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Presenting a conceptual model for designing hospital architecture with a patient-centered approach based on the patient's lived experience of sense of place in the therapeutic space

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Abstract:

BACKGROUND: In recent years, among managers and designers of health-care spaces, there has been a growing tendency to move toward hospital design by combining patient perceptions and expectations of the physical environment of the care area. The main idea of this study was to present a conceptual model of hospital architecture in our country with a patient-centered approach based on some factors that were affecting the sense of place. This model determined the architectural features of treatment spaces from a patient's lived experience that could have a positive mental effect on patients as well. The main question of the research was how to adapt the objective perception to the patient's mental perception to create a sense of place in the hospital space?

MATERIALS AND METHODS: This research was qualitative with a phenomenological approach, conducted between July and December 2020. Purposeful sampling consisted of 23 patients, 13 males in the male surgery unit and 10 females in the gynecology unit, who were interviewed in-depth. They were hospitalized for at least 3 days in two hospitals (Dr. Pirooz in Lahijan and Ghaem in Rasht). The data were analyzed by the Colaizzi method.

RESULTS: The results consisted of 530 primary codes, 57 subthemes, and 7 main themes. The main themes were hospital location, access to hospital, hospital identity, hospital dependency, hospital attachment, human interactions in the hospital, and hospital evaluation.

CONCLUSION: The hospital form guided the patient, and the hospital function directed and obviated the patient's needs. The healing environment and human interactions with it caused the patient to be satisfied with the hospital environment.

Keywords:

Conceptual model, health promotion, hospital architecture design, lived experience, patient centered, sense of place, therapeutic space

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Introduction

Health is one of the most essential and basic human needs. Hospitals and other medical centers, with doctors and nurses, are the most significant base and supporters of the people in times of

illness, dangers, and accidents. Hospitals and medical centers are part of the safety subjects and the context of the treatment process.^[1] One of the recent concerns in the design of hospitals and health-care centers is to be patient centered, which

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means focusing on improving the patient's experience by providing facilities and attention to their concerns and comfort.^[2] The original mission of hospitals is to provide quality care for patients and meet their needs and expectations.^[3] Since patient satisfaction is a quality indicator in health care,^[4] carrying out this serious mission and patient satisfaction requires quality institutionalization in hospitals. Numerous studies on the quality of hospital services and the rate of patient satisfaction with hospital care indicate many challenges and shortcomings. According to experts, in 90% of public hospitals in our country, patients are not satisfied with the way services are provided.^[3] Patient-centered services are a new approach in the medical systems. In addition, the research shows that this approach increases satisfaction, shortens the duration of treatment, reduces medical costs, reduces medical errors, and overall improves the treatment status.^[2] That is why the features of the system health-care providers are inevitable to change with a patient-centered approach, following that patient-centered care has become one of the main issues in the design and redesign of health-care services.^[5]

Architectural design and quality perception in health-care buildings have changed over time. At first, the architectural quality meant physical structure security and functional efficiency, then esthetic, cultural values, physical needs, and patient psychology added to it. In transforming health-care buildings into patient-centered buildings, the main goal in design is to provide a healing environment for patients.^[6] Most of the time, the hospitals are weak in meeting the patients' needs and expectations and their emotional needs.^[7] As Berwick (2000) points out, in a modern mindset, the patient is pivotal between the boundaries of two opposing perspectives, such as professionalism and consumerism. For this reason, participation needs to provide a solution. In this sense, the patient experience could consider as the phenomenon key because it covers a wide range of qualities, from performance to more intangible dimensions such as emotional needs, comfort, and satisfaction.^[8]

Understanding the patient experience is sometimes essential in moving toward patient-centered care. Evaluation of the patient's experience by effectiveness and safety of the care, determines the whole picture of the quality of health care. Patient experience and patient satisfaction are not the same. It needs to evaluate the patient's experience by asking the patient if something should have happened at a health-care facility, which is happened or not? In addition, satisfaction is whether the patient's expectations for health-care treatment are met. Two people who receive the exact same care, but who have different expectations for how that care is supposed

to be delivered, can give different satisfaction ratings because of their different expectations.^[9]

Weiss and Tyink (2009) discuss the opportunity to provide the ideal patient experience through creating a patient-centric culture. The components of a patientcentric culture encompass competent, high-quality care, personalized care, timely responses, care coordination, and are reliable and responsive. While Frampton (2002) does not provide a clear definition of the patient experience, he implicitly refers to the consistency of the patient's experiences of caring, so he suggests that the experiences focus on two main areas: human interactions and the care environment. He adds that patient-centered care is the living space between what care and treatment provide and how patients and their loved ones experience it.^[10] Among managers and designers of health-care spaces, there is a growing tendency to move toward hospital design by combining patient perceptions and expectations of the physical environment of the care area. Increasing interests and physical environment can help better understanding their role in patient improvement outcomes and user benefit.^[11] From a patient-centered perspective, considering the view of the patients and other users by the hospital designer is significant. Moreover, understanding the quality of the structural environment is also necessary to help understand the relationship between people and the hospital environment.^[12]

Patient-centered care focuses on patients and their companion experience in the hospital, and the design of the health-care environment should support the patient-centered care concept.^[13] The physical environment of health care is an integral part of the patient experience.^[14] The physical environment consists of the building, the organizer of the interior space, the materials, and the exterior space that establishes the spatial connections between buildings.^[15]

Schweiter *et al.*, 2004, claim that the hospital environment affects the actions, interactions of the patients and their families, and the service providers. Many studies have shown a relation between health-care design and patients' medical outcomes, for example, the effects of environmental characteristics and interior design on patient recovery and staff performance.^[16] The relationship between the behavior and well-being of healthcare users with their feeling of comfort, relaxed and secured,^[17] and the potential of creation of a healing hospital atmosphere that could reduce negative psychological impact such as stress, depression, and anxiety.^[7] The environment, and a sense of place, play a significant role in improving the quality of treatment and maintaining well-being. For this reason, it is necessary

to understand the patient's perspective and perception of the treatment experience and the people involved in the treatment path.^[18]

Background

Harris *et al.* to identify the environmental sources of satisfaction of that hospital, determined the ratio of the satisfaction with the environment to the overall satisfaction of the patients' experience of the hospital and examined the differences between the four wards (internal medicine, gynecology, orthopedics, and surgery) in 6 hospitals. The 380 hospitalized patients were interviewed by telephone. The analysis showed that the interior design, architecture, housekeeping, privacy, and ambient environment, identified as sources of satisfaction. Environmental satisfaction was an essential predictor factor of overall satisfaction that in the ranking was below the quality of nursing and clinical care. There was no significant difference between hospitals or wards of levels or sources of environmental satisfaction.^[19] Douglas *et al.* examined patients' perceptions and attitudes toward the hospital environment and the factors which helped their experiences. The results showed that patients had a perfect understanding of the range of factors that affected them. They had data, especially given their health status, independent of the specific health conditions that led to their hospitalization. A case study of patients in the four head wards of the hospital showed a wide range of considerations affecting health. The main set of indicators extracted from the internal and external set, each set of indicator factors, had separate elements to evaluate the design. Designing the hospital's interior and exterior, including transitional spaces for patient access, and movement should provide a supportive environment that minimizes anxiety and promotes healing by creating an inviting, calming, and engaging overall effect. The human demand-driven health-care environments have a broader scope than organizational growth and physical development. Patients need environments that support their normal family lifestyle and family functioning. They need a space that protects privacy, dignity, ownership and territory, access needs, and movement through transitional spaces and public spaces.^[20]

Salonen *et al.* controlled the positive effects of environmental characteristics on health and recovery from health-care facilities to show that a well-designed interior environment supports public health and the sense of well-being. Positive effects of space and the environment on people well known in the era before modern science. In ancient Greece, the temples of the god Asclepius were quite evident, designed to equip patients with nature, music, and art to restore harmony, and developed healing in the absence of other

treatment methods. After that, many studies showed that environments with healing properties improve patient safety, reduce patient stress, analgesics, staff tiredness, and stress, and increase overall health and effectiveness. The environmental features that affect the health and recovery outcomes included: environmental safety, indoor air quality (e.g., odor and temperature), sound and noise, building area, and interior design (e.g., building materials, looking at nature and experiencing nature, windows versus no windows, light, colors, furniture layout, and location, room type, ability to control quality elements, complexity environmental and sensory simulations, cleanliness, ergonomics, accessibility, and routing), and art and music.^[21] Indoor environments with healing elements can, for example, reduce anxiety, lower blood pressure, reduce pain, and shorten hospital stays.^[21] The main idea of this study is to present a conceptual model of hospital architecture in our country with a patient-centered approach based on some factors that are affecting the sense of place.

Theoretical framework of research

Phenomenology is the study of lived experience or lifeworld, and the human lived experience of space focuses on understanding the sense of place.^[22] Sense of place means people's mental perception of the environment and their more or less conscious feelings about it. In the interaction between humans and place, three types of relationships are formed. The first one is the cognitive relation that is general perception to understanding the geometry of space and its orientation. The second is the behavioral relationship that is the perception of space capabilities to meet the needs. Third, an emotional connection means the perception of satisfaction and depending on the place. The sense of place is cyclically interconnected and is formed in three stages: 1 – place identity, 2 – place attachment, and 3 – place dependence. In other words, identity, dependence, and attachment to place consider as cognitive, behavioral, and emotional variables, respectively. The constituent elements of these concepts are placed together in different degrees of physical elements, personal, immaterial, and mental elements. The main question of this study was how to adopt the objective perception to the patient's mental perception in creating a sense of place in the hospital space in The Patient,s Lived Experience.

Research method

This research is a qualitative study with a descriptive phenomenological approach. Phenomenology as a method means to study and accurate identification of lived experiences of people in different situations. Living space or place is also the situation where lived experience is formed.^[23] Descriptive phenomenological research aims to be aware of the researcher biases and assumptions to put them in parentheses or put them aside

to have a preconceived notion of what they achieved? in the research. This awareness prevents the researcher from assuming the influence of presuppositions or biases on the study^[24] since the main idea of a phenomenological research method is to create a comprehensive description of the experienced phenomenon to understand its intrinsic structure.^[25]

In this study, patients' lived experience of factors affecting the sense of place in the hospital spaces, applied to create a comprehensive description of the experienced phenomenon. Purposeful sampling consisted of 23 patients. Patients included 13 males in the male surgery unit and 10 females in the gynecology unit with a maximum of 48 h of discharging from the hospitals.

The participants were hospitalized for at least 3 days in two hospitals and interviewed in-depth. An orderly pattern was used from repetitive data collection and analysis at the same time to data saturation, and the data were analyzed by the Colaizzi method. Colaizzi speaks of the final validity that is done by referring to each informant. Therefore, he considers the validation of comprehensive descriptions of the studied phenomenon by the participants as the most significant criterion for evaluating the findings of phenomenological research.^[26]

Accordingly, the researcher provided the participants with the text of the interviews and asked them to study the findings and control their consistency with their experiences. Furthermore, the ability to generalize the results of qualitative research is not as discussed in quantitative research. In qualitative research, more than paying attention to the fact that the samples represent the whole society, it pays attention to the fact that the obtained information shows the available data.^[27]

The place of research Location 1

A 225-bed public hospital with a gorgeous landscape opened in March 2017. This hospital was a general hospital with 225 active beds and more than 700 personnel, considered as the medical center of the west of the province. The hospital built according to the latest standards and regulations of the Ministry of Health, Treatment, and Medical Education and was put into operation in March 2016. The design of this hospital was a process of analysis and composition that included a list of required functions for the plan and a list of design standards to combine them and making A form that follows the performance of the hospital. This hospital, mainly designed to maximize performance and workflow, included four wards: internal medicine, general surgery, obstetrics, and pediatrics, as well as laboratory, radiology, pharmacy, emergency, and nutrition wards.

Location 2

A 200-bed private hospital opened in 2013. This hospital, located on a highway in one of the most beautiful areas with a beautiful and natural landscape having 200 active beds and more than 700 staff with providing different physical spaces, using advanced equipment, specialized and subspecialized physicians along with Special facilities is One of the first choices for area patients.

The statistical population

The statistical population consisted of 23 patients, including 13 men and 10 women, whose selected from the gynecology and male surgery wards of the two hospitals (to obtain more rich and unique narratives about their lived experience). The average day of hospitalization in public hospitals was 3–5 days (at least 3 days). The selected patients were hospitalized in one, two, or four-bedroom treated, discharged and, interviewed (at a maximum time of 48 h after discharge). Whereas, the quality of the care, the type of surgery, and the financial subjects could affect the levels of patient satisfaction such as disturbing variables, so preferably patients selected who mostly performed light operations such as the appendix, hernia, and benefited from the same nursing services. They were workforces, and all of them were employed and covered by insurance.

Ethical considerations

Prior to the interview, participants were informed About the goals and importance of research. And Their participation in this study was with their consent. and to They were assured of conversation and information Used only for academic research and interview details Remain confidential during and after this investigation. Let us record Interview and its use in the study.

Demographic description of participants

The participants in the study were a total of 23 people, including 10 women and 13 men. The average age of the participants was 41.8 years, who are neither old nor young but middle aged. Middle age is the peak of the ability and efficiency of a person in society, has gained in youth, and has not lost its strength and power due to not reaching old age and old age. Perhaps consequently, it is said that middle-aged people gain the highest quality of life in their social relationships. One of the most famous researches on the age of youth and old age, related to the detailed study that Domenic Abram (2010) conducted in Europe and tried to show with a high statistical sample (40 thousand people) people of different countries of age and what is their perception of the year. The result demonstrated that people in average age consider the end of youth to be around 30 years old, and the beginning of aging is about 60 years old.^[28] Alistair et al., 2016, pointed out: the effect on satisfaction, divided into two categories: factors that determine satisfaction and its components.

As a determining factor, older patients are generally more satisfied than young people. Other determinants of satisfaction investigated show a possible relationship to education level, where less educated patients are more satisfied. Studies have shown that gender and race, however, are not influencing factors or determinants of satisfaction^[29] To reduce the effects of the disturbing variables not selected in the study of elderly and very young or illiterate people. There was no significant difference between men and women in terms of gender.

Research finding

This study used semi-structured in-depth interviews and in-depth talks with patients in the male and female surgery wards. The sequence of questions was not the same for all participants and depended on the interview process and the patient's answers.

However, the interview guide assured the researcher that they would collect a similar type of data from all informants.^[30] The focus of the interview was generally on the patient's experiences in the hospital environment. To this end, the researcher tried to create a safer space for the participants to express their experiences without asking detailed questions. The researcher with a general question (What happened when you came to the hospital) Began to ask questions and left the next step of the interview to the participants. The seven-step Colaizzi method was applied to analyze the data. First, the whole provided descriptions with participants recorded to convert into a text commonly called a protocol, revised many times to get a feeling and get used to them. Second, referred to each of the protocols and extracted sentences and phrases related directly to the phenomenon of the sense of place (this step is known as extraction of the essential sentences). Third, a trial to understand the meaning of each sentence. This stage is known as formulating meanings. In the fourth stage, the concepts, formulated and related to each other and placed in clusters of themes (main themes).

The theme or theme expresses the requisite information about the data and research questions and partly shows the meaning and concept of the pattern in the data set. It is a pattern found in the data and describes and organizes observations at the least and interprets aspects of the phenomenon utmost. In general, it is a repetitive and distinctive feature in the text that reflects the specific understanding and experiences of the research questions.^[31] The result of the effort included 530 codes, the 7 main themes, and 57 subthemes, summarized in Table 1.

STEP 5: Factors affecting the sense of place from the patient's lived experiences in the therapeutic space included 530 codes, 7 main themes, and 57 subthemes, summarized in Table 2.

The sense of place in the hospital space refers to the patient's specific experience in a hospital environment. It is a general feeling that the patient feels about the hospital. To create a sense of place, the hospital environment must have a particular structure and features that increase the sense of place and strengthen it. Then, the product will be a positive evaluation of patients from the hospital environment. Factors obtained in evaluation of patients from the hospital in the patient's lived experiences of the hospital space include the location of the hospital (e.g., hospital location in the city, adjacent, parking, and passage width), access to the hospital (e.g., proximity, communication network, and public transport), hospital identity (e.g., visibility attributes, form attributes, use and significance attributes, being different from specific places, being similar to other places, and knowledge of being located in hospital), hospital dependence (e.g., way, wayfinding, space, space performance, space relationship, space location, space access, space dimensions, overall hospital atmosphere, full hospital, individual location past, and successful treatment), attachment to the hospital (e.g., light, noise, odor, color, lighting, thermal comfort, safety, cleanliness, fresh air, view out, viewing nature, positive distraction, number of beds, single room, good sleep, privacy, personal space, facilities, family facilities, artwork, texture like flooring materials, inside and outside, local information, and waiting time), human interactions between hospital users (including doctor, nurse, office personnel, service staff, treatment staff, and family), and the hospital evaluation (general evaluation).

Factors affecting the sense of place from the patient's lived experience in the therapeutic space included 530 codes, 7 main themes, and 57 subthemes, summarized in Table 2.

Discussion

STEP 6: Comprehensive description of the factors affecting the sense of place in the lived experience of the hospital space

(Step 6 of the Colaizzi method: Comprehensive description of the factors affecting the sense of place in the lived experience, of the hospital space as a clear statement of the basic structure of sense of place in therapeutic dwelling presented, under the title (intrinsic structure of the phenomenon).

Architecture plays a central role in human life. It provides the most dominant kind of human-made places and well-designed buildings by supporting and enhancing the unique worlds. For example, schools sustain a world of teaching and learning; dwellings, a world offering privacy; and at-homeness, familial

Table 1: Results of information analysis of steps 1-4 of Colaizzi method

Patient	Semantic units (indicative statements and phrases)	Meanings derived from index expressions (level 3 semantic analysis)	Subtheme (theme from level 3) (level 2 semantic analysis)	Theme (theme from level 2) (level 1 semantic analysis)
P6	The hospital is not in the city to disturb traffic and noise, nor is it on the outskirts where access to the hospital is difficult	Patient perception and experiences of the appropriate location of the hospital in the city	Location in the city	Location of place
p21	The farm and grass around the hospital were seen from the room, and it was relaxing	Patient perception of appropriate uses adjacent to the hospital	Adjacent	
P9	The only problem is that there is no parking for a patient at all, and there is a parking lot for the administrative staff, and I do not think they can make a parking space for the patients	Lack of facilities for clients, including parking in the patient experience	Parking	
P10	Clients should park their car on the street in front of the hospital, which is very narrow	Inadequate street width in front of the hospital in the patient experience	The width of the passage	
P3	I chose this hospital because it is close to where I live	Choosing a hospital because of its proximity	Proximity	Place access
P7	My brother took me to the hospital very quickly. We came through the highway. The doctor says that if you had not arrived at the hospital on time, we might not have been able to do anything for you	The importance of fast traffic network accessibility in the patient experience	Communication network	
P6	I think it was 10 am. When I felt pain. I took a taxi to come to the hospital	Hospital accessibility by public transport in the patient experience	Public transport	
P21	Every time I was going to the other city, I would see the hospital next to the boulevard, and it was in my mind	Visibility characteristics in the patient experience in identifying the hospital due to being in the body of the boulevard	Visibility attributes	Place identity
P3	The type and appearance of the hospital buildings are different from the city buildings	Identify the hospital due to having a different shape from the surrounding field	Form attributes	
P7	Anyone can have expectations from the hospital. I just found out if this hospital were not here, many people would have died of COVID-19 these days	The importance of the hospital in the patient experience	Use and significance attributes	
P19	The appearance of the hospital is different from the city buildings. It is the shape of a hospital	Being different from other buildings in the city	Being different from specific places	
P22	Its shape and appearance are more like a hotel, not much like a hospital	The similarity of a hospital to a hotel	Being like other places	
P6	I am currently in the male surgical ward	Level of location-awareness	Knowledge of being in a place	
P16	First, I went to the reception. Then I went to the ward, and from there, I went to the operating room. Then, I went back to Ward to discharge	The patient movement path according to the routine of the hospital	Way	Place dependence
P16	I did not feel confused in this hospital. Upon arrival in the hospital lobby, I found the information. It was marked on the board what was on each floor, and I found it soon	Successful routing through architectural components in the patient experience	Wayfinding	
P17	It has a good lobby	Patient experience of being in the hospital	Space	
P4	I went to the operating room and had surgery	Patient perception of space function	Space performance	
P10	The operating rooms were close to the surgery ward	Patient understanding of the proper relationship between the operating room and the surgery ward	Relationship of space	
P6	The path to the front door and the emergency room is very long and annoying for patients	Patient perception of the inappropriate position of the emergency room	Space location	
P6	I got out of the taxi at the hospital, but it did not have permission to go inside	Patient experience of no access of the rider to the hospital	Access to space	

Contd...

Table 1: Contd...

Patient	Semantic units (indicative statements and phrases)	Meanings derived from index expressions (level 3 semantic analysis)	Subtheme (theme from level 3) (level 2 semantic analysis)	Theme (theme from level 2) (level 1 semantic analysis)
P15	There were four beds in the small room. I felt suffocated	Patient perception of the dimensions of a 4-bed room	Dimensions of space	
P10	There were many operating rooms	Enough operating rooms from the patient perspective	Number of space	
P23	There was a gentle atmosphere there, so I was calm inside the hospital	Patient perception of the overall atmosphere of the hospital	General atmosphere	
P11	It has no parking, large yard, greenery space, coffee shop, and dining room	Lack of hospital space from the patient perspective	Full hospital	
P3	I feel good about having a successful operation in this hospital	The positive feeling of the patient from the hospital due to the successful operation and care	Successful treatment	
P18	It is much better than private hospitals. Both in terms of access and in terms of facilities	Assessment based on past experiences of similar places	The individual past place	
P21	In general, all rooms should have enough windows and lights	Patient expectations from the hospital room	Light	Place attachment
P14	At night, the medical staff and nurses were talking loudly, and I could not sleep	Patient experiences annoying noises	Noise	
P11	The ultrasound room was white and lifeless	Inadequate color of the space	Color	
P4	The hospital usually has its odors. The odors of the ointment and dressing, but I did not feel a bad smell	Inhale the smell of hospital materials in the patient experience	Odor	
P4	When a patient wants to sleep, the brightness is too much. Sometimes I would wake up from the light and could not sleep	Inadequate lighting at night in the patient experience	Lighting	
P8	The days are good. But it rained last night, and it was cold near morning	The importance of cooling and heating the patient's room in the patient experience	Thermal comfort	
P1	Because of COVID-19 and the pandemic situation, the reception space is too small. The patients must stand side by side	Patient fear of contamination and nosocomial infection due to space dimensions	Safety	
P20	Of course, the hospital is clean	The positive mental image of the patient of the cleanliness of the hospital	Cleanliness	
P21	There was a window and fresh air in the room	Ability to access fresh air through the window in the patient experience	Fresh air	
P3	My previous room was by the window, and I could see the wall, but the next room had a window to the yard. Of course, I only saw the hospital facilities, but it was still better	The importance of the window and looking out for the patient	Viewing out	
P4	Hospital surrounded by a fence. It has paved, but it does not have the scenery and greenery space that a patient can enjoy	The need for greenery and hospital landscaping for a patient	Viewing nature	
P1	My bed number was 23, it was good. The room just does not have a television. It is better to have one in the hospital, so the patients are not bored	Pleasant hospitality and distraction in the patient experience	Positive distraction	
P15	No more than two beds should be in one room	The maximum number of beds in a room from the patient's point of view	Number of beds	
P9	Luckily, I was admitted to a single bedroom, and it was very comfortable	The importance of a board room for a patient	Single room	
P5	I want to sleep, but I cannot	A patient needs comfortable postoperative sleep	Good sleep	
P10	I could not see the other side when the curtain pulled between my bed and the side bed	Lack of privacy due to lack of patient control in the hospital room	Privacy	
P18	That night I woke up from the nearby sick snoring. I went and sat in a wheelchair in the hallway. It was too bad feelings	Disturbing personal space by a patient	Personal space	

Contd...

Table 1: Contd...

Patient	Semantic units (indicative statements and phrases)	Meanings derived from index expressions (level 3 semantic analysis)	Subtheme (theme from level 3) (level 2 semantic analysis)	Theme (theme from level 2) (level 1 semantic analysis)
P22	The room also had the most amenities like a television, small fridge, small locker for expensive items	Patient satisfaction with the required facilities in the hospital room	Facilities	
P10	A comfortable facility for the patient companions like a bed-chair would be great. How could they sit all night and have no rest?	The patient worries about the lack of facilities for their companion	Family facilities	
P12	Paintings can affect the patient's feelings	The effect of artworks on the patient moods	Artwork	
P22	The bathroom was clean, hygienic, and made of ceramic	The effect of material texture on understanding the cleanliness of the space	Texture (flooring materials)	
P4	This hospital seems small from the outside, but when you come in, it is so big. From the outside, you cannot see its size	Different patient sensations from inside and outside the hospital building with horizontal configuration	Inside and outside	
P11	At the hospital, the guards directed my brother and me to the emergency room	Guiding the patient to specific points in the patient experience	Local information	
P2	The expectation of an ideal hospital can be having the admission, hospitalization, and other treatment procedures such as imaging, testing, and surgery performed in the shortest possible time so as not to irritate a patient by adding to patient anxiety and worries	The patient wants to manage and plan the treatment process at a minimum time	Waiting time	
P8	The skilled doctor returned my hand to me	The positive mental image of a patient from the skill of the physician	Doctor	Human interactions in places
P1	The hospital was good. The nurses were good. They gave medicine on time. They came every time we called them. We thank them	Patient satisfaction with the care and availability of nurses	Nurse	
P6	I am satisfied with this hospital and with the medical staff. They worked very hard	The positive mental image of a patient from the treatment staff	Treatment staff	
P1	The services were perfect. They were constantly cleaning everywhere with alcohol	The effectiveness of service personnel in cleaning the space	Service personnel	
P14	I was in the office, and I was sick and in pain. My colleagues brought me to this hospital	Accompanying the patient's family and friends in the treatment process	Family	
P20	Overall, the service, patient respect, and construction were good	Positive evaluation of a patient from the hospital	General evaluating of the place	Evaluation of place

Table 2: Combining the results in the form of a comprehensive description of the research topic

The main concept	The main theme	The subtheme
Sense of place	Location of place	1: Location in the city, 2: Adjacent, 3: Parking, 4: The width of the passage
	Place access	1: Proximity, 2: Communication network, 3: Public transport
	Place identity	1: Visibility attributes, 2: Form attributes, 3: Use and significance attributes, 4: Being different from specific places, 5: Being like other places, 6: Knowledge of being in a place
	Place dependence	1: Way, 2: Wayfinding, 3: Space, 4: Space performance, 5: Relationship of space, 6: Space location, 7: Access to space, 8: Dimensions of space, 9: Number of space, 10: General atmosphere, 11: Full hospital, 12: Successful treatment, 13: Past individual place
	Place attachment	1: Light, 2: Noise, 3: Color, 4: Odor, 5: Lighting, 6: Thermal comfort, 7: Safety, 8: Cleanliness, 9: Fresh air, 10: View out, 11: Viewing nature, 12: Positive distraction, 13: Number of beds, 14: Single room, 15: Good sleep, 16: Privacy, 17: Personal space, 18: Facilities, 19: Family facilities, 20: Artwork, 21: Texture (flooring materials), 22: Inside and outside, 23: Local information, 24: Waiting time
	Human interactions in places	1: Doctor, 2: Nurse, 3: Office personnel, 4: Treatment staff 5: Service personnel, 6: Family
Evaluation of place		General evaluation of the place

intimacy, and hospitals, a world facilitating health and healing.^[32] On the other hand, architecture is the art of creating space,^[33] and when the relationship between

man and space, based on experiences for man, space becomes place.^[34] A place or living space is a situation where our lived experiences take shape,^[35] and lived

experience is an experience that is achieved without voluntary thinking and without resorting to classification or conceptualization.^[36]

Man's lived experience of space focuses on a sense of place,^[22] and a sense of place is a sensory relationship with a place perceived through concepts and signs. Human attention to that place leads to forming a rich image of it.^[34]

Sense of place refers to a person's experiences in a particular environment. It is a general feeling that a

person feels about places.^[37] To create a sense of place the environment, must have a particular character and structure that gives a sense of place, increases, and strengthens it. The product is the positive evaluation of residents of that environment.^[38]

STEP 7: Final validation.

Colaizzi speaks of the final validity that is done by referring to each informant. Therefore, he considers the validation of comprehensive descriptions of the studied phenomenon by the participants as the most significant

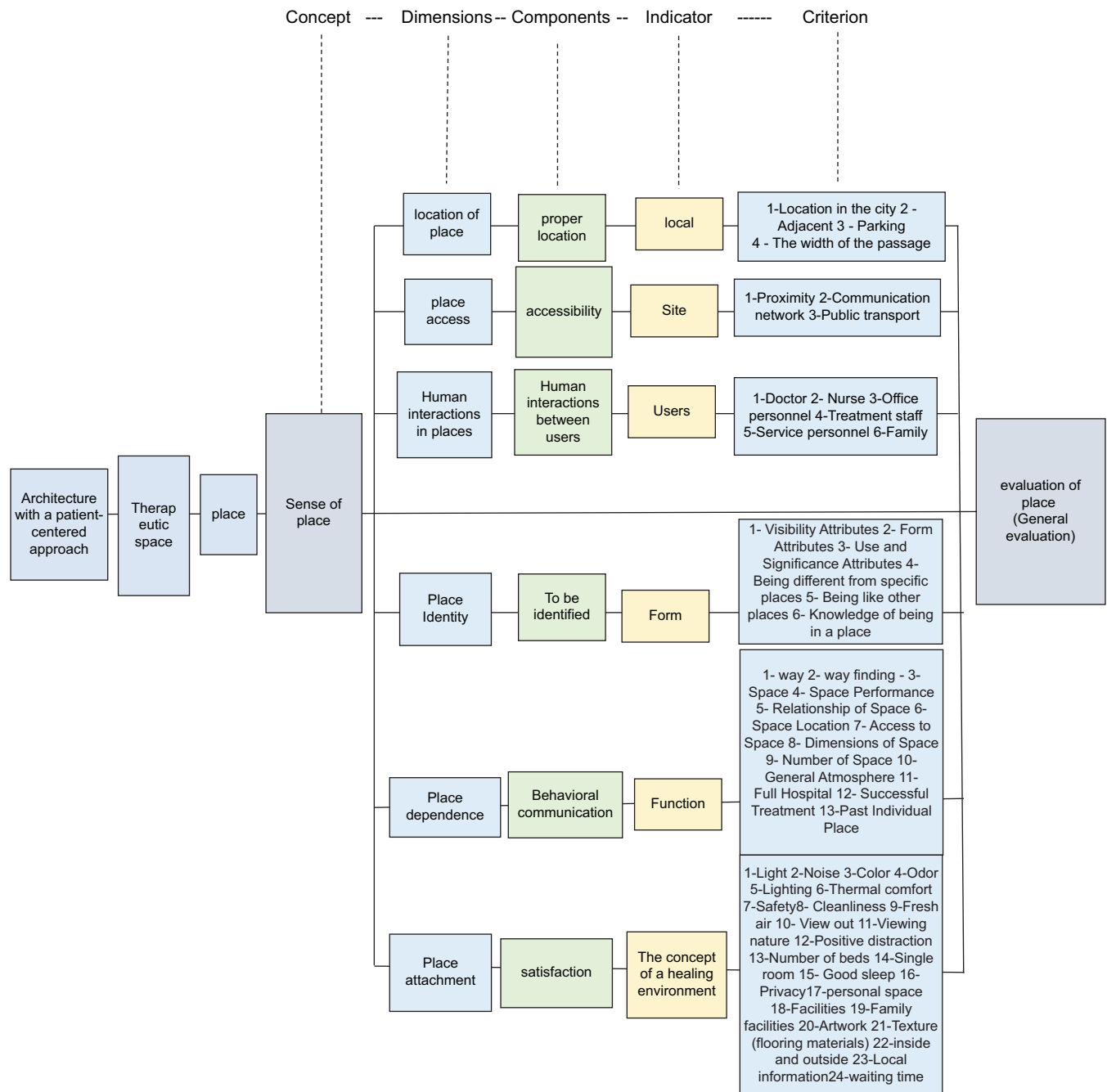


Figure 1: Conceptual model of hospital-based factors which affect the sense of place of the patient's lived experience in the therapeutic space

criterion for evaluating the findings of phenomenological research.^[26]

Accordingly, the researcher provided the participants with the text of the interviews and asked them to study the findings and control their consistency with their experiences.

Limitation and recommendation

In this study, the sense of place subject, considered only from the patient view. Since patient-centered care design focused on improving the patient and family experience to achieve a more inclusive result and model, subjects also could assess from the companion perspective.

Conclusion

In this study, factors presented in the patients' lived experience of the hospital environment in the overall evaluation of the hospitals included hospital location, hospital access, hospital identity, hospital dependency, hospital attachment, and human interactions within the hospital. The mentioned factors indicated that the evaluation of the hospital environment was the result of a conscious effort to assess the actual quality of the hospital environment rather than familiarity through the extended stay in it and expressed as a general evaluation that represented the patient's feelings toward the hospital. The study also showed that providing a successful and perfect treatment with human interactions between patients and users and companions in an ideal hospital creates a general sense of place toward the hospital. A complete hospital has an efficient space through fixed features of the environment and a healing environment with the help of variable elements of the environment and hospitalization in one position. Appropriate position in the city, accessibility, and easy identification could create a general sense of place in the patients.

The proposed conceptual model of the hospital, based on the factors affecting the sense of place in the patient's lived experience of the hospital space, shows a picture [Figure 1] of the simultaneous presence of the features of the hospital space architecture based on the factors affecting the sense of place and how a sense of place forms. According to this model, the hospital architecture creates by influencing the creation of space and experiencing it by the patient and turning that space into a place and understanding the components of the place, namely a place, site, users, form, function, and concept of the healing environment.

The location of the hospital and how to access it are the factors of its choice. The hospital form guides the patient, and the hospital function directs and meets the patient's

needs. The healing environment and human interactions with it cause the patient to be satisfied with the hospital environment.

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Conflicts of interest

There are no conflicts of interest.

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