

Color Therapy in Ladies Printed Fabrics Design and its Glass Accessories

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Abstract:

Color Therapy is a complementary therapy dating back thousands of years to the ancient cultures of Egypt, China and India. The effects of color on our moods, health and way of thinking have been studied by scientists for years. Even an individual's preference for one color over another may be related to the way that color makes him feel.

Colors are visible light energy of certain wavelengths. Photoreceptors in the retina, called cones, translate this energy into colors. The retina contains three kinds of cones: one for blue, one for green, and one for red. We perceive other colors by combining these colors. When the energy of color enters our bodies, it stimulates the pituitary and pineal glands. This in turn affects the production of certain hormones, which in turn affect a variety of physiological processes. This explains why color has been found to have such a direct influence on our thoughts, moods and behavior. Even blind people can sense color as a result of energy vibrations created within the body.

Chakras are our body's energy centers. If these energy centers are out of balance, we may become ill or our emotions may be affected. Each color has a corresponding energy center and can be used to bring it back into balance.

The current research aims to shed light on color therapy, clarify the colors associated with the chakras which are energy points of the body and therefore potentially powerful healing centers, and make use of that in ladies printed fabrics design -for the morning- and its glass accessories which enrich not only the fields of textile printing and glass in general but also women fabrics design and glass accessories in particular.

Keywords:

Color therapy - ladies printed fabrics design - glass accessories.

Research Problem:

- The rarity of academic studies and design researches in textile printing and glass fields that dealt with this subject, thus needs more of these specialized researches on this regard.
- How to benefit from the theory of color therapy in finding new formulation of designs suitable for printing ladies morning fabrics and innovating of its glass accessories, which helps to improve human health in general .

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Research Objectives:

The research aims to:

- Make use of color therapy theory in ladies printed fabrics design and its glass accessories to enrich the fields of textile printing and glass.
- Achieve integration between textile printing and glass accessories designers on one hand, and between art and science on the other hand, in order to keep pace with the designer for the tremendous scientific and technological progress of the present era.

Research Hypotheses:

The research assumes that:

- Color therapy is a new idea worth to be included in textile printing designs and glass accessories arts.
- Colors affect human; as color vibrations work through the body's Chakras, so regulating the flow of the color forces by consciously absorbing them as needed- using each ray with the specific purpose of rebuilding, restoring, and revitalizing each body organ through the etheric counterparts- will improve the health, make the mind more efficient and develop the spirit-self .

Research Limits:

- Study the basics of color therapy.
- Experimental study to innovate design solutions for printing one- piece ladies morning fabrics and its glass accessories from the perspective of color therapy.

Research Methodology:

- **Descriptive approach:** Through a descriptive study and collecting information about color therapy theory and its scientific and logical explanation to derive the results.
- **Analytical descriptive Approach:** Through an analytical descriptive study of innovative designs created by the researchers from the perspective of color therapy theory.
- **Experimental approach:** through the technical experiments benefitting from color therapy theory which suit printing one-piece ladies morning fabrics and innovating its glass accessories.

العلاج باللون في تصميم طباعة أقمشة السيدات ومكملاتها الزجاجية

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ملخص البحث

العلاج بالألوان هو علاج تكميلي استخدم منذ آلاف السنين في كثير من الثقافات القديمة في مصر والصين والهند، وقد عكف العلماء لسنوات طويلة على دراسة أثر اللون على شعور الإنسان و صحته و طريقة تفكيره، حتى التفضيل الشخصي للون على آخر قد يكون ذو صلة قوية بالطريقة التي يشعر بها الإنسان بهذا اللون. و الألوان عبارة عن طاقة ضوء مرئية ذات طول موجي محدد يتم استقبالها من خلال المستقبلات الضوئية في شبكية العين التي تعرف بالمخاريط وتعمل على ترجمة تلك الطاقة إلى ألوان، و تحتوي شبكية العين على ثلاثة أنواع من المخاريط: إحداها للأزرق، والآخر للأخضر، و الأخير للأحمر، وترى الألوان الأخرى من خلال الجمع بين هذه الألوان. وعندما تدخل طاقة اللون إلى أجسادنا تحفز الغدد النخامية و الصنوبرية وهذا بدوره يؤثر على إنتاج هرمونات معينة تؤثر على مجموعة متنوعة من العمليات الفسيولوجية التي تنعكس بدورها على مزاج وسلوك الفرد، حتى فاقد البصر يشعرون باللون نتيجة لاهتزاز الطاقة خلال الجسم.

□□□□□□□□ ويوجد في جسم الإنسان مراكز للطاقة تعرف باسم شاكرات في حالة عدم إتزانها يصبح الإنسان مريضاً وتصاب عواطفه بخلل، و كل لون يقابله مركز للطاقة و يمكن استخدامه في استعادة الإتزان مرة أخرى. و عليه فإن هذا البحث **يهدف إلى** تسليط الضوء على العلاج بالألوان وتوضيح الألوان المرتبطة بالشاكرات التي هي نقاط الطاقة في جسم الإنسان، وبالتالي مراكز الشفاء القوية المحتملة، والاستفادة من ذلك في تصميم طباعة أقمشة السيدات ومكملاتها الزجاجية مما يثري مجالي طباعة المنسوجات و الزجاج بوجه عام وتصميم طباعة أقمشة السيدات ومكملاتها الزجاجية بوجه خاص.

Introduction:

Color Therapy - also called chromopathy, colorology, chromotherapy and color healing - is a complementary therapy ^(2/ 50). It is a system of alternative medicine in which colors and their energy frequencies are used to correct psychological or physical imbalances ⁽¹⁶⁾. It is dating back thousands of years to the cultures of ancient Egypt, China and India ⁽¹⁷⁾.

Scientists have studied the effects of color on our health, moods and the way of thinking for years. Even an individual's preference for one color over another perhaps related to the way that color makes him feel.

Colors are visible light energy of certain wavelengths. Cones, which are photoreceptors in the retina, translate this energy into colors. There are three kinds of cones in the retina: one for blue, one for green, and one for red. Other colors can be perceived by combining these colors.

The energy of color stimulates the pituitary and pineal glands when entering our bodies. That affects the production of certain hormones, which in turn affect a variety of physiological processes. This gives a reason for why color has been found to have such a direct influence on our thoughts, moods and behavior ⁽¹⁰⁾. Color has an effect even on blind people, who sense color as a result of energy vibrations created through the body.

Color therapy is an area of holistic healing, which used by alternative health practitioners to make changes in moods, emotions and health. It is classified as a vibrational healing modality. As known, a vibrational medicine is the incorporation of chi energies within living organisms. Sunlight, sound, water, plants, gemstones and crystals are examples of living organisms, that can be incorporated and used in vibrational healing. This form of natural healing can be used by many different ways to enhance and recondition our life, health and attitude. Color influences our mood, health, imagery, perception as well as our heart rates. Color can be used in the forms of sitting under a lamp emitting various colors of light, pointing a colored light at a specific body part, using lamps to light up a whole room in color, using color healing oils or baths, wearing certain colored clothes, painting specific walls with specific color and wearing color healing glasses⁽¹⁸⁾.

Chakras are the body's energy centers. If they are out of balance, we may become ill or our emotions may be influenced. Each color has an analogous energy center that can be used to lead it back into balance^(11/ 1). In chromotherapy, the application of light and color in the form of tools, visualization or verbal suggestion are used to balance the energy in areas of our bodies that are lacking physical, emotional, mental or spiritual balance. When the right color is used, health, moods and emotions are enhanced ⁽¹⁸⁾.

The current research aims to shed light on color therapy, clarify the colors associated with the chakras which are energy points of the body and therefore potentially powerful healing centers, and make use of that in ladies printed fabrics design -for the morning- and its glass accessories which enrich not only the fields of textile printing and glass in general but also women fabrics design and glass accessories in particular.

History of Color Therapy:

The use of full-spectrum white light for healing (Phototherapy) and the use of specific colors to influence health and healing (Chromotherapy) is not new. They were practiced in ancient Egypt, China, India and Greece. Papyrus in Egypt dating back to

1500 BC lists color cures and archeologists discovered that the Egyptians built temples with specific rooms in such a manner that light shone among crystals that transformed the light into patterns of color ⁽⁴⁾. The ancient Egyptians and Greeks used colored minerals, stones, crystals, salves and dyes as remedies and painted treatment sanctuaries in various shades of colors ⁽⁶⁾. The Chinese believed in certain colors with the elements of earth, wood, fire, water and metal. They utilized them in Feng Shui for the environment and the Meridian system for the energetic and physical body. In India the practice of Ayurveda an ancient form of medicine with the philosophy of treating the whole being- mind, body and spirit believed that all beings wear a coat of many colors that continually change according to a person's mental, emotional and physical well-being ⁽⁴⁾. Charaka - The ancient Ayurvedic physician lived in the sixth century BC - recommended sunlight to treat a variety of diseases ⁽¹⁹⁾. The Greeks had blind faith in the healing properties of colors although they were unaware of the biological changes in the body as a result of color treatment. Water was missed as a medium for the absorption of color, which later proved to be the best cure for removing toxins from the body ⁽⁶⁾. The Father of Western Medicine, Hippocrates (460 BC), knew the importance of balance between the mind, body and soul, and used color as an intrinsic part of the healing process ⁽⁴⁾. Avicenna (AD 980) – a Persian polymath - developed a chart that related color to physical condition and temperature of the body. His point of view in color healing was that; red moved the blood, blue or white cooled it while yellow reduced muscular pain and inflammation ⁽⁶⁾. He was the first to establish that the wrong color suggested for therapy would certainly elicit no response in specific illness. The English physicist Isaac Newton (1642) discovered that he could use a prism to look at the seven light energies of the spectrum, red, orange, yellow, green, blue, indigo, and violet ⁽⁴⁾.

In 19th Century, Pleasanton (1876) - an American Civil War General - stated that blue was the first remedy in case of injuries, burns or aches. The same methodology was adopted by Hassan (1999), who found employing the color blue to be very useful as a first-line treatment for injuries and burns ⁽⁷⁾. A comprehensive theory of color healing was presented by Babbitt - a professor from Harvard - who identified the color red as a stimulant notably of blood and to a lesser extent the nerves, yellow and orange as nerve stimulants, blue and violet as soothing to all systems and as having anti-inflammatory properties. He also stated that 'all vital organs have direct connection with the skin through arteries, blood vessels and capillaries, and color rays can affect the entire blood stream through circulation and elimination of toxins' ⁽¹⁾. In fact, he was among the pioneers of modern chromotherapy. He used both direct and indirect ways of color healing, and was aware of the techniques and methodologies used in this field. His invention of various devices such as a particular cabinet that utilized natural light to get colored light by splitting it into seven colors, used to focus light onto a specific area, worked effectively for healing wounds and stopping bleeding, headaches, etc.

In 20th Century, Ghadiali (1927) - a scientist from India - discovered that there is an unique color or energy vibration that either calms or stimulates the stream of energy among a particular organ leading to a natural biochemical reaction. If the action of various colors upon the various organs and systems of the body is known, the suitable color can be used to balance the action of any organ or system that has become abnormal in its condition or function. When this balance is disturbed, mental and physical problems happen. Treating disease by restoring normal balance of color energies of the body is the aim of the science of color therapy ⁽⁵⁾. Ghadiali established that particular areas of the body respond to particular colors; these areas are similar to what the

ancients called 'chakras'. The concept of chakras is essentially an East Indian concept. Klotsche – American professor of history - stated that 'The chakras are areas of highly concentrated energy connected to different locations mainly along the spinal cord. These energy fields are related to the major organs in the body'⁽⁸⁾. He found chromotherapy to be a complete therapeutic system for 123 major illnesses. He used both single colors and combinations of two or more colors for therapy as well as different techniques; direct exposure and hydrochromopathy. He emphasized that chromotherapy is safe, simple, economical and highly effective.

In 1951, Takkata noticed that the color ray frequency changes in atmosphere arising from the sunspots affect the flocculation index of human blood albumin causing changes of menstrual cycles. He came up with experimental results on direct exposure to sunlight but he did not state anything about material aids to provide a color deficient to the human body. In 1987, Ott described how color rays from sunspots alter a human's flocculation index. He said that there are various methods of applying colored light, which can be received through the eyes or the skin and was found to stimulate the internal glands. He also noted that different lights affect different enzymatic reactions for healing purposes. It was the first time that the effect of chromotherapy was tested at the DNA level⁽¹²⁾.

The work of Mester - professor of Budapest University - and Azeemi – Pakistani scholar of international repute in the field of spiritualism - gives a clear picture of the effects of colors on the human body either applied directly to the skin or absorbed in water, oil and milk and then given to the patient. Patients with hereditary diseases such as hypertension, thalassemia and diabetes could be affected. They discussed in detail the causes of diseases and suggested appropriate colors easy to understand and to use. They also discussed in detail different methods of chromotherapy but emphasized on hydrochromopathy⁽¹⁵⁾.

In fact, the world of color psychology and medicine is indebted to the efforts of Gerard (1970) – US scientist - who painstakingly reviewed the whole area of light, color and their psycho-physiological influences. For the first time, the reactions of the entire organism were tested, using advanced and new techniques with colored light beamed onto the skin of the subject. Profiting from the experience of other scientists and the use of an electroencephalogram, Gerard evolved new approaches and discovered many of significant facts⁽¹³⁾. He showed that all colors affect all human both psychologically and physiologically in a specific manner. The exposure to warm colors increased respiratory movements, frequency of eye blinks, cortical activation and palmar conductance. While the exposure to cool colors gave opposite effects by acting as a relaxant and tranquilizer for anxious individuals, lowering blood pressure, providing relief from tension, alleviating of muscle spasms and reducing eye blink frequency. They also proved to be an aid for insomnia. Just as warm colors showed a consistently pronounced pattern of stimulation, cool colors showed a consistent pattern of relaxation⁽¹⁵⁾.

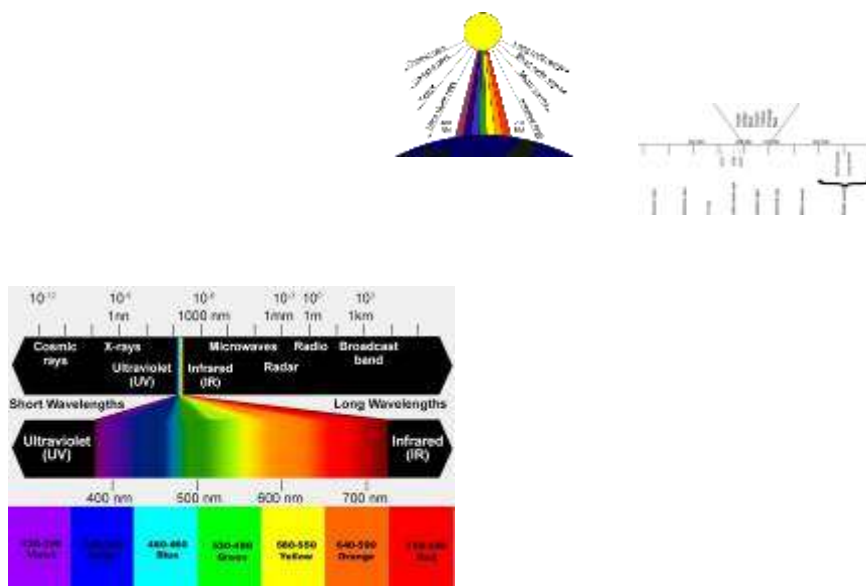
In 1980 phototherapy was used to accelerate learning . While in 1991 color and light were applied to facilitate whole brain synchronization and colored light was utilized for sedative properties prior to, during and immediately following surgery⁽²⁰⁾. Interest in color therapy steadily grew. Today, many people practice color therapy. It is

becoming more and more known and accepted⁽²¹⁾.

Concept of color energy:

Light is the most important energy source and the entire spectrum of colors is derived from it. Light is the only energy that we can see in the form of color^(3/ 17). The sun emits light at various frequencies. These frequencies of light can be separated by a process called refraction. Light refracts when passing through a crystal prism and divides into the seven colors of the spectrum, which are red, orange, yellow, green, blue, indigo and violet. Each color has its own frequency. White light will be reformed if the separated colors go through another prism. Isaac Newton, the great British physicist, was the first to demonstrate this phenomenon at the end of the 17th century⁽²²⁾.

Sunlight contains all the wavelengths (Fig. 1), and consists of the entire electromagnetic spectrum which we depend on to exist on earth^(3 / 17). Energy is considered to travel in waves. Wavelength is the distance between successive waves while frequency is the number of times a wave oscillates in one second. In general; the longer the wavelength, the lower the frequency. Each color has its own characteristic frequency and its individual wavelength. A small part of the electromagnetic spectrum is visible to the human eye. Violet has the shortest wavelength while red has the longest. Beyond violet lies ultraviolet which, although invisible to the human eye, can pass through our body. It provides us with a suntan and kills bacteria. Beyond red lies infrared followed by microwaves, radar, radio and television wavelengths all invisible to the human eye. Red, orange and yellow seem to reach the eye faster than the colors on the other side of the spectrum. As they travel in longer wavelengths. They are called warm colors as they are associated with fire and sunshine. They are also called advancing colors, because of the short time their energy takes to reach our eyes. Green, blue and violet are perceived as cool colors. They seem to take longer time to reach our eyes, as they travel in shorter wavelengths, they bring to mind the blue water and the sky. They are also called receding colors, because of the long time their energy takes to reach our eyes. Each warm color has its complementary cool color: red – blue, orange – indigo, yellow – violet, green – red (magenta)⁽²²⁾.



(Fig. 1)
Sunlight wavelengths

Light flows within our eyes and triggers hormone production, that affects our entire complex biochemical system, which then influences our being. Light does not travel alone as it travels with other energies. Each color in the visible light spectrum produces a specific energy and has a nutritive effect. It is known also that some rays can be dangerous if we are exposed to them but the visible light, also called rainbow , has a soothing effect on us ^(3 / 17,18).

Chakras' concept features in tantric and yogic traditions of Hinduism and Buddhism. Chakras are centers in our body in which vital energy flow through. They correspond to vital points in the physical body^(3 / 17,18). Blocked energy in our chakras will lead to illness. Each color has a corresponding chakra or energy center and can be used to restore its balance back^(11 / 1). The Theory of color therapy suggests that the human body needs to keep the balance between the sympathetic and parasympathetic branches of the autonomic system for maximum health and healing benefits. When the sympathetic system is over-stimulated by fear, anger or prolonged stress, the body is primed for fight or flight reaction. That makes the sympathetic system puts the human body on high alert,so the parasympathetic system which enhances normal body processes such as fending off diseases and promoting healing is effectively shut down . Exposing to certain colors can restore the balance between these two systems. Red stimulates the sympathetic system, while blue relaxes the stressed areas of the body⁽²³⁾.

The cosmic healing rays:

Seven main color rays were provided by nature for disease treatment. They are pure cosmic radiance. As color vibrations work through the body's cosmic centers or Chakras, so the principle of color healing is to regulate the flow of the color forces by consciously absorbing them as needed, using each ray with the specific purpose of rebuilding, restoring, and re-vitalizing each body organ through the etheric counterparts. That will improve the health, make the mind more efficient and develop the spirit-self ⁽¹⁴⁾.

Ray 1: The red cosmic ray:



Its nature is stimulating and warming as found at the thermal end of the spectrum ⁽¹⁴⁾. It is considered to be the strongest color, the color of fire, blood and life force^(2/ 53). In the human body, this color controls the chakra at the base of the spine and represents great influence upon the health and vitality. Red rays cause reaction to occur in this center resulting in the release of adrenalin into the bloodstream ,increase the amount of haemoglobin in the blood and improve the circulation by raising the body temperature. Red is the natural antidote to counteract the cold blue conditions ⁽¹⁴⁾.

Indications: physical weakness, anemia, mental depression, fatigue, rheumatic pain, paralysis, respiratory (bronchitis, colds), tuberculosis, stress, blood disorders, diseases related to the endocrine system, constipation and impotence.

Contraindications: emotional disorders, inflammatory states, hypertension, choleric, stressed and irritable persons and fever ^(2/ 53).

Ray 2: The orange cosmic ray:



This ray is linked with the vital force from the sun flowing into the body. It controls the chakra in the spleen and is responsible for the task of absorbing and distributing the

vital energy. It has a vital importance as it is located between the physical and mental principles. It influences the processes of digestion and assimilation. The color is a powerful tonic and has a direct effect in building the body energy. This ray is an antidote to repressions, limitations and calls forth self-confidence as well as positive thinking⁽¹⁴⁾.

Indications: depression, anxiety, hypothyroidism, spleen disorders, kidney and lungs diseases, nutrients assimilation, pancreas, asthma, bronchitis, colds, gallstones, epilepsy, tumors, gout, menstrual disorders, fatigue, disappointment, rheumatism stress, pessimism, fear, sexual disorders and overcoming inhibitions.

Contraindications: stressed people, senile dementia, hysteria, asthma, spasmophilia, hallucinations and constipation^(2/ 53).

Ray 3: The yellow cosmic ray:

For its maximum brightness and luminosity, yellow holds the first place in the spectrum. It is the ray of maximum light and is a positive magnetic vibration with a powerful effect on the nervous system. It is connected with the Solar Plexus the chakra, located above the navel, and acts as the brain center of the nervous system. It has affinity with the liver, intestines and has a cleansing as well as heating effect on the skin. Being one of the “Rays of Mind”, It stimulates the mental faculties, helps in the creation of thought and in visualization⁽¹⁴⁾.

Indications: headache, gallbladder disease, liver diseases, bloating, colitis, cellulitis, diabetes, constipation, dyspepsia, edema, eczema and skin disorders, nervous exhaustion, spleen, small intestine, hemorrhoids, indigestion, paraplegia and psychoneurosis.

Contraindications: heart palpitations, fever, inflammation, delirium and super-excitation^(2/ 54).

Ray 4: The green cosmic ray:

It occupies the middle of the solar spectrum between the heat and cold end, thus it is the point of balance, harmony and concord. It controls the chakra at the heart or cardiac center. Green is the color of nature and is a soothing harmonious radiation that is important for our nerves well-being and the body proper functioning. Green light gives us the energy of the sun in the safest and most natural form. This ray radiates sympathy, kindness, peace, faith, healing, reconciliation, love, joy, optimism, self-control and is also linked with abundance, evolution and supply⁽¹⁴⁾.

Indications: back pain, asthma, colds, fatigue, fever, cramps, erysipelas, heart and liver disease, laryngitis, ulcers, hypertension, irritability, malaria, cancer, neuralgia, neuroses, neurological disorders, sleepiness and venereal diseases.

Contraindications: The rejection of this color indicates, stiffness, inadequacy, intolerance, fanaticism, hostile reactions, jealousy and envy^(2/ 54).

Ray 5: The blue cosmic ray:

Blue is the first color belonging to the cold. It is connected with the chakra at the throat. Its effect is to steady or slow down the energy of the red-orange-yellow group. The value of this color in spiritual as it has a calming effect on the mind and nerves.

The main features of the blue ray mental influence are truth, peace, poise, serenity, transcendent wisdom, harmony and clarity ⁽¹⁴⁾.

Indications: disturbances, hyperactive children, gingival abscesses, goiter, thrush, burns, colic, biliary crisis, nervous disorder, diarrhea, dysentery, sunstroke, headache, epilepsy, fever, chills, toothache, throat diseases, throat pain, hemorrhoids, cholera, jaundice, intestines' and eyes' inflammation, insomnia, hysteria, menstrual pain, measles, pruritus, palpitation, rheumatism, spasms, bacterial and viral wounds infections, vomiting, insects stings and menopause.

Contraindications: stress, scarlet fever and pathological thirst ^(2/ 54).

Ray 6: The indigo cosmic ray:

It is located on an important glandular center, the Pineal, which is concerned with the nervous, mental and psychic forces and faculties of man. It affects the organs of sight, hearing, smelling, providing one of the safest and most natural anesthetics causing an hypnotic condition in which the patient is insensitive to pain yet at the same time fully conscious. By stimulating and regenerating man's mind and soul, Indigo is the ray of the future race-consciousness extending the inner vision and opening up new fields of comprehension and knowledge. It is an antidote to frustrations, the fear-complex and general negative conditions, as it acts on the personality and character ⁽¹⁴⁾.

Indications: appendicitis, asthma, bronchitis, cataracts, seizures, dyspepsia, deafness, eye disease, hyperthyroidism, nose bleedings, paralysis, pneumonia, tonsillitis, whooping cough, migraines, sinusitis, delirium, dementia, hallucinations, rheumatism and obesity.

Contraindications: paranoia, neurological and genetic disturbances, and intense erotic imagination ^(2/ 54).

Ray 7: The violet cosmic ray:

It is the highest vibration of Light with strong electrochemical properties. The rays are stimulating to the nervous system. It is connected with the chakra in the higher brain known as the pituitary gland which is concerned with inspiring the mind, arousing soul qualities, mysticism, spiritual intuition and idealism. It is related to spirituality and religion, it harmoniously combines the mental with the emotional, the physical with the spirit ⁽¹⁴⁾.

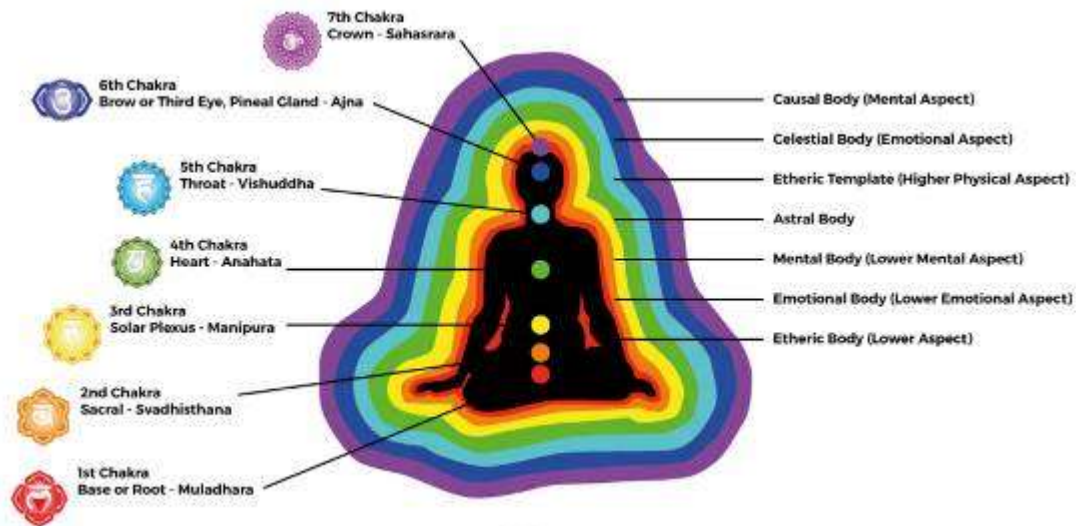
Indications: bladder diseases, kidney cancer, abnormal bone growth, cerebrospinal meningitis, concussion, cramps, epilepsy, mental disorders, neuralgia, rheumatism, sciatica, skin diseases, tumors, neurosis and improving digestion.

Contraindications: people suffering from psychiatric disorders ^(2/ 54).

The color Chakras:

The origin of the term Chakra is Hindu . Chakra means the wheel of fire. The dynamic centers of vital force and consciousness - the generators of prana and the inlets of cosmic energy into the human system - are designated by this term. The particles in sunlight that contain a special vital and stimulatory force are termed vitality globules by scientists. The eastern occultists named these globules "prana" which means breath or life. When prana is drawn into the human body from the atmosphere through the chakras and distributed over the whole systems, its vital energy is contained in every cell and molecule of the body.

Briefly, Chakras are the etheric organs working through thoughts and feelings directly upon the physical body. They are specialized channels of color force. Each chakra absorbs a special current of vital energy through its particular color ray from the physical environment and from higher levels of consciousness. There are seven main chakras each under a particular color ray. The chakras (Fig. 2) form a system of color in the physical and etheric bodies; Chakra 1 Red, Chakra 2 Orange, Chakra 3 **Yellow**, Chakra 4 Green, Chakra 5 Blue, Chakra 6 Indigo and Chakra 7 Violet. They are seen clairvoyantly as radiant bell shaped vortices in the etheric body which is the vital counterpart of the physical. These vortices intersect the spinal cord at certain definite points⁽¹⁴⁾.



(Fig. 2)
Auric bodies and chakras

There are some features common in all chakras such as ;They all form part of the body along with the breath channels. They exist along the central channel. There are two side channels cross the center channel at the location of the chakras. They possess a number of petals or spokes. They are generally associated with a mantra seed syllable, a variety of colors and deities^(9 / 54). The seven main Chakras and their characteristics are illustrated in (Fig. 3,4,5,6,7,8,9).



(Fig. 3)
First / Root Chakra

First / Root Chakra:

Sanskrit: Muladhara⁽²⁴⁾.

Symbol: A lotus with four petals.

Location: Base of the spine.

Inner state: Stillness and stability.

Color: Red⁽²⁵⁾.

Scent: Vetiver⁽²⁴⁾.

Planet: Earth and Saturn.

Stone: Garnet, ruby, onyx and obsidian.

Meditation on: I am⁽²⁵⁾.

Property: life force.

Main issue: Survival, physical needs and tribal association.

Plexus/ glands: Lumbar and coccygeal plexus, adrenals.

Related functions: Adrenals, fight/ flight, response and bones/ skeletal structure⁽²⁶⁾.

Balancing this Chakra helps spinal column, rectum, legs, bones, feet, gives the body energy, controls fear and enhance the overall health^(25, 27).



(Fig. 4)
Second / Sacral Chakra

Second / Sacral Chakra:

Sanskrit: Swadhisthana⁽²⁴⁾.

Symbol: A white lotus within a crescent moon with six orange petals.

Location: Lower abdomen, genitals, womb.

Function: sexuality, pleasure and procreation.

Inner state: Tears.

Color: Orange⁽²⁵⁾.

Scent: Tangerine⁽²⁴⁾.

Celestial body: Moon.

Stone: Coral and carnelian.

Meditation on: I feel⁽²⁵⁾.

Property: Energy, fertility.

Main issue: Emotional balance, desire, sexuality, pleasure and procreation.

Plexus/ glands: Lumbar plexus, sex organs and adrenals.

Related functions: Sexual functions, elimination and water regulation⁽²⁶⁾.

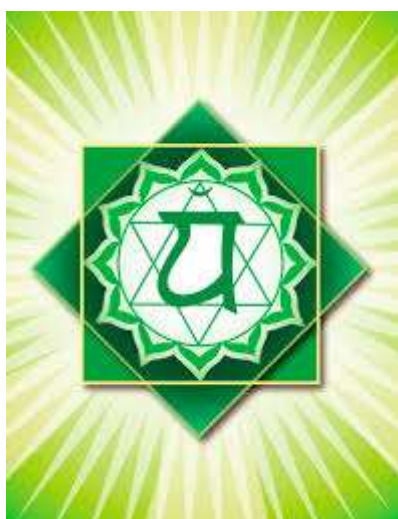
Balancing this Chakra leads to sexual vitality, physical power, fertility, helps sexual organs, large intestine, lower vertebrae, pelvis, hip area and urinary bladder^(25, 27).



(Fig. 5)

Third / Solar Plexus Chakra**Third / Solar Plexus Chakra:****Sanskrit:** Manipura⁽²⁴⁾ .**Symbol:** A downward pointing triangle with ten petals.**Location:** Above the navel.**Inner state:** Laughter, joy and anger.**Color:** yellow⁽²⁵⁾.**Scent:** Lemon⁽²⁴⁾ .**Planet:** Mars and the sun.**Stone:** Amber, topaz and citrine.**Meditation on:** I do⁽²⁵⁾ .**Property:** Intellect, self .**Main issue:** Personal power and self will.**Plexus/ glands:** Solar plexus and pancreas.**Related functions:** Digestion and assimilation muscles⁽²⁶⁾.

Balancing this Chakra leads to calming emotions and frustration, easing tension and helping to better utilize intuition. Also it helps stomach, pancreas, adrenals, upper intestines, liver, gall bladder and middle spine^(25, 27) .



(Fig. 6)

Fourth / Heart Chakra**Fourth / Heart Chakra:****Sanskrit:** Anahata⁽²⁴⁾ .**Symbol:** A circular flower with twelve green petals.**Location:** Center of the chest.**Inner state:** Compassion and love.**Color:** Green⁽²⁵⁾ .**Scent:** Eucalyptus⁽²⁴⁾ .**Planet:** Venus.**Stone:** Green/pink stones, peridot, rose quartz and malachite.**Meditation on:** I love⁽²⁵⁾ .**Property:** Harmony, empathy.**Main issue:** Giving/ receiving and love.**Plexus/ glands:** Cardiac plexus, heart and thymus.**Related functions:** Electromagnetic field generator, blood pressure and immune⁽²⁶⁾.

Balancing this Chakra is necessary for the circulatory system, heart, ribs, breast, thymus gland, lungs, shoulders, arms, hands, diaphragm. It also affects spiritual love, compassion and universal oneness^(25, 27) .



(Fig. 7)
Fifth / Throat Chakra

Fifth / Throat Chakra:

Sanskrit: Vishuddha⁽²⁴⁾.

Symbol: A silver crescent within a white circle, with 16 light blue or turquoise petals.

Location: The throat.

Inner state: Synthesis of ideas into symbols.

Color: Bright blue⁽²⁵⁾.

Scent: Lavender⁽²⁴⁾.

Planet: Mercury and Neptune.

Stone: Sodalite, blue lace, agate and lapis lazuli.

Meditation on: I speak⁽²⁵⁾.

Property: communication.

Main issue: Communication and creativity.

Plexus/ glands: Pharyngeal plexus and thyroid/ para-thyroid plexus.

Related functions: Metabolism and calcium regulation⁽²⁶⁾.

Balancing this Chakra helps throat, thyroid, esophagus, trachea, mouth, jaw, teeth, neck, vertebrae and is necessary for the speech and communication areas of the brain^(25, 27).



(Fig. 8)
Sixth / Third Eye Chakra

Sixth / Third Eye Chakra:

Sanskrit: Ajna⁽²⁴⁾.

Symbol: A lotus with 2 petals.

Location: Center of the forehead above the eyebrows.

Inner state: I know.

Color: Indigo⁽²⁵⁾.

Scent: Vanilla⁽²⁴⁾.

Planet: Jupiter.

Stone: Lolite.

Meditation on: I see⁽²⁵⁾.

Property: Psychic.

Main issue: Intuition, wisdom and creative intelligence.

Plexus/ glands: Carotid plexus, pineal gland and pituitary gland.

Related functions: Hormonal/ physiological regulation⁽²⁶⁾.

Balancing this Chakra helps brain and neurological system, eyes, ears, nose, psychic perception and balances the pineal gland^(25,27).



(Fig. 9)
Seventh / Crown Chakra

Seventh / Crown Chakra:

Sanskrit: Sahasrara⁽²⁴⁾.

Symbol: A lotus with 1000 petals'.

Location: Top of the head.

Inner state: Bliss.

Color: Violet⁽²⁵⁾.

Scent: Jasmine⁽²⁴⁾.

Planet: Uranus.

Stone: Amethyst.

Meditation on: I understand⁽²⁵⁾.

Property : Spirituality.

Main issue: Spirituality, Understanding, relationship to God and universal source.

Plexus/ glands: Carotid plexus and pineal gland.

Related functions: Circadian rhythms⁽²⁶⁾.

Balancing this Chakra gives vitality to the cerebrum, helps the central nervous system, the muscular system, skin and affects the development of psychic abilities^(25, 27).

Design ideas:

The design in the Plastic Arts is an innovation or creativity of beautiful things interesting and useful to humans. It is the entire process of planning the form of something and creating it in a way that is not only satisfactory from a functional or utilitarian perspective, but also bringing pleasure and joy to the soul as well. Thus satisfying the beneficial and aesthetic human needs at the same time. Good design is the innovative form that achieves its purpose. Each design in order to achieve its purpose and goal should add new on both formal and functional sides. Utilitarian function is the face of the currency, the other side of it is the aesthetic function which is required.

The designer is an artist with a special sensitivity who can pick up the hidden rhythms and has the expressive ability that enables him to turn these rhythms into a beautiful performance that excites the emotions in the recipient's spirit and moves the sense of beauty in side him. The designer is a receiver that can read the hidden waves in society and the surrounding environment. Express it in an expressive artistic way through a design that touches the recipient's conscience.

The current research focuses on the creation of designs for the printing of single-piece ladies' morning fabrics and their glass accessories, with a new plastic vision based on the use of the theory of color therapy, through a subjective vision of the two researchers in order to achieve the aesthetic and functional values of these fabrics and their glass accessories on the one hand, and enriches the areas of textiles and glass on the other hand by linking them to modern scientific trends.

The single piece design is designed to print a woven or non-woven piece of clothing. It can be printed as a whole unit in cloth or as a separate part such as the back, front or sleeve. It helps to confirm the elongation and straightness of the body with increasing or decreasing visibility for its size. Take control of this design depends on creating a sense of depth that controls the eye and takes it towards the main point, which gives a start in the form and movement. The distribution of the design elements is a

subject to the taste of the designer, who is committed to improve the taste of the consumer.

Technical and descriptive analysis of innovative ideas:

It is noted in the innovative design ideas (1: 14) for printing one-piece ladies morning fabrics that the background is implemented by tie dye technique, while the foreground is implemented by computer techniques. The researcher took into account that the innovation is not to collect elements next to each other, but is the melting of these elements in the crucible of the new work so that each performs another function commensurate with the new position in the artwork. From this point of view, the elements of design have been woven together for each other to create a kind of cohabitation whereby each element can perform its function optimally whether the element occupies a major or secondary center. The issue is closely related to the role that this element plays for itself and for the rest of the elements, so that the design becomes a tangible object in its final form, in which the unity of the building and its general form is understood. Logically known that the judgment of the unity of design as a whole comes through the arrangement of its parts. The unity is the integration of the elements of the artwork with which the conditions between them do not lead to the breakup of the unity of work, but mingled together to achieve this unit, which has an effective impact that helps the intellectual transition from element to another without the slightest burden of mind. The elements were distributed to ensure the values of equilibrium, whether it was pivotal as in design ideas (No.2,3,7,10,12,13) or radiation ideas (No.5,14) or imaginary ideas (No.1,4,6,8,9,11). The rhythm in these design ideas was confirmed through gradation, repetition, diversity and continuity. The parts are proportionate for each other and for the overall composition. The principle of sovereignty was strengthened as the nucleus on which the work is built.

The designs generally show a mixture of shapes in a balanced aesthetic appearance through the cohesion of elements together in harmony and contrast in their relationship, which enriches the value of the design. As also show the use of sharp lines sometimes and soft at other times, in accordance with the aesthetic system of the general shape and to help cutting monotony and boredom on the one hand and emphasizing the inspirational movement on the other hand, where the use of the line expressing shape and movement.

The designs were based on both the line and the shape and the variation of the spaces between them. The colors were used in order to gain the design a kind of bonding arising from that relationship between the shape and the background. In addition to playing the role of echoing the rhythmic harmony of the plastic units with effective participation in the formation of the overall design body. Also the use of color uniformity in the treatment of the visible surface where it achieved a kind of balance in the division of blocks and areas. The colors varied between light and dark. The lights and shadows were used in a codified manner that had the greatest impact on the emphasis on depth, the same result was achieved by increasing the contrast between the sizes of shapes on the one hand and colors on the other. The distribution of hot, cold, bright and dark colors, lights, shadows and soft and coarse textures all in its proper place, confirming each other and the values of rhythm, diversity, balance and imposing a desired unity of the form.

These designs will achieve their desired goal when applied on natural fabrics and worn by exposure to the sun.

In design (1), the tie dye background included three main spiral shapes differ in color and area while the foreground is filled with a pattern of overlapping rhombuses distributed regularly. The tie dye background in design (2) is dominated by a group of overlapping concentric hearts, but the foreground is based on a horizontal bar at the top hanging from it the zigzag lines, where a variety of linear textures are distributed. Red controls these two ideas as it is the color of the root chakra, at base of the spine, which is the target to be rebalanced.



Design 1



Application 1



Design 2



Application 2

The tie dye background in design (3) consists of concentric circular and semi-circular shapes, a crossbar appears at the top of its foreground which is inspired from tree forests. In design (4) the tie dye background contains geometric shapes - square, rhombus, rectangle and triangle - While the top of the foreground shows a crossbar below which linear textures inspired from natural flowers. Orange controls these two ideas as it is the color of the sacral chakra, at Lower abdomen, which is the target to be rebalanced.



Design 3



Application 3

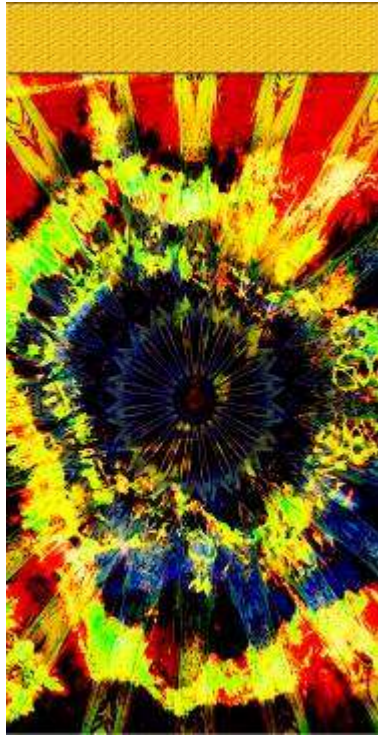


Design 4



Application 4

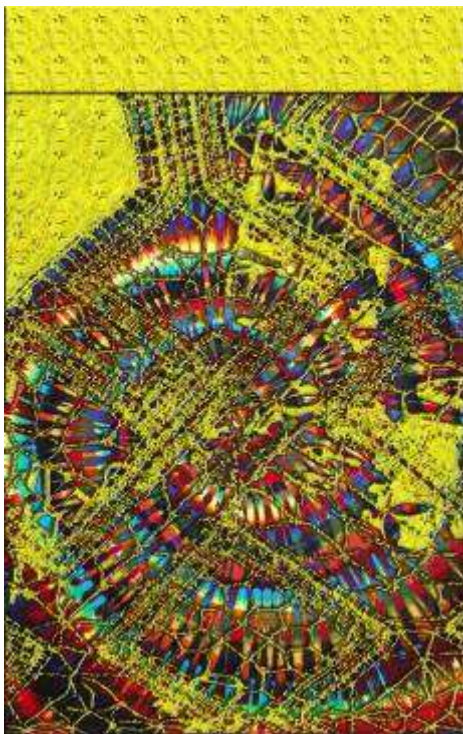
In design (5), its tie dye background and foreground are mixed together in a way that is difficult to distinguish between them, in general circular, spiral and radial shapes dominate this idea. A large central spiral shape occupies the tie dye background in design (6) which its foreground is monochrome with wide tape at the top and a variety of textural shapes below. Yellow controls these two ideas as it is the color of the solar plexus chakra, above the navel, which is the target to be rebalanced.



Design 5



Application 5



Design 6



Application 6

A pattern of overlapping rhombuses distributed regularly in the tie dye background of design (7), while luminous tangled lines inspired from flames of fire filled its foreground. A regular distribution of a fairy shape appears in the foreground of design (8), which its tie dye background mostly derived from flowers. Green controls these two ideas as it is the color of the heart chakra, at the center of the chest, which is the target to be rebalanced.



Design 7



Application 7



Design 8



Application 8

Design (9) depends on three main levels; the lower level is the middle which is the tie dye background and consists of three consecutive spirals, the left and right levels have corrugated lines. The tie dye background in design (10) is horizontal and semi-horizontal lines, while an Islamic floral pattern is distributed regularly in its foreground. Blue controls these two ideas as it is the color of the throat chakra, at the throat, which is the target to be rebalanced.



Design 9



Application 9



Design 10



Application 10

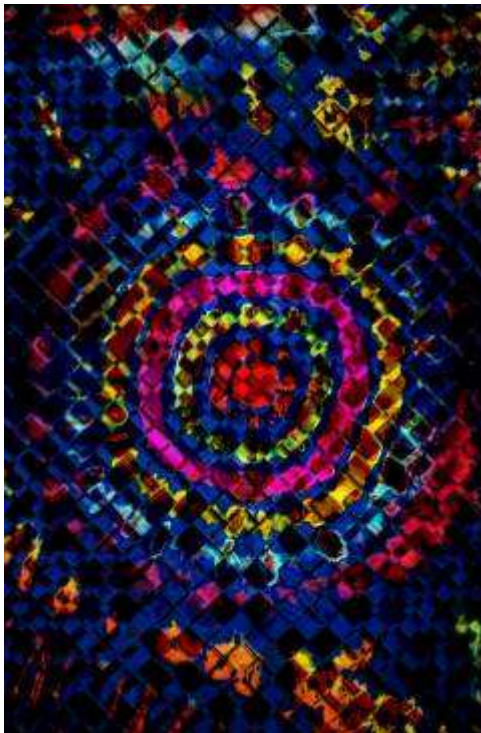
The tie dye background in design (11) shows various radial shapes, the foreground is used to focus on some parts of this background by using intersecting horizontal and vertical lines that surrounding different areas. Round concentric frames with design's focus illustrated in the tie dye background of design (12), the foreground is inspired from mosaic art. Indigo controls these two ideas as it is the color of the third eye chakra, at center of the forehead above the eyebrows, which is the target to be rebalanced.



Design 11



Application 11



Design 12





Application 12

Design (13) shows a random tie dye background, its foreground contains a geometrical Islamic pattern distributed regularly was cut in the middle by a horizontal tape. The tie dye background in design (14) gradually growing from the focus of the design in the outward direction, the foreground is represented in the rhombus in the middle. Violet controls these two ideas as it is the color of the crown chakra, at top of the head, which is the target to be rebalanced.



Design 13



Application 13

**Design 14****Application 14****Design ideas for glass accessories:**

Several design ideas have been developed based on the color therapy theory to be used as supplements for printed ladies' fabrics, by taking advantage of the various glass characteristics such as transparency, shiny colors and brightness, and implementing these pieces using different technical methods to achieve aesthetics of glass accessories which considered to be compatible with printed single-piece ladies' morning fabrics.

Technical and descriptive analysis of innovative ideas:

In design (1), this piece is a glass belt inspired by abstract expressionism, the glass consists of transparent clear glass as a background while the foreground is filled with glass granules differ in color and volume and implemented by using reforming glass techniques (tack fusing) . Design (2) represents glass buttons based on geometric shapes that consists of layers from red glass are executed by reforming techniques (full fusing). Red controls these two ideas as it is the color of the root chakra, at base of the spine, which is the target to be rebalanced.



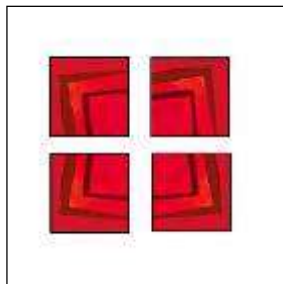
Glass belt



Design 1



Application 1



Glass buttons



Design 2



Application 2

The idea in design (3) is a glass button inspired from tree forests, the glass consists of transparent clear glass as a background while the foreground is filled with different colors of glass painting. In design (4) the semi-transparent glass contains different colors textures inspired from natural flowers and executed by reforming glass techniques to form this glass button. Orange controls these two ideas as it is the color of the sacral chakra, at Lower abdomen, which is the target to be rebalanced



Glass button



Design 3



Application 3



Glass button



Design 4



Application 4

Design (5) is based on using simple geometric shapes and glass is used as a belt buckle executed by using the aesthetics of dichroic glass (refracting). Random shapes occupy design (6) which is formed from a variety of colored glass granules to form this glass pendant which was implemented by (digital printing technique). Yellow controls these two ideas as it is the color of the solar plexus chakra, above the navel, which is the target to be rebalanced.



Glass belt buckle



Application 5



Design 5



Glass pendant



Application 6



Design 6

A glass pendant consisted of overlapping irregular areas distributed in the foreground of design (7) inspired from a butterfly wing. An idea of glass necklace inspired of leaf shapes appears in design (8), both ideas will be executed by digital printing techniques. Green controls these two ideas as it is the color of the heart chakra, at the center of the chest, which is the target to be rebalanced.



Glass pendant



Design 7



Application 7



Glass necklace

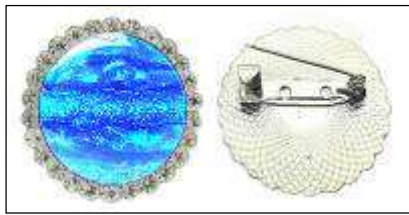


Design 8



Application 8

Design (9) depends on using the aesthetics and simplicity of blue dichroic glass to make a glass brooch which produced by glass fusing technique while design (10) depends on fusing clear blue glass to be executed as a glass brooch. Blue controls these two ideas as it is the color of the throat chakra, at the throat, which is the target to be rebalanced.



Glass brooch



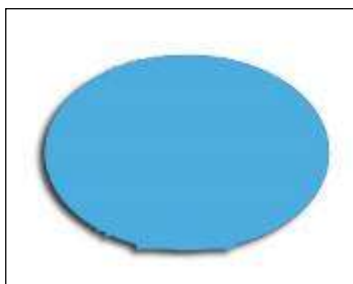
Design 9



Application 9



Glass brooch



Design 10



Application 10

The glass in design (11) shows overlapping of color grades and textures, which made by using the opal glass that can be executed by pressing in the mold, to be used as a glass button. Transparent blue glass in design (12) inspired by flowers to be used as a glass button. Indigo controls these two ideas as it is the color of the third eye chakra, at center of the forehead above the eyebrows, which is the target to be rebalanced.



Glass button



Design 11



Application 11



Glass button



Design 12



Application 12

In design (13), a geometrical Islamic pattern from contiguous circles distributed irregularly to achieve the variety which can be executed by fusing dichroic glass to obtain a glass brooch. The glass in design (14) based on using the aesthetics of fused opal glass to make a glass button. Violet controls these two ideas as it is the color of the crown chakra, at top of the head, which is the target to be rebalanced.



Glass brooch



Design 13



Application 13



Glass button



Design 14



Application 14

Results :

The research reached the following results:

- There are seven main Chakras in our body. They are centers in which vital energy flow through. Blocked energy in our chakras will lead to illness. Each color has a corresponding chakra or energy center and can be used to restore its balance back.

- The researchers created (14) innovative design ideas suitable for printing ladies' morning fabrics and (14) glass accessories ideas depending on color therapy theory aiming to regulate the flow of the color forces by consciously absorbing them as needed -using each ray with the specific purpose of rebuilding, restoring, and re-vitalizing each body organ through the etheric counterparts- to improve the health, make the mind more efficient and develop the spirit-self.
- The integration between textile printing and glass accessories designers on one hand, and between art and science on the other hand, in order to keep pace with the designer for the tremendous scientific and technological progress of the present era.

Recommendations:

The research recommends the need of:

- Encouraging specialized researches that link art and design with science to keep up with the tremendous technological advances of the present era.
- Increasing the designer's awareness of the color therapy basis and its applications in all fields of design to improve human's health , mood and emotions.
- Implementation of applied art scientific researches and their optimal utilization of connectivity between the fields of artistic design, science and industry

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