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Suggestions and Solutions for Emergency Waiting Halls Interiors

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ABSTRACT

Emergency rooms (ER) of hospitals could be chaotic places for people who experience them, because of factors including insufficient facilities of the space, and the conditions people are in while entering the ER. This study aimed to examine such deficient properties to have solutions and suggest information for the waiting rooms to increase the comfort level of emergency departments for patients and their companions. Three private hospitals in Antalya were selected by a hat draw to be used in exemplifying their most salient deficiencies. Case studies were evaluated with the help of the requirement list made from the literature review and the data obtained from the field. In conclusion, this study identifies several deficiencies, which can be based on the literature and on the experience of both users and companions. While analyzing the collected data, solutions for increasing the comfort level of an emergency service were also obtained.

Keywords: Emergency department, waiting room, healthcare design

Acil Servis Bekleme Salonları İç Mekanları için Öneriler ve Çözümler

ÖZ

Hastane acil servislerinin yetersiz mekan özellikleri ve kişilerin acil servislere giriş yaparken bulunduğu durum, hastalar ve onlara eşlik eden yakınları için kaotik bir ortam oluşturur. Bu çalışmanın amacı; hastane acil servislerindeki yetersiz donanımsal özellikleri saptayıp bunlara çözüm üretmek ve kullanıcılar için ideal ortam oluşturulmasını sağlamak için öneriler sunmaktır. Çalışma alanı olarak Antalya merkezinde bulunan hasta sayısı açısından en yoğun olan 3 özel hastane seçilmiştir. Bu hastaneler; yapılan literatür taraması sonucu ortaya çıkarılan ihtiyaç listesi ve saha gezisinde toplanan bilgiler ışığında değerlendirilmiştir. Bu çalışma; hastane acil servislerinde yapılan araştırmalar ve incelemeler sonucunda hastanelerin bu bölümde önemli eksiklikler olduğunu tespit edilmiştir. Toplanan verilerin ışığında bu eksiklikler için çözüm önerileri sunulmaktadır. Bu çalışmanın amacı; hastane acil servislerinin, kullanıcılar için iyileştirilmesi ve bu ortamın kişiler için daha rahat bir mekan haline getirilmesi için öneriler sunmaktır.

Anahtar Kelimeler: Acil servis bölümü, bekleme salonu, sağlık tesisleri tasarımı

INTRODUCTION

It is *a-priori* fact that emergencies have a crucial role for the maintenance of human life. For this reason, it is important to define the problems that ERs (emergency rooms) have and come up with a solution for users to have a higher comfort level. It is a known fact that emergency rooms are chaotic places where anyone can face with traumatic situations. Moreover, the time which the users (patients and their companions) spend in an ER cannot be foreseen. Thus, these services are generally provided with waiting rooms for family mem-

bers and, for those accompanying the emergency patients. In other words, these waiting rooms are not just for the patients but the healthy people. Therefore, what they need and what they experience while using the facilities should be prioritized.

According to preliminary interviews with both staff and the family members leaving the facilities, a certain number of problems were roughly identified. There are also cases mentioned in the literature as well as in current mass media from time to time. There are certain incidents involving the inappropriateness of the facility for the people using the emergency department waiting rooms. For the people already having a hard time both psychologically and physiologically, facilities for their needs are not provided in some cases. Sometimes there is no water, sometimes there is nothing to eat. Public waiting areas should be provided with toilet facilities, drinking fountains, and telephones in case people need it (Rockwood & Mann, 1976). The communication center should be convenient to nursing station and should have a suitable communication system.

In this study, the aim was to identify the needs of the patients and their companions under the light of the information gathered via literature, observations, questionnaires and analysis of collected data. In order to set boundaries for not getting lost in a comprehensive amount of knowledge and cases, the study area was delimited by the research methods as decided.

The fundamentals and the history of hospitals and emergency rooms are explained in further chapters. The aim of this research was to understand the essentials and the aims of healthcare unit design. With the help of the data obtained, the most critical needs of emergency rooms were identified which gave the opportunity to observe the presence of the theoretical facts in the field. The objective here was to provide information about how to make people as comfortable as possible while waiting for their loved ones and for themselves to be treated. The objectives of this study were categorized in two subheadings which were ‘main’ and ‘secondary’.

The main objectives of this study were;

a) to define the fundamental and essential needs of the patients and their relatives
b) to prepare a proposal list for the hospitals in order to provide a checklist to improve the conditions of the emergency departments and increase the abundancy of services as well as the comfort level

The secondary objective was;

a) to define the aim and the history of the emergency rooms to determine the deficiencies of the facilities.

MATERIAL AND METHOD

The study was carried out on the basis of literature survey. The first step was to have a general survey to specify the subject domain including the history of the emergency department also known as the casualty department, to understand the aim and the benefits of the emergency rooms and to conceive what was studied before and how those studies dealt with emergency services. This research generates the opportunity to compare the previous observations and the questionnaire reports with the authorized papers and case studies.

The second step was to observe directly to better understand how these chosen hospitals were working and how many people were using their facilities on chosen days and hours. With the help of this procedure, it was easier to observe the deficiencies and to come up with ideas to repel these insufficient situations. Three private hospitals were chosen. The reason to choose private hospitals was that these hospitals were more efficient in terms of giving appointments and test results. Moreover, the circulation in these kinds of hospitals was more various in terms of patients and their financial situations, and their disease types.

These three hospitals were selected among ten private hospitals in Antalya. The reason of choosing three samples was that scientifically it would be more appropriate. That is, to avoid biases during the study, identifying any samples were done via hat drawing method. Therefore, these three hospitals were chosen by a hat draw to give all the private hospitals equal chances for being studied without any prejudice. This also made it possible to compare and exemplify the determined improvement factors for emergency rooms.

Before observing, the author negotiated with the administration to get their permission for the observation process. Hospitals agreed to let this study be put into the practice except for one. Because of this delimita-

tion, as a result of another hat draw, one of the hospitals was changed but the result was the same. Although, the author carried on making observations, she was not able to take photos. All hospitals demanded to stay classified. This is why none of the hospital names was mentioned throughout the study.

Development of Emergency Rooms

Emergency Rooms (ER) can be defined as a comprehensive and complete system capable of responding to a community's medical and surgical emergencies with prompt and appropriate emergency care (Buck et al., 1928). In an Emergency Room, everything a hospital contains can be found on different scales such as involving admissions, operation rooms, observation rooms, and waiting rooms. The treatment for an urgent situation starts in an ambulance, then leads the patient to the ER. The first known ambulance in history, which can be seen in Figure 1, was used in Manhattan.

Figure 1. The first known ambulance sample 1869 (URL-1, 2022)

Emergency Rooms are located inside a hospital and can be entered from their own entrance. Nevertheless, not every hospital may have an ER. Having an ER is accordingly with the type of the hospital. There are four different kinds of hospitals which are; general, district, specialized, and teaching hospitals (Ghafari-Saravi et al., 2022).

The most known type of hospitals is the general hospital. The aim of these hospitals is to deal with any kind of diseases and injuries and always have an emergency department that works 24/7 (Hospital, 2022).

The second type of hospital is district hospitals that are known for their large capacity of beds for intensive care. In addition, the patients choose these hospitals if they need long-term care. District hospitals were created after World War II.

Specialized hospitals may include different branches such as children's hospitals, rehabilitation hospitals, and psychiatric hospitals. According to the branch that is chosen, this kind of hospitals only deals with patients that are suffering related to their major.

The fourth and the last type of hospital is teaching hospitals. The aim of teaching hospitals is to train doctors, nurses, and other health professionals. These hospitals are generally a part of a university. They can be considered medical schools.

Emergency Department Waiting Room

The emergency department is a central clinical unit of a hospital, and the experience of patients visiting the emergency department significantly affects patient satisfaction and the public image of the hospital. Its function is to receive, triage, stabilize and provide emergency management of patients with a variety of critical, emergency and semi-emergency conditions (Petersen, 1981). In this study, a waiting room part of the emergency department is chosen to be examined. There are several features that a waiting room has. In this part of the study, these features are listed. The aim of this list is to make it clearer what an emergency service should include while examining the emergency department waiting rooms of the hospital samples.

According to the Australasian College for Emergency Medicine (2007), the waiting room of an emergency department is the place where ER is introduced to the patients and their relatives or whoever they bring with. So as always, first impression is important here too. As Piotrowski and Rogers said (2007), the design of this introductory space can aid the patient by reducing stress, as well as helping to create comfort and confidence in the medical expertise of the physician. A harmonious, pleasing waiting area can affect the patient's opinion consciously or subconsciously, on the physician's sensibilities concerning patient care. Therefore, it can be said that the functional and aesthetical specialties affect the users' psychology of patients and their relatives. Miller and Swensson (1995) support this idea by saying; if the ER is a hospital's alternative ''front door'', the ER waiting area is, in large measure, the place where patients form their first impression about the hospital as a whole.

It is a fact that waiting room of an emergency department is a stressful area for those who use it because

of the unclarified situation of their patients and the time they have to wait cannot be foreseen. Long, tedious waits are an unfortunate fact in most healthcare settings, but good design can help mitigate some of the negative aspects of the experience (Carpman & Grant, 1993). Although the time that the users will spend in a waiting room is unknown, this waiting process can be less stressful for them with the help of developing the functions of the emergency service waiting rooms. The design program should accommodate intensive care for families as well as patients, providing emotional support, realistic expectations, understanding of medical procedures, and an opportunity to participate in care (Leibrock, 2000). There are main factors that affects the comfort level of users in an emergency department. These are;

Sitting plan: One of the most important feature of an emergency department is the sitting plan of the space. A constantly crowded waiting area forcing some patients and visitors to stand or enter the aisle is likely to increase stress and general discomfort (Carpman & Grant, 1993). To create an appropriate order in terms of sitting plan, first of all, the average turnover of the casualty department should be detected. Secondly, to provide a seating arrangement that enables people to position their bodies comfortably for conversation, with regard to both the distance from one seat to another and angle at which one person can face another may help reduce the stress of ER users. Another point to make a sitting plan better is to choose the seats correctly. Because of the waiting time of the families and companions of the patients cannot be estimated, the form, the order and the structure of the seats are important.

In waiting rooms, everyone sits together but not everyone in a waiting room is there because of an illness or an incident. There is a possibility that healthy people may get sick because of the patients. It is advisable to separate sick from the healthy with the help of the reception desk (Malkin, 1992). Designing a three-sided reception would allow clerks to greet people, check in patients and separate people according to their health situations.

Activities: To ease the time spent in a waiting room, different activies can be presented to the users, such as aquariums, nerwspaper racks, the Internet connection and television. It is important to supply environmental supports for as many different activities as possible such as; reading, watching television and more active ones such as playing with children (Malkin, 2002). Another activity that can be added to newspaper rack is a brouchure rack which people can be informed about the hospital they are in and what departments this hospital contain. This kind of racks would not need a large space to be presented and also it can be informative for the patients. Outdoor planning for an emergency waiting room is important for people to have fresh air or to smoke. As long as the conditions in a hospital are available, outdoor areas are popular suplements to the indoor waiting rooms (Miller and Swenson, 1995). Such spaces allow people to have a break from crowds and get rid of anxiety. They are also popular places for smokers, who hardly find such areas that permit smoking. These kinds of activities also cause people to think less about their ilness or about their patients. Even putting a clock can help people to spend time in an easier way. In short, activities for users creates a healthier working space for both patients and the staff.

Children's area: The reason for people to come to an emergency service is that they have an urgent incident or disease which is unexpected. Therefore, they are not able to choose with who to come. The companion of the patient may be a friend, a family member or a child. For this reason while designing a waiting room for an emergency department, children should be taken into consideration. The environment needs to provide spaces that enable parents and children to wait comfortably while not bothering other adults (Alcock & Goodman, 1985). It is suggested not to mix adults and children in the same clinic area (Malkin, 1992). Children's area should be isolated from major circulation paths, and playing materials should be displayed (Carpman & Grant, 1993).

Private room: Another space that should be separated within the waiting room is the room for families and the companions, whom patients bring with, to have a private room for talking to the doctors or to exprees their anxiety as they want. Unfortunately, it is not possible to treat every patient. People waiting in the waiting room may need a private place to hear the bad news. Leibrock (2000) interprets this need for the relatives and companions of the patients; "*Plan*

a private adjoining consultation room with a movable sign on the door to indicate that the room is being used. This room can also be used for crying and grieving. A nearby chapel is a thoughtful addition." This separated are does not have to be seperated with solid walls. If not possible to separate this place completely, from the waiting room, separators can be preferable.

Lockers: As it was pointed before, people come to emergencies because of an unexpected health problem, they may not be able to take care of their personal belongings while dealing with their health issues. To come up with a solution for this problem, a place for personal belongings should be planned. In the abscence of planned places for people to store their belongings, they place them on adjoining seats, taking away potential seating space (Carpman & Grant, 1993). Another statement from Petersen (1981) says; personal belongings need to be accommodated, each waiting area should contain some coat hooks and tables or other places for people to place their things temporarily. Security should be considered when planning temporary storage accommodations.

Wayfinding: When people enter the casualty department in a hospital, they should know what to do or where to go. To make it easier for them, wayfindings should be clear. Wayfinding is a problem in complex settings, including hospitals, airports, and office buildings. Wayfinding difficulties are associated with negative psychological and physiological consequences. In addition, since orientation in a building is a prerequisite for the successful use of a building, wayfinding has a crucial importance for a space to function better (Jamshidi et al., 2020). Wayfinding refers to what people see, what they think about, what they notice, and what they do to find their way from one place to another (Piotrowski and Rogers, 2007)**.** Emergency department is a stressful, traumatic space for people and the medical terminology may be confusing for people who are already in stress. This is why designing a clear wayfinding path is important.

Communication: Another point to be taken into consideration is the communication services. Nowadays everyone has a smart phone but in an emergency situation such as a disease or an incident, people may be caught unprepared. The emergency department needs to provide the users a way to communicate. In this situation, pay phones can be provided. Locating the pay phone has a crucial importance. The location of the pay telephone needs to provide the users privacy and comfort. While placing a pay telephone in an emergency department waiting area, differently abled people should be taken into consideration. Using semiclosed public telephones in or near waiting areas and enclosed, handicapped-accessible booths in the main lobby should be considered (Piotrowski and Rogers, 2007).

Outdoor area: Improving the facilities of an emergency department waiting room is not only about the interior of the space, but also about the exterior area. While waiting, people may have the need for fresh air or they may need to go out for smoking. Hence, providing an outside area for a waiting room of an emergency service is another point that can increase the comfort level of the space. As long as the hospital provides needed areas, outdoor waiting areas are popular extensions to the indoor waiting rooms. Not only do such spaces offer an isolation from crowds and relief from anxiety, but also they are popular with smokers, who are increasingly hard-pressed to find areas that permit smoking (Miller & Swensson, 1995).

Essential needs: One of the essential needs of a human being is eating and another is liquid consumption. As it is mentioned before, patients do not want to go far from the waiting rooms because of the possibility of getting information about their patients. The waiting limit of a user is unpredictable, so the waiting rooms should be equipped with eating and beverage areas. A vending machine may be placed in an emergency department waiting room. Another essential need for a person is the restrooms. This facility should also be provided in the waiting rooms.

Petersen (1981) stated "*It is consequential to provide the essential needs of patients and their relatives. When asked about their waiting room expectations, nearly 70% of surveyed subjects expressed a need to be given a better estimate*

of waiting time, and 43.5% wanted better information on reasons for the wait. Further, 30% survey respondents recommended having a coffee and sandwich shop in the waiting area, 16.5% wanted more privacy, 14.8% wanted a quiet area, and 14% expressed the need for better cleanliness."

Color: it is a known fact that the choice of color has a crucial effect on psychology of people. The choice can make the space work better or worse in the perception of a person. With the help of the colors, it is possible to make the users perceive the space in a different way and let them comprehend character and the identity of the place (Alici & Paktaş, 2020). In such situations to make the colors work in an accurate way, the chosen colors should relieve people to avoid the stress in an emergency department. As Plant (2012) stated, "*The perception of color influences psychological functioning in a manner consistent with the meaning of the color. Viewing color gives rise to evaluative processes that appraise stimuli as hospitable for a hostile to the perceiver.*" What is expected from the usage of a color is to make people feel relaxed and more comfortable. In a way, it can be said that color can have a placebo effect on patients if they are used in a controlled way.

Material: While designing an emergency service waiting room, another important point beyond the previous factors, is the choice of the materials. The chosen materials should be antibacterial to minimize the contamination. Another important point here is that, the staff should be able to clean the surfaces and furniture easily.

To start with the walls, as Malkin (2002) stated, "*If budget permits, walls should receive commercial vinyl wall covering*." Vinyl based wallpapers and paintings are easy to clean because of the substances of the material. Another advantage of vinyl-based material is the attitude of them against fire. This type of material is harder to flame up.

The materials of the floor should be decided carefully because wrong choice for a flooring can cause acoustical problems and accidental slipping. Because of this reason, carpets can be preferable. Carpeting is a very controversial feature in some new ED (emergency department) waiting areas. If the carpet choice is accurate, it has advantages of lending a feeling of warmth to the area, greatly reducing noise, filter the air by holding the dust and reducing the chance of accidental slipping and falling (Miller and Swensson, 1995; Malkin, 2002). There are different kinds of materials for flooring rather than carpets, which are sheet vinyl, ceramic tile, vinyl composition tile (VTC) or the combination of these materials. As Malkin (2002) stated; "*The least expensive flooring is VCT, which is very durable, but it does need to be waxed and buffed. Sheet vinyl is recommended for wet areas such as bathrooms if the budget does not allow for ceramic tile."* To avoid an acoustical problem, ceiling material should be chosen accurately. The correct material can reduce and prevent echo and it can also reduce noise.

Light: Light is another factor that should be considered because accurate usage of light can affect people in a positive way. The effect of usage of light on human psychology is undebatable. Miller and Swensson (1995) emphasize this effect by saying "*Lighting conveys the most critical of psychological messages. If possible, a combination of overhead, recessed, and indirect lighting is desirable to enliven and humanize what might otherwise be a threatening institutional space.*" It is known that emergency departments are chaotic spaces and people come into these places with a high level of stress. With the help of the correct usage of lighting, this chaotic ambiance can be reduced. As Carpman and Grant (1993) stated *"Lighting also affects the ambiance and comfort of the waiting area. Generally, bright, cool florescent lighting is considered institutional, but indirect, warms fluorescent or incandescent lighting is considered friendlier."*

Ventilation: Ventilation has an important role while designing a waiting room that can reduce the stress level of patient and their companions. With the help of ventilation, contagious diseases can be prevented from contaminating to healthy people and the temperature of the waiting rooms can be optimized according to the outside weather conditions. Petersen (1981) stated *"Air movement can have an important bearing on the incidence of infection, especially if air removed from an infected area is blown or sucked into another part of the building through ventilation or duck systems.*" Alcock and Goodman (1985)

also stated "*… not only is air conditioning expensive but is a constant consumer of energy and an extremely demanding servant*."

Since the aim of the study is to determine the deficiencies of waiting rooms in emergency departments, to have a clear expression, three hospitals were chosen by a hat draw out of ten hospitals. The aim for choosing these hospitals was to use them for exemplifying the deficiencies in a more solid way. With the methods used, which are being told in the remaining chapters, basic information about the emergency departments were obtained. These collected data constituted a starting point.

By comparing the collected data with the three emergency service waiting room samples, the voids and the shortcomings of these places were attained.

FINDINGS AND DISCUSSION

Case Studies: Emergency Waiting Rooms of Sample Hospitals

Under this title, the hospitals taken from the hat draw is presented. As the author pointed before, all three of them are taken from within the city limits of Antalya and they are all private hospitals.

Case A

Sample A was founded on January 2006 after the success of the company's first hospital. The capacity of this hospital is 90 beds. The turnover rate of the patients in the hospital is high because of its service quality and the central location it has. This hospital has A-1 government license. According to department's related regulation, A-1 group hospital is the one which has at least five branches of authority and accordingly staff training completed, gives the service of tertiary treatment and rehabilitation, is carrying out educational research activities, is training specialist and subspecialist doctors, serves general branches services, has the service of inpatient facility.

The enterance of this sample allows people to smoke and wait for their patients. There are two benches for this purpose. But when an ambulance arrives, it is not possible for people to use this space because, for giving place to a sedan chair leaves the users no space. Another deficiency of this enterance is the distance to the food court of the hospital. To have some snacks you have to go to the outdoor aisle you can see in the Figure 2. The distance is about 30m. Most of the users are not going to that canteen because no one wants to leave their patients and they do not want to miss the chance to hear about the condition of their patients.

Figure 2. Emergency service enterance of sample A

The reception desk given in Figure 3, does not have a separated area which causes disorder when the emergency department gets crowded. Because of this disturbance, the users get more stressful considering how nervous they are while entering the casualty department. To avoid this situation, the space of the reception desk should be more identified by leaving it more area.

Figure 3. Reception of emergency department of sample A

When a patient enters the waiting room of this emergency service, it is hard for him or her to find the direction that s/he needs to go because of the poor wayfinding applications. This is another problem that the users go through which causes more stress. The main entrance can be seen in the Figure 4.

Another lack of this waiting room is that there are no activities that can entertain people. There is no

television, aquarium or a newspaper rack. Even a clock can make it easier for people to wait.

As it can be seen from the Figure 5, which was taken by the author, there is not a planned arrangement of seats in this waiting room. While designing it, the empty spaces were appraised as a space left for sitting.

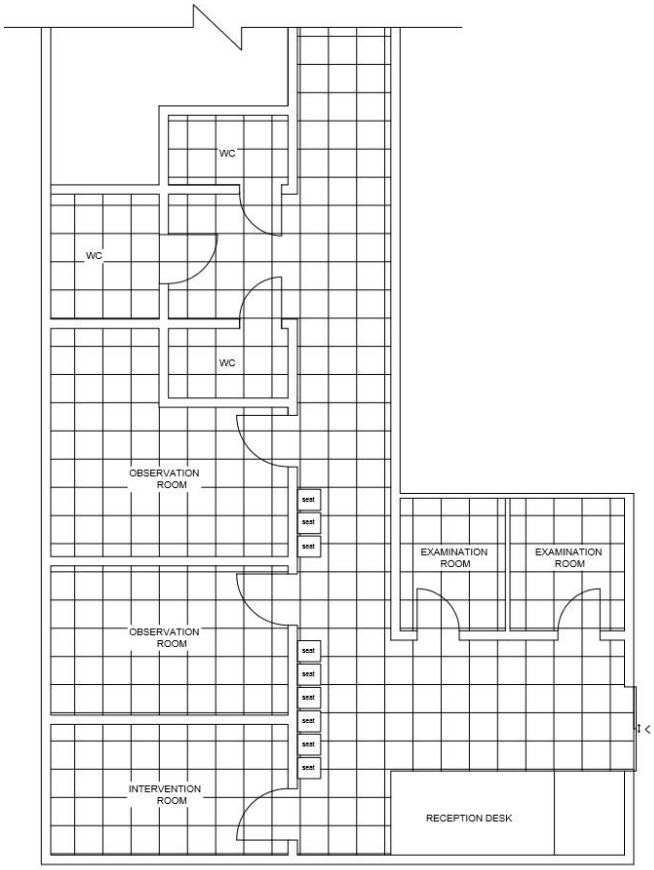

Figure 4. Sample A emergency department waiting room sketch drawing

Figure 5. Emergency department waiting room of sample A

As it was explained in previous chapter, insufficient sitting area may increase the level of stress. Also the type of the seats does not serve a comfortable sitting for the users and it is not possible for them to arrange the chairs as they want, depending on the number of their companions. Because the seats are attached to each other. All these facts affect the comfort level of the patients and their companions negatively.

There are toilets for both men and women as it can be seen in Figure 6. Also there is a toilet for differently abled people but the problem here is the distance between the toilets and the waiting room. While patients are being treated, their companions do not want to be away from them in case of getting the news about their patients immediately.

Figure 6. WC of sample A

As the research shows, companions have the need to be close to their patients. In this case, as it was told in previous chapters, people should be able to fullfill their needs within the limits of the waiting area. But in this sample, there is nothing that provides eating or drinking. To cover these needs, the users have to undergo the scenerio above and walk to the other side of the building or they have to go out of the emergency room and walk 30 metres away.

To continue with the colors, light colors are chosen here which makes the place seem wider and spacious. Another advantage of these kinds of colors is the way it affects the inside lighting. With the help of this choice, interior of this emergency seems brighter. The color of the artificial lighting was close to day light color which helps people to not find it strange when they go out to the sun lights. Artificial lighting is also used during the day time because the only access to the open air of this waiting room is the enterance of it.

The chosen material for flooring was linolium which is a plastic based material. The applicance of this material does not require joints and less joints mean less bacterias. This type of a flooring is durable and easy to clean. Walls are painted with a paint that can be wiped out.

Ventilation of this waiting room was supported by a HVAC system that was applied under the suspended ceiling. It is easy to optimize the interior temperature depending on the outside temperature with the help of this system.

Case B

The sample B was established in 2005. The major reason of establishing this hospital was lack of capacity and limited services of existing hospitals. It serves tertiary treatment.

The sample B has intensive care units, operating room that can serve open-heart surgery, and it has fully-equipped laboratories and advanced radiological imaging units. Because of this facilities sample B was the first and only private hospital that provide all branch services. The sketch drawing of Sample B hospital's ER waiting room can be seen in Figure 7.

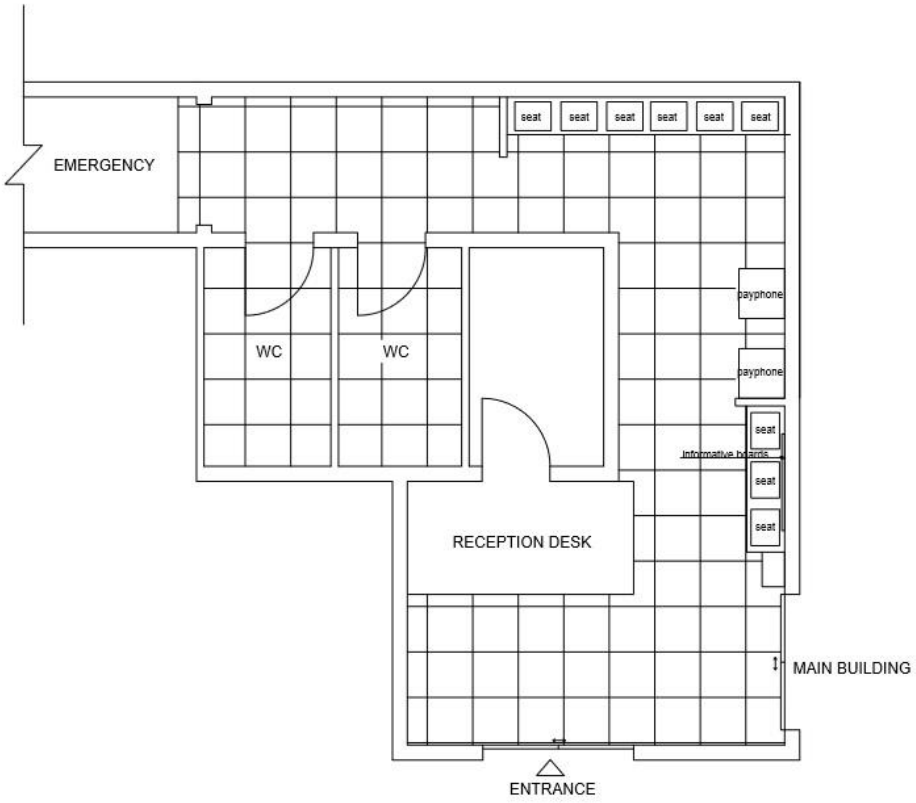

Figure 7. Sample B emergency department waiting room sketch drawing

This sample has the most convenient entrance of all three cases which can be seen in Figure 8. An approaching ambulance do not prevent the users to wait there or smoke there. There is a ramp for differently abled people to go up to the enterance near the stairs. This enterance is also useful because of having a roof over it. In a city like Antalya, this kind of a semi open place is important because of the weather conditions of the city.

The enterance is far away from the main road , which is approximately about 25 metres which gives the opportunity for people to park near the emergency department in an immediate situation and when an ambulance approaches, it does not get jammed in the parking jam. The turnovers of the cars and the users in this place is the most comfortable one among the three cases.

Figure 8. Emergency service entrance of sample B

What is presented in Figure 9 is the waiting room of the emergency department. Capacity of the seats are only enough for 9 people. According to the observations of the author, most of the days the capacity of this waiting room does not match the turnover even though some of the users prefer to wait outside.

Figure 9. Reception of casualty department of sample B

The seats do not have arm rests, which make sitting for a long time really uncomfortable, and even painful. Also the seats do not have seat backs. People use the walls for sitting back. The seats are not modular so that they cannot be rearranged according to the choice of the users because they are built-in furnitures. The fabric of the seats are artificial leather which makes people cold in winter and sweat in summer. The only good point of the seats is that they can be cleaned easily.

Because of the linear planning of seats and wall seperations, some group of seats are providing some privacy for patients and their companions. To contuniue with privacy, pay phones are placed in a seperated area that provides people to use them in a privacy.

There were no wending machines that people can satisfy their hunger or thirst. Users should go to the next block of the building for buying snacks or a drink. The place of the restrooms is solved within the emergency department waiting room. As it can be seen in the Figure 10.

Figure 10. Emergency department waiting room of sample B

The color choices of the walls, furnitures and the floor are white, beige and green which refers to the senses of fresh, health, cleanliness, piece, healing and tranquility as it was shown in Figure 11.

The material of the floor is ceramic tiles which is a durable material and it is easy to clean except the joint points of this material. Walls are covered with oil painting and this kind of materials is convinient to wipe out.

To continue with the lighting of this space, the waiting room is not practical in terms of daylight because of the inadequate openings of the building. The color of the artificial lighting, which is fluorescent, is white and this type of colors makes people exhausted after a while and does not give warmth to the ambiance.

Figure 11. Emergency department waiting room water closets of sample B

For ventilating the waiting room of this emergency department, HVAC system was chosen which is the most efficient solution for this kind of places as it was explained in the previous chapters.

Case C

The hospital sample C has 84 outpatient clinic rooms, 189 beds, 10 coronary care, intensive care, 23 general intensive care, 26 newborn intensive care unit, 10 operating rooms and 33 medical branches services. The sketch drawing of the Case C hospital's ER waiting room is given in Figure 12.

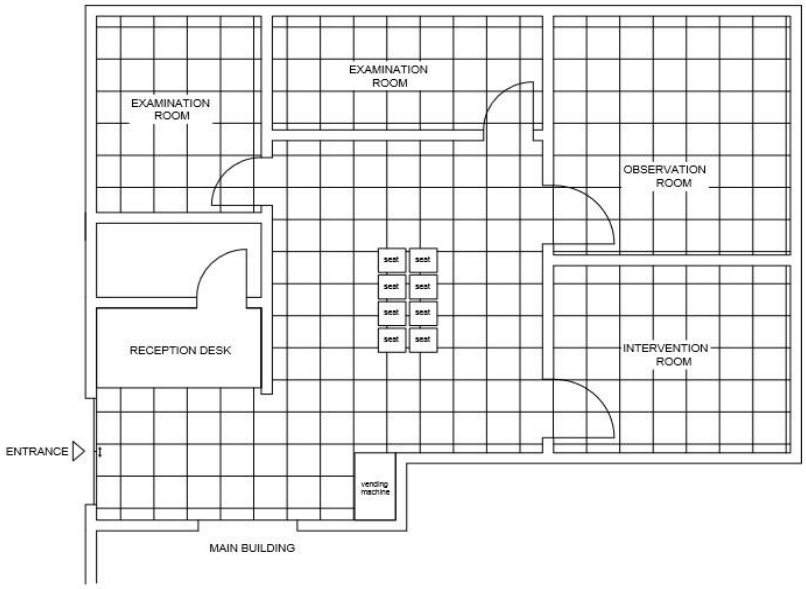

Figure 12. Sample C emergency department waiting room sketch drawing

Sample C aims to be the most preferred transplantation center so its major concern is transplantation. Up to today, they make the lowest adverse effect with the maximum number of organ transplantation. On one side; sample has Organ Transplantation, Bone Marrow Transplantation, Medical Oncology, Radiation Oncology, and Immunology as senior medical service units, on the other hand; there are special units such as Dermatology-Aesthetic Centre, Hair Transplant Unit, Nutrition and Dietetics.

To start with the seat planning of this sample, the seats were located at the center of the waiting room which causes trouble and stress for the users when the place gets crowded. The seats do not have arm rests and seat backs. Moreover, the settlement of the seats was decided according to the empty spaces of the waiting room. There is no specific, defined area that was designed for seats.

The only activity that was provided to the users is a television and a clock. There is not a place that is separated for children and for lockers. A pay phone was located at the entrance of the waiting room where everyone can hear the person who is using the pay phone.

Entrance of the emergency department is close to the main entrance of the hospital and this situation creates a crowd that prevents people to spend time there for fresh air or for smoking.

The only good point of this emergency room was the location of the vending machines and the water closet. The waiting room matches the essential needs of people such as eating and drinking without making them go far away from their patients.

Color scheme of the waiting room is monochromatic which creates a cold ambiance that makes people nervous and stressful. Chosen materials are ceramic tiles that are durable and easy to clean but the sizes of the tiles are 30x30cm which creates more joints. More joints mean more bacteria, which is an unacceptable situation for an emergency department.

Artificial lighting is supported with daylight-colored fluorescents. The space is not suitable for having day light because of having no windows. Ventilation condition is solved by a HVAC system.

CONCLUSION

The aim of this study was to examine the deficiencies of emergency department waiting rooms. Such a study is essential to explore the appropriateness of such spaces that not only affect the psychological conditions of patients and their companions and also affects the behaviors of the users while being treated in a casualty department. For this purpose, within the delimitations and limitations of the author, literature survey and observations were conducted. The starting point of this

study was the personal observations and experiences of the author. Another aim of this study is to inspire or to give a starting point for further studies on the topic of emergency waiting room design. With the help of the data collected from the literature survey, a requirement list was constructed. The comparison of all three cases according to this requirement list is given in Table 1.

Through this investigation process, the author noticed the topic 'emergency waiting rooms' was not investigated profoundly. The gathered information by the author carried out the aim that was intended to be reached.

Table 1. Evaluation chart of the case hospitals according to the requirement list

		CASE A	CASE B	CASE C
AMENITIES	**Activities**	____	-informative posters	-television -clock
	Outside waiting	-available for sitting and smoking	-available for sitting and smoking -semi close area	____
	Telephone	____	-private place for a pay phone inside the waiting room	-private place for a pay phone inside the waiting room
	Essential needs	-WC within the limits of the waiting room	-WC within the limits of the waiting room	-WC within the limits of the waiting room -vending machine
BEHAVIORAL ASPECTS	**Children's area**	____	____	____
	Private area	____	____	____
	Wayfinding	-name plates on doors	-basic boards for direction indication	-basic boards for direction indication
SPACE QUALITIES	**Color**	-light and fresh colors	-monochromatic color schema -cold ambiance	-monochromatic color schema -cold ambiance
	Lighting	-fluorescent -daylight-colored lamps -efficient daylight	-fluorescent -white colored lamps -poor daylight	-fluorescent -daylight-colored lamps -poor daylight
	Material choice	-ceramic tiles -painted walls -plastic seats	-ceramic tiles -painted walls -artificial leather seats	-ceramic tiles -painted walls -plastic seats
	Sitting plan	-not available for rearrangements	-not available for rearrangements -seats have no arm and back rests	-not available for rearrangements -seats have no arm and back rests
	Ventilation	-HVAC system	-HVAC system	-HVAC system

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