The role of interior architecture in the spaces of rehabilitation, especial for children with a focus on evidences-based design approach

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Abstract

Since children's physical and psychological characteristics are different, it is obvious that treatment spaces of children demand their specific interior design. In this article has been tried to affect in the process of improving the sick children and increase the efficiency of treatment spaces with the use of evidence-based approach, by relying on reducing stress and anxiety caused by the presence in healthcare environments and enhance the peace and a sense of belonging. The research method of the present article is kind of descriptive-analytic and data gathering method is based on documentary study. The result of research is presenting strategies in designing rehabilitation -treatment spaces for children that have healing environmental quality. Features of light, color, the visual affecting forms, painting and proportionate environmental graphic or children in waiting rooms, detection spaces and rest and different treatment areas and also establishing the game and entertainment spaces to instill a sense of peace, security and stimulate the visual impressions and space relation and perspective to the various interior spaces and or nature and landscapes of external area of therapeutic spaces can have a significant impact by creating a positive distraction to accelerate treatment process and increasing healing quality of therapeutic spaces of children.

Keywords: therapeutic spaces especially for children, positive distraction, rehabilitation, color therapy, art therapy, play therapy, evidence-based design.

Introduction

1This article is derived from the thesis of Shima Taheri as "Designing Rehabilitation Center of the Spinal Cord Injury" architecture student Isfahan (Khorasgan) Branch Islamic Azad University, Isfahan, Iran.
Treatment spaces had been as one of the main principles and requirements in the healthcare of community from the beginning of human life. Architectural desirable plans for an purpose that they are only can be quite useful in a form that different spaces are designed in them based on the needs of users in order to improve and accelerate a variety of activities. Children usually easily frustrated and tired of sitting and waiting as a result therapeutic spaces should be happy and various to stimulate children's interest to stay in such an environment. So the landscapes and entertaining sights and the role and plans and proper drawings for such spaces are essential. In this research first we introduce the evidence-based design approach, then we explore the way of effectiveness of the factors affecting in improving of children in the rehabilitation-therapy spaces on the architecture. These drawings and paintings must be attractive and very easy to understand for children in the therapeutic environments, and have power of quick transfer of issue (Taheri, 2015).

2. Evidence-based design

2-Evidence-based design is an expression that is using more in the field of architecture and design. This term can be seen more day after day in articles and lectures and on the Internet. Evidence-based design has been widely studied in two recent conventions of the National Institute of America architects and the definition of this term is presentable in this expression:

Evidence-based design with the consciously, explicit and wisely use is the best evidence and measurement in making decisions about the design of each project (Hamilton and Watkins, 2009, p. 9). Experts know evidence-based design the result of the fusion of two scientific approaches of building design based on performance and evidence-based medicine. Performance-based design is an approach in the design process, which attempts to use statistical and explicit relationships between design decisions and the degree of desirability of meeting the needs. This approach aims to assess the efficiency of taken decisions in the building design stage through analysis, evaluation and research. Today building the treatment environments with the aim of improving clinical outcomes, reducing stress of patients and personnel, reducing medical errors, increasing satisfaction of patients, families and staff and try to reduce the high medical expenses, is considered as essential objectives in the construction of medical centers in the future. The presence of a multi-disciplinary design team and the use of evidence-based design process guarantee achieving to all these goals (Mardomi and others, 2013, p. 3).

Natural environments often are considered as factors that reduce the feeling pressure, but sometimes are in the number of stressful cases. Create green scenery while fatigue and irritability, Green sceneries while fatigue and irritability, improve the mental state of patient are highly effective in the treatment process. So this issue can be accelerated by creating places for walking patients in green space (Ebrahimi, Ameneh, 2013).
Color, light of environmental Graphic

Color and light can have vast and complex effects on people's emotions and create reactions of people to environment. As well as they are effective in increasing the rate of the recovery of patients and enhancing understandable spatial quality in general way for patients, staff and visitors (Abkar and Zamani, 2013).

Color and lighting can be powerful tools for marking, orienteering and finding the path. Studies have shown that enhancing and increasing the visual quality of the environment, has been caused to increase the speed of productivity rate of health centers to more than 15%. In fact, these improvements have been attributed to certain elements of the visual environment include :the use of appropriate color in interior decoration, show some art works , using sunlight and create appealing visual views of the outside treatment spaces (Ulrich, 1984). In different spaces of hospital should be used of appropriate colors and compatible with that space to create the warmth and relaxation feeling in patient. Entrance is of the most influential parts of treatment spaces. If is imposed the severe stress to the patient at arrival time, this stress will be effective in the entire duration of her/his treatment and has negative effect on recovery process of patient. The use of factors that remove the entrance of treatment spaces of the stressful condition, greatly help to the patient (Ahmadi, 2005). The insurance of optimal color and brightness is vital for healthcare environments and creating pleasant in treatment spaces can increase welfare standards and promote the sense of wellbeing. (Loe D, Perry M, 2000). The use of cool colors like blue and green promotes relaxation, enhance the sleeping and rest and so on and in contrast, warm colors such as red, orange and yellow increase physical and social activities and neutral colors like gray or beige are reduced attention and
accuracy. In fact, the color can be as a tool that may be, is used as a functional and effective tool in designing the treatment spaces, Relaxing light and colors that have been considered in order to invite to relax and to reduce stress. (Gulak, 2000),

For example, in Treatment spaces of nursing stations serves as the heart of treatment spaces and this space can be easily detected from the lighting model and used color in it regardless of the design type. As well as color is as a functional and effective tool and in the patient's room and this same color can be effective in controlling the intensity of effect of daylight or reducing the sensitivity towards artificial light of course, this point is also clear that the cause of being seen and color recognition is because of the existence light and brightness in different spaces. The issue of the light is noteworthy in two titles of artificial light and natural light (Abkar and Zamani 2013).

2. Art Therapy

Images (4-27) and (4-28) and (4-29):
Matching color and form in accordance with the characteristics of young children in spaces specific to the disabled
(Source: Pinterest, 2015)
Art therapy explores the relationships, connections and new meanings in the safe space that obtains alternative perspectives towards life and their relations for space users with others hence, Art therapy can engage the person in multiple ways and includes perceptual, cognitive, emotional, physical, social and psychological aspects. Development of Individual through art therapy means development in all these areas (Karko and Sanderson, 2006).

Art Therapy is fluid, consistent and growing field. Although art had always been part of human civilization in fact it was recognized only of World War II transformative and recycling qualities (Hogan, 2001). Art therapists that work in rehabilitation centers are engaged with a collection of issues, including problems related to physical health and verbal and communication skills, stress, and social skills of disable. Each of these areas has its own requirements in rehabilitation for art therapists (Jones, 2005).

A collection of art therapy strategies is needed in dealing with different patients that this is due to the diversity of individuals and limitations and their disease. In fact, we have found that consider many theories in the field of art therapy to offer patients (Rubin, 2001); what is obvious is the field of art therapy that increasingly has been considered in the rehabilitation and medical fields. In general it can be said, art therapy can be considered in terms of production and display of art works by users of therapeutic spaces (Alyami, 2009, p. 283).

Art therapy interweaves techniques of mental therapy with creative processes to improve the mental and social welfare health. Art Therapy Association of America, art therapy is defined as follows: A profession related to mental health that uses the art creative processes to improve the health and physical, mental and emotional social welfare in all age groups. Art therapy is based on this belief that the creative process includes artistic expression, helps to the public in solving conflicts and problems, strengthen communication skills, adjusting the behavior, reducing the stress, increasing the self-esteem and self-awareness and gain better and more insight (Chery, 2008).

Since the today consideration of the health term is definable in 3 dimensions of mental, social and physical. Using the capacities of art is fully justified in the rehabilitation process, especially because of engaging the psychological aspects of person in physical disability, art will have influential role. About art therapy is important to note that art therapist, by knowing and surrounding than aspects of art and psychology, in order to create peace, motivation and skills in persons with disabilities, takes into consideration the activities and artistic productions not only for aesthetic approach but also because of the psychoanalytic role. Art therapy on the basis of what was said in individual and group way in terms of doing artistic activities in the fields of dramatic, music and visual and according to age of disabled persons? Art therapy performance in terms of the Psychological is more concerned with two main issues:
1. Take advantage of capacity of creating art works in individual and group form to transfer or non-verbal latent of disabled person

2. Create a positive distraction for disabled persons and reduce stresses caused by their disability, in this field using art works, visual arts and music in particular, have significant contribution in designing spaces as well as in giving quality to space.

Images (3) and (4) the use of environmental graphics to create visual variety and tension in the areas of rehabilitation of children, Reference: (Arch Daily, 2015)
5. Play therapy

sick child on the one hand because of physical limitations and on the other hand the necessity of age and psychological characteristics of this era requires specialized spaces and are proportional to these conditions therefore, in the rehabilitation center, part of the spaces is organized jointly between different ages and the section of special spaces also is designed to use for these people. In the design of these spaces in addition to the specific considerations of designing for children with disabilities, necessary measures consider in order to give quality to the spaces. It is obvious that the use of color, light, form, materials and equipment will have a special place for children with disabilities in giving quality to the space of rehabilitation center. Disabled children also with other disabled persons also need spaces for completing the rehabilitation process in individual form with their families (such as physiotherapy, occupational therapy, hydrotherapy, etc.) and can also in the form of group activities (e.g. in the fields of art therapy, exercise therapy, nature therapy, etc.) use the facilities of the center (Taheri, 2015).

6. Conclusion

One of the effective factors in improving child in treatment spaces is creating interaction between the child and his/her treatment program, provides architectural space of this process by using evidence-based design and creation positive distraction. In fact, the creation of form, color, environmental graphics, natural elements and entertainment cause that children can feel relaxed and have more security and this is very important in the process of healing children. In this regard following architectural solutions are recommended:

Collective movements and games are part of children's daily activities; therefore in treatment centers such spaces are also essential with furniture and appropriate means also inside the rehabilitation center and also in outside spaces.

- Creating the creative in the design of space because of the need to dynamism and diversify in treatment spaces.
- Creating the attractive environments and visual stimulation the sick children to create fun and incidence the creativity.
- Creating flexible spaces to increase the sense of security and comfort of children

Ease in spatial separation for visitors and presences of parents
- Use Of color as a guide to the considered areas.
- Designing spaces, particularly play and waiting spaces shall be in a way to provide space for children and their parents appropriately and simultaneously in order to reduce stress and increase relaxation the security of children
- Create the garden and emphasizing on existence the green space in environment, the use of internal design elements, such as the proper furniture,
- Create a sense of control, create the equipment to control lighting, heat and cold of room, the control of TV, music and...
- Pay attention to the scale of standards and lines of sight of children in designing all spaces and furniture.
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