

To evaluate the effectiveness of the therapeutic effect of color and Health Centers

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Abstract. Rehabilitation centers for the formation of adequate space to provide rehabilitation services, along with education, leisure, work, recreation, etc. are designed. Factors that major developments in the creation of health centers and the development of new ideas on the effects of the space environment on the human psyche is considered as pick psychology. He study examines the influence color and its therapeutic effects of comprehensive health centers, as well as the environmental factors affecting the architectural space will be discussed. Research performed in this study on the basis of modern science such as environmental psychology, sociology, cultural studies, people's needs, and design environment with field studies, wants, needs and behavior of people is the coordinator. To check the quality of space and describe it as a qualitative research method is descriptive and is based on library studies and questionnaires. The study population of persons with disabilities and their companions, employees and is the specialist treatment centers. The study population included 150 patients randomly selected from four centers in Isfahan and Tehran. The results of the relationship between environmental psychology, architecture and the human psyche as the better design and better rehabilitation and treatment centers in accordance with the wishes and needs of the users of the space will be designed according to its function. The center includes daily rehabilitation, clinic, nursing home, library and chapel, amphitheater, outdoor sports complex, meeting hall, dining set, which should be based on the psychology of colors to be coordinated. Based on the results of the questionnaire, and the study was designed. All buildings in the center have been in perfect harmony with nature site. Methods In this descriptive and analytic.

Keywords: evaluate, color and Health, Geography and Urban Planning

1. INTRODUCTION

The architecture is in direct contact with the needs of environmental and human settlements. The importance of the science when it is clear that human needs, physical and spatial aspects and find a goal worthy of human access to space. Space worthy of space in addition to the human dimension of character that human dignity demands. (Habibi and vertical, 1367, p. 7). In general, disability phenomenon that human life is intertwined and inseparable part of his life. Disability may be congenital, caused by accident, disaster, war, reach old age, and so on. The problems of the disabled in society and their full participation in social activities, family concerns them. Due to a variety of physical barriers and the architecture of the towns and buildings (the Office of the Welfare State, 1389). For persons with disabilities in society need to base, position and type of education. Their classification and professional guidance services for people with disabilities, especially of things that can be done (well done, 1372, p. 14). Sociologists have shown that psychological problems are caused by a lack of interaction with the surrounding environment and withdrawal born person could be irreparable effects on society and relations have dominated (Loghaye et al., 1370, p. 1). Improving mental health-related disabilities as well as the treatment is dependent on the environment. So in the design of a rehabilitation center for the disabled at the same time providing mental performance to that effect in the quiet and cheerful feel. This place is a building design and architecture for such

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people suggests relaxing. The main task of matching architecture and integration. Architecture expertise to provide you, our sense of reality and self-reinforcing, and we live in a world of fantasy and simply does not structural. (Plasma, 1390, p. 21).

2. STATEMENT OF PROBLEM

Architecture as a container for the presence and conduct of all human activities should be able to create an atmosphere that is affecting the life and soul (Salehi , 1384, p. 16). The identity of the spaces must not only meet the material needs of man, but depending on the intended use must be able to create a psychological impact on the morale of the people (Chrimayf and Alexander, 1376). Disabled people have the same hopes, dreams and rights that other citizens are simple and basic, but the statement has not been approved by anyone not feel (Secretary-General of the ILO, 1361, p. 7). Isfahan Health Center as a rehabilitation center for people who are Araayeh services. These services include audio metry, optometry, counseling, hydrotherapy, exercise, health, dental, intelligence test, an auditorium, a center of higher education, such as it is .These centers and physical therapy in addition to responding to customers, environment, pleasant and affect the morale of fighters thanks to the use of space quality elements such as color, form, light, furniture and the like will. This will be trying through interviews with patients, relatives and staff and experts from research centers in the field of space and optimal quality of its impact is determined .And using the results of these standards will be defined .The incentive of increasing the life expectancy of individuals will be .As a result, to establish the best treatment and comply with environmental standards and regulations and engage in architectural elements and its positive effect on the mental health of people, motivation can be enhanced treatment of the disabled.

Health Center

To provide and enhance services useful to prevent, reduce or eliminate the problems of infants, children and adults is exceptional .And to improve their situation and support those aspects of the design of a comprehensive health center to all matters relating to rehabilitation, such as physiotherapy, hydrotherapy, occupational therapy, physical therapy, optometry, audio metry, including genetic counseling center .All these sectors complement each other and represent a health center for people in need is comprehensive.

Environmental Psychology

Psychological study of people in their daily physical environment. Environmental Psychology field interactions and relationships between people and the environment which deals (Mac Andrew, 1387). Research that examines the interplay between the environment and the people are dedicated and combination of theories of perception, cognition, anthropology, sociology, architecture, landscape architecture and so on. Environmental psychology, behavior in the context of a physical headquarters are envisaged. (Mortazavi, 1367)

Rehabilitation

Series measures the distance between the powerless and controls to minimize possible (pour Momeni et al., 1386, p. 19). In health sciences, rehabilitation or rehabilitation process in which the individual physical assistance to their lost abilities after an accident, illness or injury that may lead to functional limitations, he has won again. Rehabilitation of very wide areas of health care is to help people after having problems such as stroke, spinal cord injuries, orthopedic surgery, trauma, burns, hearing loss, auditory processing disorders, balance problems, etc. it is possible to overcome the problem and recover their previous functional independence. Unlike in rehabilitation medicine not prescribed any medication and the trend of gradual recovery capabilities targeted measures to reduce the impact of disability on the individual all, enabling her to achieve independence, social integration, better quality of life and prosperity (Hlandr, 1383, p. 19).

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Relaxation

One of the most important environmental qualities and the resultant effects on humans. Indeed, peace is the most important characteristics of multi-dimensional nature and helps to protect human health.

If the environment depending on the quality, features and capabilities to provide the basis for the satisfaction of human needs, physical and mental well-being of the individual, there will be more. Thus, the relationship between environment and health is not in doubt. If space is lacking in the features needed to achieve the goals and needs, meet the needs of delayed and people are suffering from stress and aggression. The causes of stress may result from factors and circumstances that influence the level of satisfaction of the needs and thereby because tension or serenity (Hadi, 1385). Research methodology

In a small study, researchers analyzed the quantitative data from samples collected is then analyzed. In addition, the relationship between variables can be analyzed on the basis of the target. In this study, data analysis using Pearson correlation coefficient formula to show solidarity software variables, the questionnaire was spss v 19.

Variables (population)

Variables in this study, the patients and their relatives, professionals and employees are rehabilitation centers. Air quality effects such as color, light, form, and so it will be on their emotional state.

Environmental Psychology

Psychology is the science of psychology to environmental science Znd.hdf link this knowledge to increase and enhance our understanding of the various dimensions of human experience in natural and artificial. The science of psychology and environmental sciences bond because on the one hand focus on individual psychology and personal characteristics, and less attention to the outside of the mind. And the environmental sciences requires knowledge of the properties of the human mind as the audience is his plan (Her, 1392, p. 67).

The nature of environmental psychology

the behavioral sciences to examine human behavior in human environments of urban structures and the interaction between the field of urban anthropology, sociology and political science, and economics .Creek Environmental Psychology as psychological exploration of human behavior knows that focuses on life in the urban physical environment to facilitate users of urban spaces. And thus more effective for the spaces provided. The psychological environment, physical environment in order to shape human relationships and values she examines the needs (Mahmoudi and Sadeghi - Nejad, 1388, p. 161).

Environment

In fact, the word environment buildings by architects, architects and landscape architects is defined outdoor. In some analyzes the physical environment, social, psychological and behavioral factors have been distinguished. Physical environment, including ground-based and geographic environment, social environment, including bodies are made up of individuals and groups, including images of people and the environment, psychological and behavioral factors of the individual to react (Lang, 1386, p. 88). In the case of each of the environments perceptions of the environment as factors in understanding the environment.

Feel the environment

Information and reach the brain and then analyze them through the feeling of the place. The senses play an important role in the area of contact with the environment. The table on the role of each of the five senses to understand the specific environment (large Pakzad, 1391, p. 61).

Table 1. Of each of the five senses to understand the environment (large Pakzad, 1391)

How to get information from the environment	Type senses
Most of our relationship with the environment is the main factor that will see the light shining on the object and is reflected into our eyes, and the message is transmitted from the eye to the brain.	Sight
Vision, hearing, along with an important tool to learn about the environment. Sound quality factors affecting the quality and quantity of space. The origin of sound, movement or vibration of an object. Audio stimuli air molecules to move and transfer energy to the molecules creates a wave of changing pressure. Information relating to listen to part of the brain and nerves that pass the hearing.	Hearing
Driving away the sense of smell molecules released from the materials that are in the air to move in and entering the nasal passages. The fat-soluble molecules need to feel because olfactory receptors in fat like substance is covered. Interact with taste and a sense of smell is not independent.	Taste
We help each other, we recognize the taste tasting different materials. Components of the system is located within the oral cavity, especially on the tongue. In addition, smell and taste work together and mutually influence each other.	Smell
The most important means of information and knowledge in the design of tactile environment favorable areas will help us. Touch receptors scattered throughout the entire body. Skin as the largest organ of the body's sensory surface is covered. This sense of three distinct feeling that the skin responds to temperature, pressure and other third pain.	Touch

To compile and categorize specific patterns of emotional expression environment, efforts have been made. Alan Isaac has to offer the following categories:

Tension

The following occurs: the lack of stability, unbalanced composition, using a sharp contrast, unfamiliar elements in unknown, alien and uncomfortable intense colors, forms and lines with a steep angle, sunlight annoying voice uneven and deafening, inappropriate temperatures, lack or limitation of motion, unpleasant odors (Lang, 1386, p. 218).

Relaxation

Comfortable with familiar elements in an environment familiar and lovely to come. Among these factors can be expected order, simply use a small, pleasant sounds and gentle, acceptable, forms, lines and spaces wavy and soft, low contrast, low light (indirect), family colors (white , blue and green), move easy and pleasant odors noted (Lang, 1386, p. 219).Peace, the peace of the spirit, the coordination and consistent with the heartbeat of nature. In other words, the peace, the quiet, happy life and embrace the world (Ghanbari , 1389, p. 3).However, it is important to note that the tension and calm man always fluctuate depending on need not always want quiet. In some environments than others expect vitality and is expected to be relaxing (large Pakzad , 1391, p. 78).

The effectiveness of color

The colors have different meanings and just looking at each release of certain hormones in the body that can calm, energize, creativity, sleep or reduce anxiety and stress are. The human body absorbs light from the color spectrum. Each color has a frequency, wavelength and energy in particular. The colors that we can capture the nervous system, endocrine and hormone especially affect our bodies and organisms. Colors are easily nervous system, eyesight, physical

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systems affect the digestive system and kidneys. The effects of the relative colors and different people and different cultures vary. Like the music, the colors are sometimes pleasant and sometimes unpleasant. If they will understand them more consciously aware of the impact (Basanv , 1383).

Physiology of color perception and design

Colors to distinguish different elements in one location or multiple locations .grand help Jane (1973) studied the effect of color on the perception of room size, subjective feeling of heat, and psychological reactions following observations color effect on the size of the table space (Lang, 1386) achieved.

TABEL 2. Color effect on the size of the table space (Lang, 1386)

Psychological motivation	Feeling the heat	Sense of distance	Color
High comfort	Cold	Further	Blue
Very high comfort	Cold and Neutral	Further	Green
Many of stimulating	warm	Close	Red
Rouser	So warm	Very close	Orange
Rouser	So warm	Close	Yellow
Rouser	Neutral	Very close	Brown
Aggressive, depressive	Cold	Very close	Violet

Choose color therapy environments

To select the best variety in painting several scientific and administrative centers should Drmany, following should be considered: { According to the psychology of colors and moods physical and psychological effects of color on the patient and his entourage , According to the culture and attitudes of ethnic and tastes of each region , Creating the right visual media staff to increase their productivity and mental fatigue , The effects of both natural and artificial light and color performance of each space on the day and at night , Combined effects of each color range in positive and negative errors in diagnosis and distance and size of each space.

Color effects on patients

Bright colors and lively view of the sun and at the same time simple and relaxing place in front of the viewer. The combination of yellow and green colors as green, yellow is a color derived from the patient's room will be a very successful and appropriate. You must remember that most of the charm of living in it adds green to yellow. If only bright colors are used, the space will be cold. Something that is not possible the patient's elegant center. A spirit of joy and hope we can certainly use a variety of colors and vitality in the centers redoubled. If the majority of space in a private hospital room with yellow color is indigo, gives peace of mind to sleep into. However, most of the green space in the room who has more than enough enthusiasm and energy to give. The lobby and halls for warm colors like golden clinic, orange, rich red limited space to create a warm and a little luxury is recommended (Nesa, 1998).Exterior color space while protecting against the effects of climate, pollution, abrasion, corrosion and bacterial growth should be led to Delight clients. The color of the pavement and the car should be clear. The use of colors, light gray, red, red psychology and its application in the design, the authors, Orange Table (2, 6) and white tables (2 of 12) in the main hall, waiting rooms and corridors leading to the clients satisfaction and being cheerful. The use of orange and yellow with purple in counseling and interview rooms, creating intimacy and honest, passion, desire and is ready .In Engineering, Maintenance and repair of blue and light gray is used. Contrast and contrast colors such as red, orange and yellow stimulate physical activity in the rehabilitation. Patients in the radiology department to see gray-green or light blue, they feel more comfortable (Port et al., 1384, p. 105).

Table 3. Psychology of color and its application in the design, the authors.

Red	
Hot	Color tone
Energy - joyful - an increase of courage and self-esteem - to increase confidence and courage	Psychological profile color
Mild depression - anemia - iron deficiency - against the cold - a special effect on fertility - arthritis, joint disease - to prevent the accumulation of toxins in the cells - catarrh and bronchitis - constipation and intestinal weakness - distention - poor circulation - Sinusitis chronic - lack of energy - stimulates body and mind and improve concentration	The positive health effects
People with high blood pressure - people nervous and mental disorders Khv- fast - Palpitations - Stress - fever - patients with cancerous tumors	Contraindications
Commercial centers and banks in the counter and - combined with the most appetizing yellow	Places of use
Reproductive	Glands

Table 4. Orange psychology and its application in the design, the authors

Orange	
Hot	Color tone
A symbol of energy - Anti-fatigue - increases the vitality and inner satisfaction - creating sublime thoughts and mental images - a symbol of balance, success, happiness and determination - the excitement - Friendship - Love - Welcome - projections anticonvulsant and stress - color Entertainment Mind	Psychological profile color
The effect on the digestive system and safety - a positive effect on digestion and absorption system - depression - treatment of kidney disease and gallstones, asthma, bronchitis, hyperthyroidism, lack of milk secretion after birth, disability anus, improve lung function and flow regulator respiratory depression circulatory disorders - muscle fatigue - intestinal parasites - raising the energy level	The positive health effects
Overdose leads to deprivation, frustration, fertility and placed prematurity	Contraindications
Kitchen and dining room - combined with other colors and fit for healthcare environments - background in nursing stations or clinic receptionists - all active and creative environments.	Places of use
Liver	Glands

Table 4. Yellow color psychology and its application in the design, the authors

Yellow	
Hot	Color tone
nerve cells - boosting the morale of vitality and joy of raising the level of physical and mental endurance - due to reflected light from causing eyestrain - the intensity of feelings of frustration and anger - the loss of physical and mental pressure - due to the brightness of stimulating mental activity mental and emotional and mental boost for, Relieve depression and stimulating the mind and intelligence thus reinforcing the idea, Yellow and blue parts of the brain thought to stimulate and increase the presence of mind to jump on people.	Psychological profile color
Stimulating the nervous system and the muscles - Calcium deposits accumulate in the joints break - treat rheumatism and arthritis - paralysis and eczema treatment - removal of the gallbladder weakness, constipation, indigestion and headaches you d prevention of depression - to activate the muscle energy and motion - improving Asnyshr- pain, gastrointestinal diseases, particularly ulcer dyspepsia because of release and relaxation, Increased metabolism Bdn- nervous system, stomach, intestines, kidneys and all devices Hazmh- Kbdy- failure to learn from Mental retardation is helping to improve language learning and talent Mental stimulation-language - recommended use the color of people's mental and physical activity Darnd- forgetful and yellow light for problems such as food allergies, bloating, spleen, is useful.	The positive health effects
Psychological weakness, abnormal heart beats, aggression, alcoholism and severe swelling	Contraindications
Dining area with kiosks and restaurants or hospitals - study room or study and a deeper understanding of content - room with the yellow light should be used - spaces that need to be discussed gradually Sports spaces	Places of use
Adrenal	Glands

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Table 5. Psychology and its application in the design of green, the authors

Green	
Among the seven colors are available in white, the color of the score is	Color tone
Treatment and relaxation - stress - relax and warding off worries - increasing the power of the body - color balance - harmony of physical, mental and spiritual - peaceful - passionate - kind of - a sense of sympathy - the color of nature - love of God - Symbol youth and growth - the color green symbolizes fertility regulating heart rhythm - a symbol of freshness and belonging - stimulate curiosity - the best and most beautiful colors in the Quran - the color of heaven - the expansion of the mind, is delighted server, Resistance to change - refreshment and grief - a symbol of peace and security - the role of moderator for the nervous - Green light for people trying to fill - soothing and cooling - moderated the sun - a symbol of life	Psychological profile color
Antiseptic properties - cleanse the body of toxins - low blood pressure - treatment of insomnia, severe back pain and bone tissue repair - rebuild muscle cells, bones and other tissues of the same - adjust the vital energy - resolving sleep disorders and chronic fatigue - treatment or low back pain lumbar disc green light - effects on the heart and the nerves of the heart - the body's listlessness and pallor -Effectively reduce pain by soothing the digestive system - green and white due to the irritation flavonoids helps body cells - the blood vessels - calm migraines - low-grade fever	The positive health effects
Green does not have any negative impact on the environment and people	Contraindications
Special sections of the hospital - to compensate for eyestrain look at the color red to green to focus the operation - thereby increasing the reading classes - the use of color in interior design, are injected into the flow and dynamic life and soul the human psyche -Areas in need of rest and concentration, such as room and auditorium	Places of use
Thymus	Glands

Table 6. Psychology of indigo color and its application in the design [the authors]

Indigo color	
violetcolor combination of red	The degree of color
Realize the consciousness with in 'Represents the emotional understanding -A proliferation of patience -	View spiritual color
Relaxing -Relieve skin disorders -Cataracts -Nosebleed -Earache -Cough -Treatment of epilepsy by removing egative mentaland awareness -The only color that covers the entire body showed the extraordinary energy-	The positive health effects
Entertainment venues and noisy	Contraindications
1. Quiet environment ssuch as bedrooms 'Treatment room -Part of the decor of a library or reading room	Places of use
Hypo physis	Glands

Table 7. Psychology and its application in the design of blue color [authors]

Blue color	
Cold	The degree of color
Relieve stress 'Fear ' -Relaxation ' -Stimulate -The color -- -The ability to express -Color area Remember the vast open space and landscape	View spiritual color
Positive impression in the absorption and digestion and strengthens the blood and nervous system. -Relieve headache -The treatment of respiratory disorders 'As thmaand shortness of breath and low blood pressure	The positive health effects
Using too much of this color makes people lethargic depression	Contraindications
For toilet -Bedroom -Color ,focus and peace of mind 'ery suitable for workshop -Dark blue to create a warm atmosphere	Places of use
Thyroid	Glands

Table 8. Psychology of purple color and its application in the design [the authors]

Purple	
Cold	The degree of color

The impact of memory on right eye	View spiritual color
Suitable for people with behavioral disorders ·Depression and neurological problems -	The positive health effects
peopleUnsuitable for aggressive -	Contraindications
Bedroom-home Seniors -Church -Mental health facility -Entrance of hospital and clinic -	Places of use
Hypo physis	Glands

Table 9. Psychology of white color and its application in the design [the authors]

white color	
Cold	The degree of color
Relaxation - symbol of purity, chastity, piety, innocence and peace- symbol of youth and mobility	View spiritual color
Focus increment -disappearance of then egative energy energy balance in person	The positive health effects
Not recommended in any environmental one but recommended with plants and decorations	Contraindications
Health center and small spaces with short roof locations-hospitals-laboratories	Places of use

Table 10. The correlation between sex and color of floor, wall and ceiling

		Sex	color of floor, wall and ceiling
Sex	Pearson Correlation	1	.098
	Sig. (2-tailed)		.234
	N	150	150
color of floor, wall and ceiling	Pearson Correlation	.098	1
	Sig. (2-tailed)	.234	
	N	150	150

According to the table there is a significant correlation between sex and color of floor, wall and ceiling The correlation between color and mood during response to the questionnaire

Table 11.

		Color of waiting, treatment and consulting room	mood of person during response to the questionnaire
Color of waiting, treatment and consulting room	Pearson Correlation	1	-.106
	Sig. (2-tailed)		.197
	N	150	150
mood of person during response to the questionnaire	Pearson Correlation	-.106	1
	Sig. (2-tailed)	.197	
	N	150	150

According to the table there is a significant correlation between color and mood of person during response to the questionnaire .Figure1. Indicated that audiences prefer bright warm or cold colors for wait in groom, bright cold colors for treatment room and bright warm colors for consulting room. In color psychology it is recommended to use complementary colors in order to prevent bored omand monotonyand to control over stimulatory effect of warm color.

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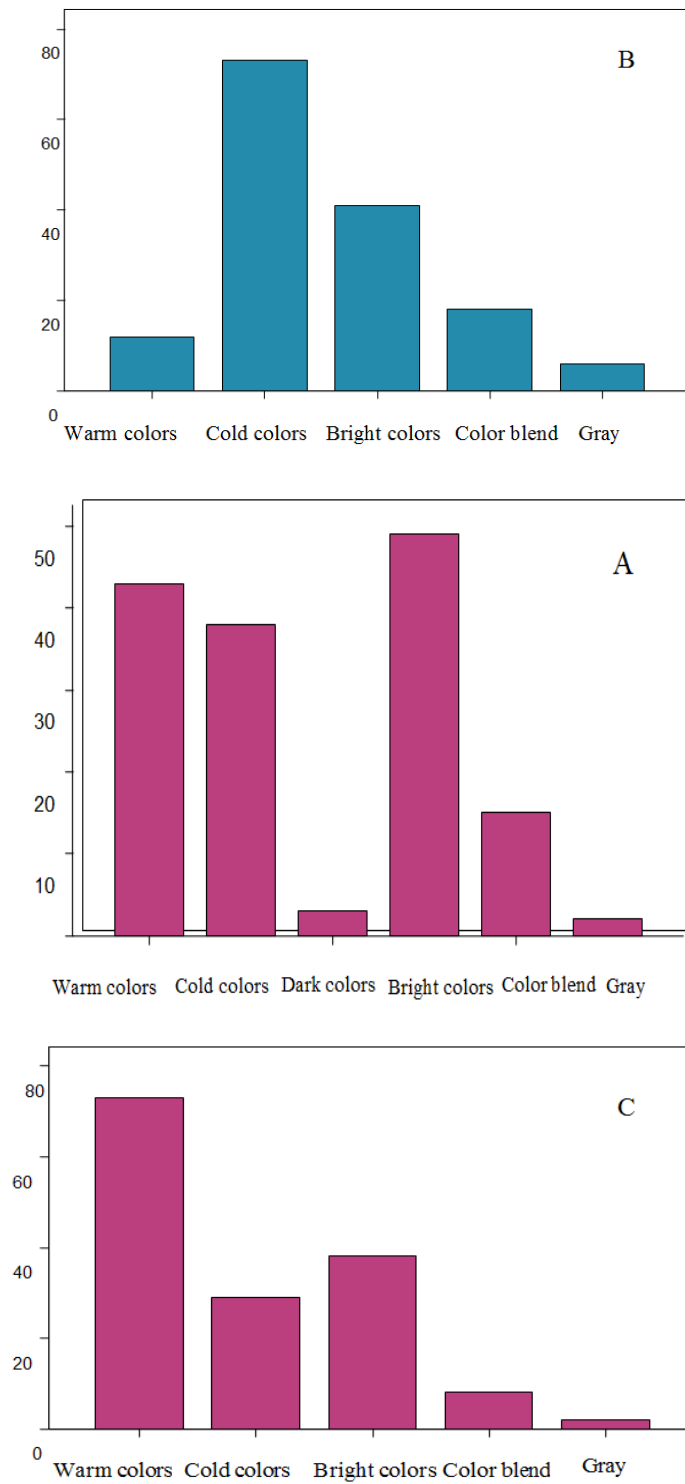


Figure 1. Proposed color for A) waiting room, B) treatment room and C) consulting room

3. CONCLUSION

The present study aimed to evaluate the effect of the environment on people using health Center. In accordance with the standards in color psychology, the strengths and weaknesses of the building have been found, so we tried to design a proper health center by eliminating undesirable factors in building. According to the present research we understood that

architectural elements of a building affect people living in it. This effect will be positive and effective only if the design propel the people to relax and feel them comfortable. After identifying the needs and achieve the theoretical frame work design, we converted the ideas to the main design. This is based on studies, requirements, practices, standards, environmental and natural factors affecting the design and taking into account the design goals.

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