

Providing Appropriate Design of Architecture Specially for Psychotherapy Centers (Presentation of the Design in Iran- Uremia City)

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ABSTRACT

Nowadays the physical structure of the psychiatric centers in Uremia doesn't meet the needs of mentally patients. On the other hand the buildings of these centers in this city have substantial and comparable difference with existing centers in Tehran and advanced countries in terms of methods, new standards in design and interior design. The reason is that the existing centers are not designed for this performance and most of the centers are buildings with different performance which government has provided for welfare organization. These buildings lack the physical principles for this performance. Paying attention to mentally patients has significant importance for authorities. Providing appropriate care environment in order to hospitalize these patients are main concerns of mental health practitioners. The goal of designing psychotherapy centers is not only treatment and maintenance of patients and providing health care but also providing spiritual needs of users. Great importance should be given to design appropriate psychiatric centers according to feeling and understanding of patients which meet their material and spiritual needs. Looking at past history suggests that psychiatric patients were home with primary and incomplete tools. But nowadays respect to psychiatric patients' right and design psychiatric centers suit the patients is very important. In this study we have discussed about architecture for psychiatric patients. Principles and criteria of design, the structure of psychiatric centers, interior decoration, safety and security considerations, designing building based on climate. The aim of this study is to create appropriate treatment, relaxed and friendly environment for the patient not afraid of being in this place and come to this center to become healthy with his own will.

KEY WORDS: Psychiatric patient, psychiatric centers, appropriate architectural design, interior design.

INTRODUCTION

Mental illnesses are serious and common problems that make 20% of patients gone to treatment- health centers. [1] The studies of mentally disorders done in Iran shows the number of prevalence of this illness from 11/9% reaches 30/2 % [2]. In discussion of patient' rights, one of the noted subjects in recent years is observe the rights of patients in psychotherapy centers and the need of developed rules to support mental patients is obvious. Because people with mental disorders are vulnerable sections of society, defend of their rights is very necessary case [3]. His rights include observing the physical, psychiatric, social and spiritual needs. [4] Mental illness is one of the most complex diseases that gradually annihilate man. These diseases are complex and need long term treatment. The patients with long term treatment has this right to live in an environment which meet all his needs and is full of peace, energy. Psychologists and psychiatrists and other employees in psychotherapy centers have key role in designing such centers. Because denotation of patients' needs such as material and spiritual needs and proper methods in treating them are based on experience.

A look on past suggests that the history of mental illness and treating them has begun with human existing history. as it is known Primitive human believed that all the events are done by ghosts. It is common for him to know that mental patients have devil soul and god punish him in this way. Caveman believed that ghosts inter and exit from the existing holed in the skull. This belief extended to next generations and people imagined that mental illness is insanity and called patient insane. Because of this there were people called exorcist whose job was remove jinn from mentally patients' body. This action was conducted by a religious ceremony, exotic drugs, whip, keeping hungry or other various tortures [5]. After several centuries, the first mental hospital was established in Sant Merry in London by sixth Henry in 1547 named mad house. Other mental hospital was established in Mexico in 1566. The number of mental hospitals was increased in most countries in 18th centuries.

At first the treatment conditions in the hospital were slightly better that the outside. Patients were collected in dark cells, had poor nutrition, and they were given little food. Piteous condition of mentally patients, squalor and chaos, violent acts such as closing chains to their feet had made people hated and hurt. When the famous

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doctor of French, Philip Pinell was in charge of mental hospital in Paris, he opened immediately chains from patients' feet and allowed them to walk freely in the hospital. This act extended in countries and hospitals changed their appearance but they have not found a good situation and mentally patients did not have good situation.[5] According to historical documents, in the late sassanial era in Iran a hospital called Jondishapour was established in Ahvaz and has lasted nearly four centuries and had international reputation. More over treating physical patients it was treating psychiatric patients. There was a hospital in one of the Khorasan's cities in 300 that sheikh faridoldin Attar Naishaboury called it Divanestan (mad house) and it was accepting and treating mentally patients.[6]

A place called mad house does not have long history and probably such a place was established during the reign of Naseradin shahe Gajar and psychiatric patients were held there by initial and imperfect tools. They were treated very badly in Iran and they were beaten and whipped. Just about 8 years ago, a new madhouse was built and the situation became better. Half of the patients were held in small rooms (2/5 m in 2/5 m), which were like cell. These rooms were bare, but their light was good. Their door was iron and their floor was tile. In the room there was a sewer that is used for washing the rooms. The patients were held in this room were dangerous ones. Others that were little calm were held in public sectors in which there were 6-8 wooden beds. The patients who were from rich family had personal room for themselves. [7]

Nowadays the concluded the physical environment of therapeutic centers should have suitable spaces for treating psychiatric patients and their activity. The environment has all aspects which person is in contact with and also we should pay attention to the concept of therapeutic – environment which is dynamic and flexible environment and consider all their needs.[8] Architecture as a major which define us the special and environmental quality is able to reach an idea and implement it in a form of suitable design. And create a work that its main goal is create a calm and friendly environment for patients and create a situation to extend their skills. They encourage families to bring their patients to these centers and no one is afraid of being called mentally patients and they come to these centers by their own will. [9]

METHODS

This study is a descriptive –analytical research in which theoretical and practical methods have been used. In this study through libraries studies and analysis of existing samples in this city, theoretical bases and subject's aspects have been provided.

Considering the problems of psychiatric patients in current era

People with mental disorders are vulnerable sectors of society. They suffer from depression caused by stigma of mental illness and separation of society. Invasion to the rights and liberties of mental patients and denial of their civil, political, economical, social and cultural rights is a common event in the world. Physical, sexual and psychological abuse, Is an everyday experience for these patients. Every human needs a place to live.[10] Safe and acceptable settlement is a basic component in the set of complex services and is Necessary basis for patients with disabling mental illness.[11] This subject is focus of attempts of community-based care systems without which treatment would fail. One of the most basic needs of patients with severe psychiatric disorders is to help them to return from hospital to home. If discharge from the hospital is not done well, it will have a negative impact on the patient's life. Among disturbing factors in serving the mentally patients in the world we can refer to wrong attitude towards the patient. Top and middle level managers don't have a comprehensive view about the mentally patients and psychiatric hospitals.[12] Incorrect attitude of officials of public hospitals and low income of psychiatric beds caused that they use public beds instead of psychiatric beds. They thought that psychiatric ward environment is completely isolated. As the first thing to be associated with the psychiatric ward in their minds are locked doors and windows with iron shield. A study in Zambia showed that attempt in the way of reforms should be accompanied by the strong commitment and appropriate attitudes of authorities, otherwise, all activities will be terminated without achieving the goals.[13] The organization of chronic mental patients in boarding in Iran centers requires long-term services. The center provides care and rehabilitation services at day and night to patients. Chronic psychiatric patients without shelter, Patients lack the necessary power to compatible with other family members, group of them that have not the necessary skills to manage an independent life live there and are treated. Since the period of stay in these centers is long paying attention to physical structures of these centers to provide material and spiritual needs of patients is very important and necessary.

Architecture necessity to suit the mentally patients

By paying attention to value of human dignity and human dimensions that in Islamic perspective, man is God's khalifa on earth calls for the care of psychiatric patients to be done in the appropriate manner. Modern civilization from the perspective of social puts the basis on the equity and equality and social justice and all individuals regardless of social class is, race, nationality, and ethnicity have been considered to have equal rights. And the criterion to prefer a person to another is apart from mental and physical characteristics. Existence certain defect in these features cannot and should not be utilized as a criteria to use accepted rights. [14] Today,

building designers and managers of health centers that are operating in the building have attempted to create a suitable environment for the patients and creating an environment with maximum comfort and safety features is their goal and this is particularly important for the disabled and mentally patients. People with mental illness have little ability to adapt to their environment than the average person. So there is some complexity in design of these treatment centers. The environment of these centers must be close to their personal living environment and this is very sensitive. It made psychotherapy centers as one of the most complex building and most expensive construction program.[15] Mentally ill patients have some characteristics such as aggression, inability to think, feel and act without control, difficulty in concentration, anxiety and restlessness, false beliefs and inappropriate behavior. Since people with psychosis are often ostracized by others, they are often isolated and have little opportunity for social interactions. [16] Hence the creation of space that fulfills the needs, comfort, skills, is essential. Comprehensive information about the process and how to improve patient's health in the patient's recovery process is essential. But in our country experts never attempt to study and design psychiatric facilities. And existing plans which have been widely implemented in our country are away from the necessary and sufficient conditions to meet material and spiritual needs of patients. This problem has failed to achieve the desired results.[15] Plan that an architect can give to construct psychotherapy centers is very essential and may be due to pay special attention to interior design will have impact on the overall plan. Today, more attention has shifted to the surrounding areas especially in treatment centers this necessity is felt more than other centers. A designer should investigate the complexities of mental and emotional health to be able create silent environment and according to the needs of their users. When the patient is psychologically prepared to fight against disease, Mandatory limitation, feeling defenseless, anxiety about a place where he should live for a long time, puts pressure on him. In this time create a pace with the patient's needs reduce his mental problems to some extent. In this case, creation of intimacy and joy and reduction of fear in the environment should be main goal of designer. Use of light , color, decoration, sound, external and internal materials can provide visual aesthetics and peace for patients and workers.[17] The designer should investigate about mental complexity to maintain health. In this case he can design a place that has all items in common life.

The cause of presenting this plan in urmia

According researches in 5 Rehabilitation centers for psychiatric patients that exist in urmia we found that both of them is abroad and 3 centers are in the city. According to rules these centers should be in the city and near the boarding treatment centers but each of these centers lacks this item. As none of them access to hospitals in emergency or they are abroad. On the other hand maximum capacity of each center is 70 patients and this capacity is not responsive to excessive number of patients. 3 centers of them have not designed to this performance and their structures have significant differences with centers in Tehran and advanced countries in method and design and interior design. The cause is that government has given these buildings to welfare organization. These centers put people in different situations and environment which are far from actual life. So the patients don't see his situations equal to social situations and feel loneliness and weakness. Certainly this feel for someone who has become ill because of his incompatibility with social is very harmful. Studies in foreign countries show that in past 50 years, in designing mental hospitals in which the patient is main component, improvement in patient's behavior was seen. Paying attention to physical structure of mentally patient's living space and environmental elements affected patients' spirit and using of others treatment methods are important subjects in treatment and this is not executable in most centers. As for being active in this centers needs special places that most centers lacks this places.

In the following we refer to providing appropriate design of psychotherapy centers in this city(urban location, designing according to the regional climate, needed places for psychiatric centers, designing suit patients)

Location of psychotherapy centers in the city

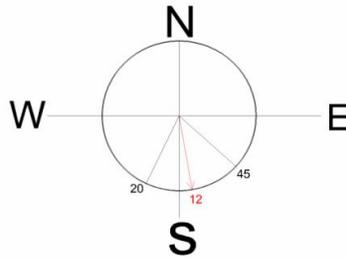
- 1- Choose the position of center, in the city and preferably near the day and night treatment centers.
- 2- The building of these centers should not be built next to the noisy and bust streets, next to the airport, train station, highway and ext.
- 3- The building of these centers should be built in places where have all civic services and utilities (potable water, electricity, gas, telephone)
- 4- The chosen ground for design of these centers should be chosen big so it will be suitable to future development and be apart from surrounding traffic.
- 5- Adjustment of psychotherapy centers with green spaces is preferable.

Designing buildings according to regional climate

The value of architectural design in every age and region depends on building design complies with special climate of that region. [18] Continental design also named "Building Climate Science' include some functional and scientific principles. Designers and architects consider these principles in designing these centers and it leads to optimum design in terms of comfort for human. Uremia has cold weather. Hence paying attention to how to design buildings in this city is one of the most important cases to deals with temperature fluctuations,

retain heat and prevent energy waste for architectures. This city has long and cold winter and moderate and partly hot summers. The climate of this city shows that heat in the summer is over the comfort zone and cold in winter is lower than comfort zone. The average of temperature in this city is 10/9 C° and maximum and minimum are 38 C° and -22/8 C° respective. In this city the number of freezing days is 107 days annually. Most of the time wind is blowing from west. In the winter direction of the wind is from west altitudes and in the summer this direction changes to east.

- 1- The direction of the building by paying attention to climate should be 12



- 2- Structuring a building with maximum 2 floors.
- 3- Using bulks which have small external surface area
- 4- Using buildings with low height, because in this form one can easily control inside situations. It means inside can be easily cooler or hotter
- 5- The windows in elevations which are against the wind and severe cold should be small. If mentioned winds have many problems, it is better not to use window in this elevations.
- 6- Using flat roofs because of some reasons: maximum use of sun's energy in winter and the other reason is that snow is abundant in this city and snow remains on the roof and this is a thermal insulation.
- 7- using central courtyard in the design
- 8- Using skeletal shapes in order to reduce expansion of the plan on the east and west axis
- 9- Planting the needle shaped trees in the west side of the building to reduce the pressure of winter winds because most of the time winds in this city bow from west.
- 10- Planting leafy trees in order to drop shadow in south side in summer, these trees are not obstacle against receiving energy of sun in winter by losing their leaves.
- 11- Designing a pool in south of the building that because of Having a high thermal mass of water, is helpful for building heating
- 12- Designing fountain to provide moisture and remove dryness of the weather in the east side if the building against the hot wind in the summer

Architectural criteria and interior design based on psychiatric patients' needs

1- Patient Needs

Patient and resident dignity, respect for individuality, and privacy should be maintained without compromising the operational realities of close observation, safety, and security. Patient and resident vulnerability to stress from noise, lack of privacy, poor or inadequate lighting, ventilation and other causes, and the subsequent harmful effect on well being, are well-known and documented A key architectural objective should be to reduce emphasis on the institutional aspects of care and to surround the patient with furniture, furnishings, and fixtures that are appropriate from a safety standpoint but are more residential in appearance. Proper planning and design should appeal to the spirit and sensibilities of both patients and care providers. A spirit of community should be encouraged. Mental health facilities should be environments of healing that allow the building itself to be part of the therapeutic setting and process. The technical requirements to operate the building should be unobtrusive and integrated in a manner to support this concept. [9]

2- Exterior Architecture

In new construction projects, whether an addition or a standalone facility, the exterior architecture serves as the first introduction to the facility for patients, their families and other visitors. As such, it helps to create initial expectations about the facility and the care provided therein. Accordingly, the exterior design should embody a warm, familiar, and home-like design. The scale of the overall facility should be broken down into multiple residential scaled interconnected buildings instead of one large institutional edifice

3- Key design concepts for designing inpatient mental health units include:

- Create a non-institutional, home-like environment through careful attention to external and internal architectural features and interior design elements.
- Layout should incorporate an open and bright design.
- Unit configuration should be based on a pod-like design and should be absent of long corridors in order to promote social engagement and interaction with staff and provide for a more domestic and less institutional feel.

- Layout should be free of blind corners. Portions of the unit, such as the office suite, should be designed to be closed off after hours to reduce the amount of area within the unit required to be supervised by staff.
- Provide ample visual and physical access to nature, which promotes healing. Provide attractive, secure outdoor spaces directly off the unit. In addition to ample courtyard space for patient activities, consideration should be given to incorporating healing gardens. Indoor patient activity areas should have access to natural light and views, as well as appropriate acoustic control.
- Incorporate wall color, trim, accent colors, and securely-anchored artwork in common areas and patient rooms.
- Minimize the potential for furnishings, fixtures, and equipment within the unit to be used as a weapon or anchor point for hanging.
- Develop multiple patient room clusters within the unit to allow for separation of different patient sub-groups.
- The nursing station should blend in both in scope and design with the therapeutic environment. The nursing station should have direct visibility of all patient wings and activity areas. The station itself should be designed to allow for informal interaction with patients without compromising the confidentiality of patient records.
- Include an identifiable reception area for greeting patients and their families in a lobby area just outside the unit. In addition to functional benefits, a reception area sends a welcoming message to users. Sufficient signage should be placed to direct patients and families to this area.

4- Room features include:

1. Exterior window with integral blinds and laminated glass on interior face.
2. Bathroom door with pressure sensitive alarm at door head, continuous hinge and anti-ligature lever with a magnetic latch.
3. Patient room features such as secured, non-breakable artwork, marker board and area rug are optional features that make the room more homelike without compromising patient safety.
4. Secure trim, headboard and soothing colors contribute to the residential feel of this room.
5. Built in desk and shelving unit to store patient clothing is both attractive and secure.
6. Wood grain pattern sheet vinyl flooring and molding profile rubber base enhance the residential feel

5- Living room and dayroom:

The aggregate dayroom area programmed for each patient unit should be broken down into a mixture of open and enclosed spaces, including a living room and a dayroom. The unit living room should be open, attractively furnished, and visible from the entry into the unit. This area may be used for informal socializing, conversing, reading, and relaxing. The dayroom represents an additional small, enclosed area for watching television and engaging in recreational activities of a non quiet type. The separation of the living room and dayroom areas allows for distinct quiet and “loud” spaces. Living rooms and dayrooms should be furnished with comfortable chairs and tables that cannot be easily thrown or taken apart and used as a weapon. Lamps, coffee tables and other loose accessories should not be used. To allow defendable personal space, it is recommended that seating consist primarily of single chairs with sofas being long enough to allow space between patients. Furniture edges should be rounded and not easily damaged. Fabrics should be stain resistant, easily cleaned and able to withstand abuse, including punctures. Comfortable, supportive, and residential style furniture (as opposed to plastic or other institutional furniture) should be used to promote a warm and therapeutic environment. Flat-screen televisions should be located within a niche and fastened to the wall with the cord length being less than 12” [304.8 mm] and not accessible to patients. Furniture such as book cases should be built-in with fixed shelves to prevent patients from climbing on, or overturning, this type of furniture.

6- Dining Room

The dining room may be enclosed or open. Dining tables should be heavy enough not to be thrown and should have pedestal type support to accommodate Veterans with disabilities more easily.

7- Nursing Station Design and Operations

It is essential that the nursing station blend in with the unit in scale and physical appearance. Large nursing stations that overtake the physical space and that are based more on a medical model environment should be avoided. Smaller, more integrated space should be developed for the nursing station on an inpatient mental health unit, to fit with a recovery-oriented model. It is recommended that computer tablets and/or computers-on-wheels (COWs) be incorporated on the unit as supplements to the smaller nursing station and be used for most routine charting purposes. The nursing station should be open and not enclosed. Enclosed nursing stations were more common in traditional inpatient design approaches. Open nursing stations promote nursing staff engagement with patients and involvement on the unit. Open nursing stations send an important message that staff are accessible and often lead to reduced attention seeking behavior by patients. Nursing staff and patients have been shown to prefer open nursing stations after a change from closed to open nursing stations. If necessary, laminated glass can be installed in the counter top to prevent patients from accessing the nurse work

areas. This glass should be as open as much as possible to allow patients to interact with staff – typically 18” laminated glass above the highest counter (frameless to minimize its visual impact) is recommended in such situations. Bedroom corridors and primary patient activity areas should be directly visible from the nursing station. The primary design focus for the nursing station is to maintain patient confidentiality during significant inputting or reviewing of patient information that requires stationary computer access. The opportunity for equipment within the nursing station to be used as a weapon by the patient should be minimized by integrating computer equipment and storage area into the hardware of the nursing station. Moreover, the nursing station should not serve as a physical barrier that prevents normal interaction between patient and caregiver and sends unintended messages to patients. In addition large spaces behind, or adjacent to, the nursing station should be avoided, as this often serves as a place for staff to congregate rather than to be out on the floor with patients. Within the nursing station, the task chairs and keyboards should be adjustable to accommodate different staff. The following pages illustrate a circular and linear nurse station approach. These design are included as examples but should not be construed as a prototype. Each example does include key elements such as the provision for a laminated glass counter extension, a workspace alcove directly behind the nursing station and clear visibility to patient activity areas and bedroom wings.

8- Security and safety considerations for outdoor spaces used by inpatients are as Follows

1. Courtyards are preferred over fenced areas for aesthetic, privacy, and security reasons.
2. An enclosure height of 14 feet [4.27 m] is recommended. The design of the enclosure should prevent climbing or use as an anchor point. If a fence is utilized, it should be securely anchored at the bottom to prevent egress under the fence. Exit/service gates or doors should be strong enough to withstand force and should be locked and alarmed. Any courtyard doors or gates that constitute part of an egress path should have remote unlocking capability and an adjacent intercom to communicate with staff in the event of an emergency.
3. Trees within the area should not facilitate climbing over a wall or fence. Shrubs should be small and low enough that a patient cannot hide behind them.
4. Do not use rocks, gravel, dirt and other planting bed or pathway material that could be used as a weapon.
5. Toxic plants and materials should not be used.
6. The outdoor space should be well lit. Light fixtures should be equipped with tamper resistant enclosures and light poles should be avoided particularly near the perimeter of the space.
7. Surveillance cameras should be installed to have a 180 degree view of the outdoor area and should be high enough to prevent patients from tampering with the cameras.
8. Outdoor furniture should either be anchored to concrete pads or too heavy to be moved. Furniture should not be located adjacent to a fence or wall to prevent patient escape. may be difficult to use for shorter women, or patients of both genders, with mobility limitations.
9. Elevated outdoor porches must have all openings covered with security screening and/or railings to prevent the potential for jumping. The enclosure must withstand tampering and force.
10. All exposed fasteners in the courtyard area shall receive tamper resistant screws. Devices with exposed fasteners include camera housings, drainage grates, furnishings and light fixtures.

8- Supported production workroom

In this workrooms, a group of experts specially psychologist and educator supervise directly patients and by easily accessing to other members of rehabilitation group work there part time. After the training period these psychologist and educator will work in that workplace based on Committee’s opinion

Conclusion

Undoubtedly, multiple spaces and buildings are designed in order to achieve predetermined objectives. So needs of residential, services, and psychological elements of the behavioral environment should be unified and coordinated till provide a response appropriate to the needs and requirements of the environmental user. Architecture and designing for mental patient is important principle to maintain patients and recent developments in this respect show that designing for these special patients is very difficult. Patients comfort increase when their individual needs are compatible with their surrounding environment. Then built place should be designed in a way that is like patient's own house. Different furniture and decoration should be used. It should have minimum ambiguity and complexity till it doesn't create stimulus and amazement to mentally patients. Moreover the environment should provide following Points for patients:

- 1- Encouraging and supporting the normal behavior
- 2- Preserving the privacy and dignity of patients,
- 3- Consequently, the therapy rooms of mental hospitals could be designed contributing to develop the physical and social skills of the patients. Sensitive and environment friendly designs can provide properly functioning spaces that help patients in their healing process and also assist the environment friendly design

Applying said methods in designing and considering said items in patients living environment respects the patients' rights and cause the patient feel secure and confidence. This case has main role in his recovery. At the

end we should note that designing needs and discussed criteria in this study are mentioned based on social designs done by psychotherapy centers and research centers. It is hoped that by the aim of special design for psychotherapy centers based on patients' needs, we see improvement in the health or reduction of symptoms of the disease.

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