
Architecture for specific disease case study in schizophrenic patients

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Abstract

One of the centers that have high sensitivity for design is psychotherapy center because of special physical, mental and sentimental conditions of their patient. Design and architecture of psychotherapy centers and caring mental patients are new subjects in our country; and there was no attempt to study and design of this center by interior specialist. To start design of every usage, recognition of habitants of that place is necessary. Recognition and understanding of different needs of Schizophrenic patients and attempt to meet their needs and respect to priority of these needs in designing and improving their special spaces can be effective in improvement of its quality. Schizophrenia is a chronic and debilitating illness which is associated with impaired social and occupational skills and it affects approximately one percent of the population. Since these patients are considered one of the most disadvantaged sectors of society, and their main requirement is to help them to return home and social environment, it should be possible to step in improving treatment by identifying and using elements of environmental quality and to introduce the environment of a hospital as a healing environment not as an environment for permanent or long-term accommodation for patients, Because the main purpose of admission of a mental schizophrenic patients is maintenance of security of patients and others and above all is his stable treatment. But psychotherapy centers in Iran cannot fully respond to the needs of these patients. And most buildings in the old psychiatric institutions are without proper space and occupational therapy sectors are not efficient and effective. The subject of this paper is the eclectic and interdisciplinary, means architecture and psychology. Purposes of that are obtaining a codified agreement, design standards and present an architectural pattern for treatment and positive influences on mental disorders of schizophrenic patients and his return to a normal life.

Keywords: Psychiatric Centers, Architecture, Schizophrenia.

1. Introduction

Every man needs a place to live [1], safe and acceptable settlement is a major component of complex services and a basis for maintenance of patients with severe and disabling mental illness in the community [2]. One of the main needs of patients with severe Psychiatric Disorders is helping them to return home. If discharge from hospital or residential rehabilitation places is not done properly, it can have negative effect on the whole future life of patients. Rights of people with mental disorders are violated in various ways. In many cases psychiatric patients without supervision have been deprived of their right to have a free life. This means that although many of them are able to make decisions about their life and future, forcibly are admitted to a mental health centers and institutions for many years [3]. Unfortunately, due to misconceptions about schizophrenia and severe mental illness stigma, imagine of the society is that these patient are not efficient in life, while with usual care these people can have a normal life.

Design of Psychotherapy center and maintenance of mental patients in Iran is new subject. And never complete attempt has been done by local experts to design of this usage. The patterns which have come into operation, despite extensive design and administrative personnel, are taken away from realism. This issue have followed failing to achieve the desired results of treatment [4]. In addition, it is observed that despite passing years and rejecting used principle in designing such places, we are still using them. Hence the attempt to gather new information for designing specifically for schizophrenic patients is the first step in this study; as patient's needs are answered with more variety compared to healthy person's needs; People who have their own world of unique needs. The needs which are not possible to easily discovered and meet. They have much lower ability to adapt themselves with situation than normal person; so there is so unique complexity in design of this usage. Technical observance with attention to this that this environment should be similar to the environment of individual's life is very sensitive task made psychotherapy

hospital as one of the rarest and most expensive subjects in civil matters.

2. Statement of studies purposes

- 1) Studying of cortical population that probably receives little attention.
- 2) obtaining the criteria and standards that meet the needs of these patients
- 3) Considering the aesthetic and psychological issues about the design of therapy centers that has duty to provide treatment for patients.
- 4) Offering architectural model in order to has positive effects on mental disorders in schizophrenic patients.

3. Method

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.

4. A brief look into the world of schizophrenia

Schizophrenia is a chronic and debilitating illness affected one percent of population [5]. Statistics shows that more than fifty percent of all mental hospital beds are occupied by patients with schizophrenia. Schizophrenia is a severe chronic psychological illness associated with impaired social and vocational disability [6]. The function of these patients in occupational, educational, social, interpersonal and self-care fields is disrupted and patient needs continual care in different and widespread sizes. So today, this disease as one of the most debilitating mental illness dedicated special places to itself in psychiatric communities. Schizophrenic patients live in two worlds at once: An imaginary world of his imagination that he formed on the basis of hallucinations and delusions and psychological needs and the other is the real world which he needs it to meet his physiological needs. The relation of these two worlds is established by reaction and mental mechanism. Delusions, hallucinations, impaired thought process, and sometimes bizarre behavior and unusual physical states, negative symptoms such as lack of pleasure, lack of will; silence and withdrawal are symptoms of this illness. Sometimes the patient knows himself under persecution of individuals or organizations, or perhaps knows himself as very important person, statesman, inventor, and artist. Sometimes illusion voices order him that too often he is forced to obey. And sometimes hear voices that some people are talking about him. The patient's speech is so often misunderstood. Suicide

is the unpleasant complications of this disease. Fifty percent of patients (in the absence of proper treatment) attempt suicide and 10 percent of them ultimately die by suicide.

5. Architecture for schizophrenic patients

Each action requires a specific space. One cannot consider specified and stable form for all functions. Psychotherapy practice demands the place which is integration of spatial mobility and comfort. Objects seems floating to psychotic individuals with schizophrenia, And bare areas, for someone who is ill is bad. It should be tried to build construction with simple and valid forms and in the most simply, a series of spatial interactions was added to collection. Then the structure should be designed to provide all the needs of the patient. In designing Psychotherapy centers, one should be able to identify and use elements of environmental quality to improve treatment and introduce the environment of a madhouse as a healing environment not an environment for patient compulsory keeping. In this respect, the discussable subjects in architecture of treatment and maintenance centers specified to schizophrenic patients are as follow:

5.1 The geometry and the form of space

Forms have psychological effects and information will be sent to the patient through the specified form. Each form has a specific movement. The form should be chosen in this usage in such a way that coordinated with the content space. Forms such as rectangular induce movements and instead forms such as square, induce the focus. By irregular forms, patients are forced to fantasize, while simple and symmetrical forms can induce equilibrium. However, concave form is inviting while convex form is repercussive. Finally, using the familiar form in the design helps the sick to create second home in new environment [7].

5.2 Using the window and the Virtual Sky method in the case that there is no natural light

This technique is a combination of art, photography; design, lighting and ... which is composed of a large number of LCD And in certain ways are produced as square tiles on the roof .due to the glowing nature of this product, it provide a structure close to reality to the viewer. This natural scenic in the interior in addition to helping the beauty and elegance of environment, also has important properties in therapy. Studies show that these types of decoration in addition to having a beautiful visual sight also have been effective in reduction of patients' stress, creating relaxation, enhancing vitality and spirit and also to raise the threshold of irritability and fatigue. This system may be used in spaces with no windows and where natural lighting is required.[8]

5.3 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 with severe schizophrenia, 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

5.4 Designing space devoted to yoga

According to research conducted in America schizophrenic patients have responded positively to practice yoga, but due to their mental state at the acute stage of the disease, they need to take drugs to achieve stability. After consolidating their position, they are motivated to do yoga and receive presence of mind; this exercise gives them the confidence that they will soon abandon their medication. The benefits of yoga for patients with schizophrenia are as follows:

- improving the precision and focus
- Improving thinking and insights and strengthening hopes
- Boosting confidence and positivism
- Strengthening the coordination of mind and physical body (body control)

1-4-5 important items in designing interior space dedicated to yoga therapy:

- Use soft flooring on the interior floor
- Design large windows facing the gardens and colorful flowers
- Design large windows facing the Waterfront
- Use cool colors for painting interior walls
- Soft lighting and monochrome
- Lack of additional objects and furniture

5.5 The Healing Garden

In past centuries, green nature, sunlight and fresh air were requirements in therapeutic healing environment, from Health clinics in the Greek and Roman temples and monasteries of the Middle Ages to large urban hospitals in 17 and 18 centuries. Today, researchers have come to the conclusion that the nature without reduction of human energy draws his attention. Green space helps calm the mind, stimulates the senses, by reducing stress helps the body to be in balance, and helps person to guide his innate cure sources, and use his inner force to improve. It provides an environment that can help medical staff to treat patients better and create a quiet space, away from the interior, provides for visitors. Observations done by professor Rajer Ulrich in more than 100 green spaces in America, Britannia, Canada, Australia shows that if green spaces should be best and have the most effect, then following points should be considered:

- Locating green spaces in sight

- Accessibility
- Silence
- a sense of familiarity
- comfort

5.6 Designing patio and Atrium inside of the building

Nature therapy is considered as an integral part of a series of natural health therapies effective in dealing with depression and improving schizophrenic patients. However, in some climates (e.g. cold and dry climates) due to unfavorable weather conditions, using nature in all seasons is not possible. So designing space such as atrium or winter garden by a minimum area of 1,000 square meters in which the flowers, trees and shrubs are planted and grown, is considered suitable space for use of patients in 6 months of year [8].

5.7 Designing of department of Psychiatry

Psychiatric intensive care units designed to control abnormal behavior, mental illness. In general in intensive care units schizophrenia patients are treated whose recovery is poor in other units. The most common cause of admission in such sectors is violence. And period of admission is often less than a week. Using advanced technology and warning systems, locked entrance doors in order to control the entry and exit is feature of this section.[9]. To provide a secure environment in ICUs important points should be considered in the design such as:

- Being visible all the part
- being available the warning system
- not placing Payable items in patient access.
- Providing anger management activities for patients such as punching bags
- Designing Safe Room: The room walls are covered with a thick cloth [10].

5.8 Designing Roof Garden

Schizophrenic patients should not know him excluded or withdrawal from society. Thus the schizophrenic mental patient care centers should be built in the city to raise Community spirit in these patients. American psychiatrists believe that indirect interaction with the urban landscape and visual communication with dynamic and mobility of elements in city such as moving vehicles and humans is as a treatment for these patients. Then we can use roof as a space to watch the urban landscape. Some points should be considered in designing roof garden as:

- Designing shelter with high altitude and installing glass partitions around the garden or on the roof to avoid being thrown down.
- Planting grass and small plants
- Putting the plants grew on the columns and beams of the original building.
- Beautiful and colorful Flooring.
- Considering a space for sitting of patients or canopy to watch the Urban Landscape

6. Conclusion

No doubt people are affected by the work environment or their lives the sensitivity of this issue will become clearer when human health is important. Health center design regardless of need for physical planning, Require an innovative design for patient to admit the process of therapy willingly. Considering the aesthetic and psychological problems, especially in these centers which have the duty to treat certain mental illnesses are necessary to reinforce the desire to cure and prevent a depression. The main purpose of admission of schizophrenia patient is patient's safety maintenance and others. But mental health centers in Iran cannot fully respond to the needs of these patients, and even necessary space for an eclectic treatment with medication is not available, occupational therapy sectors are not often effective. The exhaustion of caregivers of patients with schizophrenia is more than caregivers of other psychiatric disorders. The reason is that schizophrenic patients generally had lower social functioning and regressive character building and destroyed social habits can be seen in most of them more than other patients. This reason prevents family members of keeping these patients at home. Similarly, keeping these patients at home imposes the psychological burden on families. Then designing special centers for the accommodation and treatment of these patients is essential and providing solutions to achieve basic standards According to the patients' needs during the treatment process should be a top priority of research projects. It is clear that designing of a functional and treatment sets is not adequate and to achieve the proposed objectives, other factors are involved. Elements that may appear to be intangible, directly affect the patient's spirit and quality of spaces. In this regard the following points are suggested as supplementary to material referred in the text:

- Use windows throughout the building and suitable interior design in order to access natural light and maximize the use of daylight.
- The use of glass facades to create a good view to healing gardens in residential areas.
- The composition of the biosphere of mental patients with nature, for liberation from enclosed spaces and bars.
- Easy access to the all sections by using suitable circulation system and transparent routing.
- Good interior design for the purpose of improving patient safety and satisfaction.
- Suitable interior design to create a sense of intimacy, comfort and respect for the patient.
- Space Segmentation should be that much that patients needs to live individually or in association with others is considered.
- In Designing, nursing stations should have complete knowledge of bedrooms, if this is not possible all the rooms are monitored by camera [10]. And the nursing station and

entrance hall should have glass walls to be fully visible and can be controlled.

- Designing all sectors of health care with the capability of future development.
- Making entrance typical one
- Designing a garden for planting flowers in the yard, as treatment by flowers is one of the easiest ways to treat depression patients. Flower is the symbol of joy and happiness.

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