)

In the patient registration area, colorful plant-themed wall paintings, similar to those in the clinic waiting area, have been done. The suspended ceiling above the registration area has been lowered to customize and highlight the space. Lighting is provided using recessed LED spotlights in the suspended ceiling and LED lighting that references the linearity of the counter form. The corners of the counter are beveled, and a combination of white lacquer paint and wooden veneer materials is used, with an oval shape supported by a metal base.

Picture 15. Patient Registration Area (Resource: Şengül, 2023)

In the corridors leading to the examination rooms within the clinic, colorful plant-themed wall paintings continue. PVC flooring has been chosen for its ease of maintenance, cleanliness, and resistance to wear. The suspended ceiling features recessed linear LED lighting with white light.

Picture 16. Polyclinic Area Corridor (Resource: Şengül, 2023)

A calmer design approach has been adopted in the examination areas compared to other areas. Different colors and patterns of PVC materials on the floor have separated and customized the examination and doctor areas. There are

design restrictions due to health facility regulations, and these regulations are more effectively applied in examination areas.

Picture 17. Practice (Doctor's) Room Overview (Resource: Şengül, 2023)

Examination of the Children's Department at A Hospital

Due to patient privacy concerns, this document does not include visual representations of patient rooms as the hospital administration does not permit visual captures.

In A Hospital's children's department, security is maintained with a certain level of discipline. Restrictions are imposed on the number of visitors and visiting hours. Visitors must contact security personnel before entering the service floor and check if the patient is in the service area during designated visiting hours. Waiting areas have been created on the service floor before entering the ward, and designs similar to those in the outpatient clinic have been chosen for these areas. Color and furniture selections have been made to be consistent with the designs in the outpatient clinic. Both natural and artificial lighting are used in the waiting areas. Wooden laminate flooring has been chosen, while wallpaper and paint have been applied to the walls.

Picture 18. Waiting Area on the Children's Service Floor (Resource: Şengül, 2023)

The standards for healthcare facilities have been considered at the service entrance and within the service area. Similar to the outpatient areas, choices have been made for the suspended ceiling, walls, lighting, and waiting chairs.

Picture 19. Child Service Entrance (Resource: Şengül, 2023)

The reception points located immediately in front of the service doors have a different design from other reception and patient registration areas. The back wall of the reception has been covered with wallpaper, but a theme for

children has not been chosen. Additionally, the corners of the furniture in the reception area are designed with 90-degree angles, which is not considered ideal for safety in an area frequented by children.

Picture 20. Children's Service Counseling Area (Resource: Şengül, 2023)

General Information About Hospital B

Hospital B is located in the Marmara Region, similar to Hospital A. Situated in Bilecik province of the Marmara region, the hospital started operating on September 6, 2020, with a capacity of 250 beds. Over time, the hospital changed its name and began operating with a capacity of 300 beds on November 30, 2020. Hospital B has 11 operating rooms, 67 intensive care beds, 21 dialysis beds, and 38 emergency service beds (URL-1).

Examination and Analysis of the Entrance Area of Hospital B

The vehicle parking area of Hospital B is also addressed in the outpatient clinic entrance area, allowing users to move from the outdoor area to the indoor area.

Picture 21. Hospital B Polyclinic Entrance (Resource: Şengül, 2023)

Upon entering the interior, we are greeted by the reception area. The floors are covered with marble that is easy to clean and has properties resistant to impact, water, and heat. In accordance with universal design principles, tactile surfaces have been used on the floor to enhance accessibility. These surfaces are designed to help individuals with disabilities navigate and move within the space more easily.

To highlight the text in the center of the wall behind the reception desk, beige wall covering has been used, while wooden paneling has been applied to the right and left edges of the wall. The reception desk features a wooden veneer with a texture that matches the paneling on the wall, combined with white and anthracite colors.

Picture 22. B Hospital Information (Resource: Şengül, 2023)

In the entrance area, there are cafeteria and waiting areas available for users; however, considering the density of the city where the hospital is located, these areas are found to be insufficient relative to the hospital's capacity and do not fully meet the needs of users. The floors in the cafeteria are covered with marble, and no changes in materials or area customizations have been made. Lighting is provided by various lighting elements used in conjunction with natural light from the gallery void. The walls have been painted beige, and a 60x60 cm metal suspended ceiling has been installed. The columns have been clad in wood, matching the wooden texture used in the reception area, and warm light wall sconces have been placed on them. The fabrics of the furniture used in the space are in shades of gray and green and are paired with wooden details. Gray fiber planters containing plants have been placed in the space.

Picture 23. B Hospital Cafeteria Area (Resource: Şengül, 2023)

B Hospital Waiting Areas

Marble has been used for the floors, and no changes in materials or area customizations have been made. In accordance with universal design principles, detectable surfaces have been used on the floor to enhance accessibility. Lighting is provided by various lighting elements used in conjunction with natural light from the gallery void. The walls have been painted beige, and a 60x60 cm metal suspended ceiling has been installed.

Picture 24-25. Entrance Area Waiting Seats (Resource: Şengül, 2023)

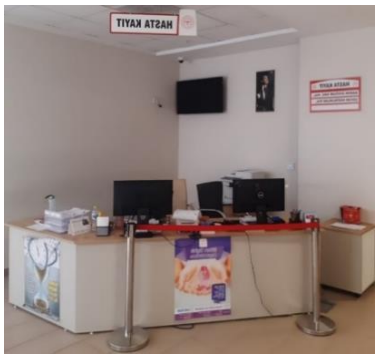
In the waiting areas of the entrance and circulation zones, group seating furniture has been preferred over individual seating elements. Single and double sofas are also available. The sofas are designed with synthetic leather upholstery in various compositions of orange, green, and gray colors. These furniture pieces, finished with wooden details, do not include special designs for children. Although this area is located on the same circulation path as the cafeteria, the furniture in this area is not related in design language, except for its color, to the cafeteria area.

Picture 26-27. Waiting Area in the Polyclinic of Hospital B (Resource: Şengül, 2023)

In the waiting areas within the polyclinic, no special area has been designated for children, and both children and adults are located in the same circulation area. The flooring is done with ceramic tiles, the walls are painted white, and a 60x60 cm metal suspended ceiling is applied. The single seating elements used in the waiting areas are made of synthetic leather, similar to the furniture in the entrance and circulation areas. However, these pieces of furniture are not consistent in color and design language with other areas, resulting in a lack of cohesion in the overall hospital furniture. Additionally, no child-specific designs have been implemented in the waiting areas, and the selected furniture sizes have been chosen to suit adult ergonomics without considering children's ergonomics.

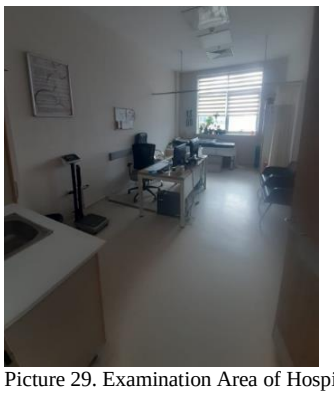
Examination of the Children's Polyclinic at B Hospital

B Hospital has a total of 6 specialized pediatricians, but there is no specifically designated area for the children's polyclinic. In healthcare facilities, polyclinics are expected to be located near the main circulation area and in easily accessible locations. However, B Hospital's polyclinic arrangement does not comply with these standards. The children's polyclinic is located outside the circulation area and shares the same circulation area with adult polyclinics. Moreover, no special design or solution has been implemented for the children's polyclinic's patient registration area**.**



Picture 28. Child Polyclinic Patient Registration Area (Resource: Şengül, 2023)

In the pediatric polyclinic, PVC floor covering was used on the floors of the examination areas, and white paint was applied on the walls and ceilings. Natural lighting from the window and artificial lighting were used together for the lighting of the space. The waiting chair is the same as the waiting chair in the corridor. It was furnished as a standard examination room in accordance with the regulation and no special design was made.



Picture 29. Examination Area of Hospital B (Resource: Şengül, 2023)

Despite the target audience being children, no special design or solutions have been implemented for them. This lack of consideration could negatively impact the psychological needs and spatial interactions of children. Additionally, this shortcoming may indirectly affect the effectiveness of diagnosis and treatment processes for sick children.

Examination of the Children's Ward at B Hospital A

B Hospital does not have a dedicated pediatric ward for children. Due to a shortage of beds, children share the same ward with adults.

Picture 30. Service Floor of Hospital B, including the Children's Ward (Resource: Şengül, 2023)

Figure 30 shows that the ophthalmology, plastic surgery, and ENT (ear, nose, throat) wards are not for pediatric patients but for adults. Due to patient privacy principles, the hospital administration has not allowed visual sharing of patient rooms; therefore, images of patient rooms will not be included in this document. Pediatric patients share rooms with adult patients. The furniture in the waiting areas on the ward floor has similar features to those in other waiting areas.

Picture 31. Waiting Area Furniture on the Service Floor (Resource: Şengül, 2023)

No special designs for children have been implemented in the reception area at the service entrance or in the service corridors.

Picture 32. Wall Design in the Service Corridor (Resource: Şengül, 2023)

CONCLUSION AND RECOMMENDATIONS

Children, as representatives of the future, exhibit distinct physical and psychological differences from adults. Therefore, pediatric clinics and child care units within healthcare facilities should be designed independently and specifically for them. Technological advancements and increasing educational levels have heightened the

importance placed on children, necessitating different approaches in health care design and solutions beyond traditional practices.

The childhood period encompasses ages 0-18, and while physical and biological developmental changes can be categorized by age groups, grouping children's psychological development and conditions is more complex. These differences result in various needs, so spatial design and solutions should be structured to meet these needs.

Since children's physical development differs markedly from adults, ergonomic and age-appropriate solutions must be provided in areas designed for children. These designs should facilitate safe and comfortable use and movement for children. Additionally, the comfort of accompanying guardians should also be considered.

Children's psychological states differ from adults'. In a hospital setting, children tend to experience more stress, tension, and fear, which can negatively impact their diagnostic and treatment processes. Therefore, health care environments designed for children should incorporate design and solutions that account for their psychological comfort. The selection of design elements should be based on specific scientific and technical requirements. The choice of colors, lighting, materials, and furniture should comply with relevant standards and regulations. Psychological effects of colors should be considered in determining the impact on children and other users. Lighting systems should be chosen based on functional needs in health care settings, balancing natural and artificial light. Additionally, materials used in health care environments must meet hygiene standards and be easy to clean. Furniture selection should meet ergonomic standards for both children and adults, and the number of furniture pieces should optimize user comfort and functionality of the space. These elements should be evaluated according to scientific and technical standards specific to health care environments.

The examined hospital examples clearly demonstrate the impact of hospital budgets on the quality of health services and user experience. Hospital A, equipped comprehensively and designed with the needs of both users and staff in mind, has structured its design to enhance patient comfort and the effectiveness of health services. In contrast, Hospital B struggles to provide adequate service relative to the population of its province and faces overcrowding from users coming from neighboring provinces and districts due to its budget and physical capacities. Hospital B has not advanced beyond traditional hospital designs, negatively impacting functionality and user experience. In this context, Hospital A's successful design approach positively affects health service quality, whereas Hospital B's existing design and capacities fall short of achieving this goal.

REFERENCES

Dündar, S., & Aktas, K. O. (2023). The Effect Of Color Usage On Human Psychology: The Case Of Başakşehir Çam And Sakura City Hospital. Mehmet Akif Ersoy University Journal Of The Institute Of Science, 14(2), 243-251. Https://Doi.Org/10.29048/Makufebed.1315278

Hoskıng, S. & Haggard, L. (1999). Healing The Hospital Environment: Design, Management And Maintenance Of Healthcare Premises. London & New York: E & F N Spon.

Özgen, E. (2021). Material Use İn Interior Design Of Hospitals, Hacettepe University, Interior Architecture And Environmental Design, Art And Design Magazine.

Temel, H. (2015). Use Of Color And Light Suitable For Child Psychology İn Waiting Areas Of Pediatric Clinics And Analysis Through Examples, Mimar Sinan University, Institute Of Science And Technology, Department Of Interior Architecture, Master's Thesis, Istanbul.

Şengül, S., (2023). Fotoğraf Arşivi.

URL 1: Bilecik EAH History Accessed on: 26.01.2024

URL 2: Çam Sakura City Hospital History Accessed on: 30.06.2024