

Health center design model for nervous and mental patients

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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. 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:

Mental patient, psychotherapy center, architecture and interior design

Introduction

Mental illnesses are serious and common problems that make 20% of patients gone to treatment- health centers. (Sartorius, .1994)The studies of mentally disorders done in Iran shows the number of prevalence of this illness from 11/9% reaches 30/2 % (Mohammadi, 2004). 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 (Hajebi, 2005). His rights include observing the physical, psychiatric, social and spiritual needs.(Nasiriani et al , 2008)

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. (Shepherd et al, 2001) Safe and acceptable settlement is a basic component in the set of complex services and is Necessary basis for patients with disabling mental illness.(Kopelowicz et al ,2009) 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.(Salter et al ,2008) 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. (Blass et al ,2001) 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.

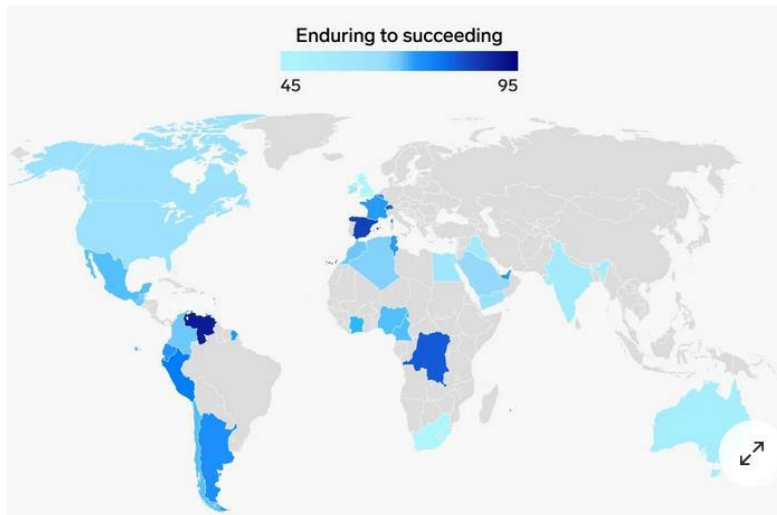


Image1:

Map reveals countries with the best mental health in the world, and where distress is most prevalent

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. (Hoseini et al ,2007) 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. (Mashhoudi, 2005) 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.(Seyed mohamadi, 2012) 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.(Mashhoudi, 2005). 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.(Sayil onaran , 2009) 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.

Methodology

This study is syncretistic and interdisciplinary research (architecture and psychology) in which two common methods are used: library method and field method. Library method is used to attain theories related to quality of spatial realization, design standards, and also to use solutions such as design principles based on the psychological views. And Field studies and interviews with psychiatrists are used as a complementary method for acquaintance and understanding of the audience and the manner of keeping, treatment and access to mental expectations and needs of patients

-Patient Needs

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.(Donyavi et al,2010)

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. (Jafari, 2005)

Architectural criteria and interior design based on psychiatric patients' needs

-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

-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. (Sharif Khajehpasha & Shaghaghi: 2013)
- 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 (Sharif Khajeh Pasha,2012).



Image2: In behavior and mental healthcare facilities, biophilic features, warm colors, and the right flooring specification for the right place benefit not only patients but also staff, care providers, and visitors.

-Living room

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 types of furniture.

- 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.(Health News ,2008).

- Corridor Areas

Handrails/Wall Protection: Corridors in patient areas should have handrails for patient use as required and to protect the wall. Additionally, corner guards and exterior wall corners help protect the wall but also soften a hard edge that a patient could harm themselves on. Handrail and corner guard selections should enhance the aesthetic image of corridors . Use of stained wood incorporated into the handrail system is one example. High impact panels in wood grain patterns or other attractive finish may be used as wainscoting in these corridors to also enhance the wall protection while creating the feeling of wood paneling . Along with wood-toned floors, paneling, and accents, this can have a significant positive impact on the aesthetic environment and promote a warm and home -like environment.

-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 elopement 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. (Sharif Khajeh Pasha,2012).
- 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

Communication with the natural environment

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. In the following, the following strategies are suggested to achieve this goal:

- 1 Designing a central courtyard or a green roof on the floors to create direct access to nature and make maximum use of it.
2. The use of the element of water in interior spaces, which is one of the most healing elements of nature.
3. It is recommended to use natural color and, if possible, some natural materials such as stone.
4. In order to establish a connection with nature in the interior space, focusing on the use of reviving elements of nature and images representing nature on the bodies.



Image 3:Green Wall

- 5.The use of transparent materials to reveal natural spaces
- 6.The use of photos of nature in the interior environment
- 7.Arrangement of interior space using natural elements and materials

8. Planting and using shrubs and natural plants in interior design
9. Although the interior furniture is artificial, it should be made in the form of natural spaces
10. The use of natural light as much as possible by using openings and glass walls
11. The use of semi-open spaces (balconies) and transparent materials in the walls for visual communication with the surrounding environment and for air conditioning of the building, a good view of the green space
12. Avoiding the design of closed spaces
13. Designing the greenhouse space to take advantage of natural light and green scenery
14. The use of natural sounds and smells in spaces

Design Space for Healing Prayer

Numerous studies have proven that prayer in the treatment of mental illness and preventing these illnesses is effective. Empirical research suggests that there is a negative relationship between beliefs and religious practices -such as prayer, pilgrimage and trust- and depression. Hence, in patients treatment by prayer and veneration is very effective. To create theosophical and mystical atmosphere that provides spiritual and pastoral needs of the patient, the following are recommended:

- 1 – Designing a Semi-open space and related to nature
- 2 - Designing a stone platform for candlelight
- 3 - Designing a roofed platform as a place to pray
- 4 - The use of colored glass, for bringing spirituality into space
- 5 - Design of an artificial stream of water to create a pleasant voice of water and a sense of calm in the patient (Sharif Khajehpasha & Others: 2022)

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 behave ours
- 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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