CHAPTER

1

INTRODUCTION
CHAPTER-1: INTRODUCTION

1.1 Understanding the skin

To understand the cause of vitiligo, it is useful to have a basic understanding of the skin. The skin has two layers - the epidermis and the dermis. Beneath the dermis is a layer of fat, and then the deeper structures such as muscles and tendons.

![Diagrammatic representation of SKIN](image)

Diagrammatic representation of SKIN

There are cells called melanocytes in the bottom of the epidermis which make a pigment called melanin. The melanin is passed to the nearby skin cells, which colours the skin and protects them from the sun's rays. Melanin causes the skin to tan in fair-skinned people. Dark-skinned people have more active melanocytes. The melanocytes are stimulated to make more melanin when exposed to sunlight.
Vitiligo is a condition where pale white patches develop on the skin. It is due to a lack of pigment (colour) in the affected areas of skin. Vitiligo does not make you feel ill. However, the appearance of vitiligo can be distressing. This is particularly so for darker-skinned people where white patches are more noticeable.

Areas of skin with patches of vitiligo have no or very few melanocytes. The melanocytes are either damaged or destroyed in the body. Therefore, melanin cannot be made and the colour of the skin is lost. It is not known why the melanocytes go from affected areas of skin. They may be destroyed by the immune system or self-destruct for reasons not yet known. It is thought to be an autoimmune condition. This means that the immune system (which normally protects the body from infections) does not work properly. Antibodies are produced that can destroy your skin cells that make melanin.

1.2 Origin of the Word Vitiligo

A disease known from time immemorial but with its precise aetiopathogenesis yet unknown, Vitiligo is a global phenomenon. It contributes, on an average, 1% of new patient referrals to skin clinics, with a relatively higher percentage in the tropics and subtropics.

In our country, Vitiligo is one of the major dermatologic problems because of its higher incidence, conspicuously visible cosmetic disfigurements, tremendous psychological sufferings and complex social stigma. Although physically benign; Vitiligo is an emotional painful malady.
The term "Vitiligo" was first used by the Roman Physician Celsus in his Latin medical classic "De Medicina" and it dates back to around 30A.D.

According to Bateman "the white and glistening appearance, bearing some resemblance to the flesh of calves ("Vituli") seems to have given rise to the generic term "Vitiligo". (Nair, BKH., 1978). El Mofty suggested that "vitiligo" is derived from the Latin word "Vitelius" which means "calf"; referring to the characteristic white patches of the disease resembling the white patches of a spotted calf. (El Mofty, A.M. 1968).

Other authors however, believe that the term is derived from the Latin word "Vitium" meaning a fault or blemish. (Dutta AK., 1988).

Vitiligo (Vitium), is a kind of leprosy or cutaneous eruption consisting of spots, sometimes black, sometimes white, called morphea, alpus, melas, leuce, also in general- a cutaneous eruption. (Kopera, D., 1997).

The Hindusthani name of vitiligo is “PHULERI” and in Bengali is called “SWETHI”. In French it is called “Vitium” i.e. blemish or vice. Prof. Momen Mufti of Egypt states that vitiligo means a “spotted cow” which again in Bengali is called “Pakhra Goru”. (Wali, M.A.,1985).

Vitiligo, popularly known as Leucoderma, is apparently a benign cutaneous disorder which as such does not affect the physical and intellectual capabilities of the individual affected, neither the life-span. It is acquired progressive depigmentation of the skin arising out of functional abnormality of the melanocytes. (Learner and Nordland-1978).
Vitiligo is one of the most ancient diseases known to mankind, being mentioned in Rigveda (6000 BC) where the condition is termed "Kilas" meaning a white spotted deer. (Karambelkar, V.W., 1961).

1.3 Vitiligo in Ancient Times

References to Vitiligo have found mention in ancient civilization of the Egyptians, Indians, Greeks, Chinese, Arabs and Hebrews. The oldest information about Vitiligo comes from the Ebers Papyrus writings about Pluraonic medicine. (El-Mofty, AM.,1968).

The earliest references were found in 2200BC in the period of Aushooryan, mentioned in the old literature of Iran, “Tarikh-e-Tibb-e-Iran” as proclaimed by Central Council for Research in Unani Medicine (CCRUM), Ministry of Health and Family Welfare, Govt. of India in its book, “Clinical studied on Bars (Vitiligo), publication No. 19,1986.

1.4 Vitiligo in Eastern Literature

There are references to disease with whiteness of the skin in the early classics of the Far East. In Makatominoharai, a collection of Shinto prayers of Mongolians, there is mention of Shira-bito meaning “white man” and these writings date back to around 1200 BC.

1.5 Vitiligo in China

The oriental medical books describing hypopigmentary disorders included Vitiligo for the first time in the period of the Sui Dynasty (618-626 AD). Later, in the Sung Dynasty (960-1279 AD) it was classified as localized and generalized type. The importance of its early treatment was emphasized during the Ching Dynasty (1664-1912 AD). (Hann, SK., Chung, HS., 1997).
1.6 Vitiligo in Korea

An old Korean medical book, Dongey Bogam (published in the early seventeenth century) mentioned about hypopigmentary disorders and their therapy. Dancers of an old traditional Korean dance (called the Mask Dance) wore funny looking masks. Some had white faces of albinism or vitiligo which implies that vitiligo was a well known disease to the general public.

1.7 Vitiligo in Greek Literature

A disease suggestive of Vitiligo finds mention in the writings of Greek Historian Herodotus (484-425 BC). A passage from his first book “Clio” says, “if a Persian has leprosy or white sickness, he is not allowed to enter into the city or to have dealings with other Persians; he must they say, have sinned against the sun.” Foreigners attacked by this disorder are forced to leave the country, even white pigeons are often driven away as guilty of the same offence. (Goldman, L., Moraites, RS., Kitzmiller, KW., 1966).

1.8 Vitiligo in Koran

In ancient Arabic book, “White Skin” was expressed as “baras”, “bahak” and “bohuk”. The word “baras” is mentioned in the Koran Ch 3 v 48 and Ch 5 v 109. In accordance with God’s will Jesus was able to cure people with Baras.

1.9 Vitiligo in Bible

Reference to “white spots” in the Bible dates back to 1405 BC where in the book of Leviticus Ch 13, there is usage of the Hebrew word “zora at......”.

Controversy had arisen because in 250 BC when the Hebrew Bible was translated into Greek; the 70 scholars of the "Septuagint" translated the word "zora" to "Lepra". The leprosy of Naaman, a commander of the army of the King of Aram and Gehazi could also be indicative of vitiligo "as white as snow".

1.10 Vitiligo in Indian Literature

The Indian sacred book Atharva Veda dating back to 1400BC refers to a disease "Kilas" (where "Kil" means "white"), therefore "Kilas" most probably refers to Vitiligo where the colour is cast away resulting in a white patch. Another term used for vitiliginous patches in ancient Indian medical literature is svitra. This word is mentioned in Charaka Samhita dated 800 BC. In the Sanskrit dictionary, Amarkosha (600 AD), the word svitra is translated as spreading whiteness. (Nair, BKH., 1978).

According to the Sanskrit dictionary, "Sweta Kushtha" means 'that which makes the body ugly or spoils the blood'. (Singh, G., Ansari, Z., Dwivedi, RN., 1974). There is also reference to 'svitra'. It is said that people suffering from svitra were respected in society.

In Amarkosha the term svitra has been used synonymously with 'padosphota' meaning 'flower of legs', 'twakpuspi' meaning 'flower of skin' and 'sidhmati' which means 'spreading whiteness'.

In Vinayak Pitak (624-544 BC) the sacred book of Buddhism, there is mention of a disease associated with white spots and persons so suffering were not eligible for ordainment.

In 1400 BC mention of Leucoderma as a variety of leprosy (Sweta Kustha) along with prescription of several herbal remedies

1.11 Management of Vitiligo in Ancient Indian Medical Literature

Several herbal remedies for the treatment of Vitiligo have been mentioned in ancient Indian medical literature. The suggested Ayurvedic herbal remedies in the book highlighted the value of Vasuchika which was later identified with the plant Psoralia corylifolia or Babchi, the seeds of which (bouchi seeds) provide a source of active furo coumarin in the oil extracted from these seeds, dominating as the chief therapeutic agent for treating Leucoderma in our country till fourth or fifth decade of the present century. (Hoerule, AFR., 1912). The application prepared from the seeds of radish and babchi seeds pasted in cows urine or red arsenic prepared with peacock’s bile, or the application of seeds of babchi, lac or bile, extracts of Indian Berberry, antimony, long pepper and iron powder are all curative of Svitra’.

In Fruit “Malapu” (Fiscus hispida) has also been mentioned in the “Charak Samhita” where the fruit is powdered and given orally in the dose of 3-12gm/day with an equal amount of jaggery. The patient then sits in the bright sun, exposing the affected part for a period of 1-2 hours or till sweating occurs. Blisters are produced on the skin and after they rupture, repigmentation starts.

The “Atharva Veda” has mentioned two drugs: Asikni and Shyama which helps in repigmentation.

Reference of a similar drug, named ‘pu-ku-c’, for treating leucoderma has also been mentioned in the ancient Chinese
literature. Long after, in thirteenth century, Ibn El Bitar in Egypt mentioned about the cure of leucoderma by an Egyptian herb known as Ammi Majus Linn growing freely in the Nile delta and the fruit extract furcoumarin was eventually identified in the twentieth century (Fitzpatrick, T.B., Pathak, M., 1959).

Ibu El Bitar who lived in the 13th century AD mentioned this plant in his book Mofradel Al Adwiya (Arabic). The usefulness of this plant was first known to a Berberian tribe named Ben Shoeib in North-West Africa under the name Aatrilla. This tribe used to sell the drug to vitiligo sufferers, but kept its nature secret.

In ancient Korea sulphur or specially formulated arsenic or mercury ointment was applied on the vitiligo skin and primitive phototherapy was used. Juices of fig fruit and leaves, unripe walnut shell, moss, Japanese parsley, buttercups, rice bran- were all used on the skin which was exposed to sunlight. Often patients ended up with severe sunburn. A method of skin irritation by application of garlic, ginger and vinegar was also used. As a systemic treatment herb, medicine containing ginseng, black sesame, white peony, sweet flag plant, barberry root and chaulmoogra seeds were used. Some herb medicines like parsley and angelica contained furocoumarins and hence could induce photo-sensitization.

Some doctors of Oriental medicine used Acupuncture to stop the spread of Vitiligo. Cosmetic camouflage by applying red bean powder was also used.

In 1947, Fahmy and Abou Shady isolated three crystalline compounds from the powder of Ammi Majus Linn. These were 8 methoxyproralen (Ammoidin), 5 methoxypsoralen (Bergapten) and
8-iso-amyl imoxypsoralen (Ammidin). (Fahmy, IR., Abou Shady, HAA., 1948).

1.12 Some Definitions of Vitiligo:-

Definitions by different Dermatologists are given below:

i) Vitiligo is acquired idiopathic leucoderma. (El-Zawahry, M., 1971).

ii) It is the characteristic progressive diminution of melanosome production by melanocytes leading to the development of localized, scattered, confluent white macules and sometimes to a general loss of pigment over the entire skin surface. It mainly affects the periorificial areas like around mouth, nose, eyes, nipples, umbilicus and anus. Other areas include flexor wrists and extensor distal extremities. (Fitzpatrick and Mihm 1971).

iii) Vitiligo, a genetically determined patterned loss of melanin pigment resulting from the destruction of melanocytes. (Lerner, A.B., 1972).

iv) Vitiligo is development of depigmented (loss of normal colour) patches on the skin anywhere on the body. (Behl, P.N., 1976).

v) Vitiligo is a common acquired idiopathic hypomelanosis which is often familial and is characterized by pale white macules that enlarge centrifugally over time. (Mosher, D.B., Fitzpatrik, TB., Ortonne, JP., 1979).
vi) Vitiligo is an area of acquired cutaneous depigmentation due to loss of normal melanocyte function. (Mackie, RM., 1981).

vii) Vitiligo signifies any white spot or mark on the skin which is acquired and idiopathic. It is probably a genetically determined patterned loss of melanin pigment that follows the destruction of melanocytes. (Panja, S.K., 1984).

viii) Vitiligo is a common disorder in which loss of melanocytes results in areas of depigmentation. (Dobson, Richard, L., Abele, Donald C., 1985).

ix) Vitiligo is an acquired idiopathic depigmentary condition, which, though worldwide in distribution, is most common in India, Egypt and other tropical countries (Buhl, P.N., 1987).

x) Vitiligo popularly known as Leucoderma, is apparently a benign cutaneous disorder which as such does not affect the physical and intellectual capabilities of the individual affected, neither the life-span. (Dutta, A.K., 1988).

xi) Vitiligo is an acquired hypomelanotic disorder where sudden appearance of hypopigmented patches on the body produces cosmetic disfigurement and psychological turmoil. (Ortonne J.P., Bose S.K., 1993).

xii) Vitiligo is an acquired disorder of depigmentation characterized by loss of melanocytes from the epidermis, the mucous membranes and other tissues. (Arndt, K.A., 1996).
Vitiligo is an acquired depigmenting skin condition that results from the destruction of the melanocyte. (Fernandez, R., 2000).

Vitiligo denotes an acquired primary, usually progressive melanocytopenia of unknown etiology, clinically manifested by circumscribed achromic macules often associated with leukotrichia and histologically by degeneration and disappearance of melanocytes in the involved skin and not infrequently in the pigment epithelium of the eyes, leptomeninges and inner ear. (Dutta, A.K., et. al 2001).

Vitiligo vulgaris, a fairly common dermatosis with autoimmune aetiological background, is reported to be associated with other immunological disorders, like autoimmune thyroiditis, morphea and alopecia areata. (Gangopadhyay A., 2002).

Vitiligo is a common, often heritable, acquired disorder characterized by well-circumscribed milky white macules devoid of identifiable melanocytes. (Kumar, S., 2003).

Vitiligo is a heritable disease with melanocytopenia. (Srinivas, C.R., 2004).

1.13 Signs:

a) Sudden or slow appearance of whitish spots or patches on skin, appearance of first vitiligo signs on body parts like face and hands that are mostly exposed to sun rays.
b) Vitiligo also affects hair follicle cells and retina of the eye may get damaged.

1.14 Area:

Vitiligo can affect any area of the skin but most commonly occurs on skin i.e. exposed to the sun (face, neck and hands). It is more noticeable in people whose skin is dark or tanned.

1.15 Risk Factors:

1) Addison’s disease (i.e. decreased production of hormones by the adrenal glands)
2) Family history of vitiligo
3) Hyperthyroidism (i.e. overactive thyroid)
4) Pernicious Anaemia (i.e. decrease in red blood cells due to poor vitamin B12 absorption).

1.16 Age as Related to Onset of Vitiligo:

About one-fourth of all individuals with Vitiligo note its onset before the age of 10 years and half before the age of 20 years. Only 10% to 15% of patients will develop vitiligo after the age of 42 years.

In UK, about 1 in 100 people have vitiligo. It usually starts to appear at around 20 years of age although it can occur at any age.

1.17 Geographical Location (for eg: Urban and Rural) Related to Vitiligo:

Vitiligo affects overall 0.5% to 5% of the population. In India, especially in villages the prevalence has been found to be as high as 5%.
1.18 Sex (Male and Female) Related to Vitiligo:

The disease affects both the sexes equally. The number of females affected with vitiligo is significantly greater than the number of males. The female to male ratio can vary 2:1 to 4:1. The incidence between the sexes follows the general population without any particular predilection. Some reports of female predominance probably reflect their greater concern for cosmetic disfigurement and related socio-marital problems. (Howitz, J., 1977).

1.19 Matrimonial Relationship connected to Vitiligo:

Even though vitiligo is innocent, innocuous, non-infectious and non-contagious but it has vital significance in matrimonial relationship, when the white spot is visibly distinct in the exposed area.

1.20 Religion Related to Vitiligo:

Our country is deeply ingrained with ancient religious belief and any blemish on skin is the sign of moral impurity. Skin lesions are typically and irrationally regarded as “dirty” and they are to bear the cross of stigma. This is a social paradox.

1.21 Chronicity Related to Vitiligo:

The disease is usually progressive in nature. In many cases the lesions develop on different areas in quick succession following the onset, in other cases development and extension of new lesions takes place in phases with intervening period varying between weeks and years. The lesions after reaching certain dimensions may remain stationary for infinite period; many show even spontaneous regression over certain parts.
1.22 Skin and Mind:

Skin has personality of its own and is of immense importance of all body organs as an instrument of expression. The skin per excellence is a highly sensitive organ and is the most peripheral organ exquisitely sensitive to pleasurable touch, critically sensitive to temperature (heat and cold) and acute in painful stimuli. According to Comel, skin has been regarded as the "Peripheral Brain". The skin is an essential part of the individual's temperament and personality.

Embryologically, the relation of the skin to the brain, both of which are derived from the epiblast, is well recognized. The skin is not only an extension of the primitive central nervous system but also becomes an essential part of the individual's temperament and personality.

Skin is the canvas on which most of the common emotions like anger, fear, embarrassment, etc. are reflected. A healthy and normal skin is essential for a person's physical and mental well-being. It may be said that the state of mind and the state of skin affect each other reciprocally, and the person's reaction is further conditioned by his personality and the social attitude of the community towards skin afflictions. (Behl,P.N., 1987).

Health of a person in its real sense reflects the healthy conditions of both skin and mind; Healthy skin is a source of pleasure not only to its owner but also to the one who looks at it. To possess a nice skin is a great social and economic advantage. A healthy and normal skin is an important aspect of an individual's sexual attractiveness.
As an organ of touch, temperature and pain sensation and an erogenous zone, the skin has great psychological significance at all ages. It is also an organ of emotional expression and may be a site for physiological discharge of anxiety. (Fenichel, O., 1945).

The relationship between the skin and mind, in health and disease has already been mentioned in the literature cited above but with the development of modern medicine, the relation between them is better established. Skin develops from the neuro ectoderm and hence, skin is an extension of the nervous system and emotion can, therefore influence the skin affection. (Dey, N.C., 1966).

Body (soma) and mind (psyche) are inseparable as one affects the other constantly both under physiological and pathological conditions. The interrelation between psyche and soma is as much evident in reference to any organic system of the human body as it is, if not more, in reference to the skin, the largest organ of the body. The skin is referred to as the mirror of the mind, an organ of emotional expression, a vital sensory organ, a dynamic protective membrane between the organism and the environment, while the environ is a chief contributor in composing one's psychical build, the ulterior function of which (i.e. of physical build) is also self-protective in nature, a function of self-preservation and expansion in the face of hostile situation of life. (Dutta, A.K., 1970).

A common relationship between the psyche and the skin is the very natural one of depression to a persistently itchy and cosmetically disfiguring skin disease. We see each other by our skin. A healthy skin is intimately bound up with our own self-regard and self-esteem. When it is disfigured congenitally or deformed by
disease we feel inferior and this feeling gets exaggerated by the revulsion and unfeeling comments of other people who come into social contact with sufferers from skin disease. (Marks, R., 1984).

A patient with a skin disease becomes the target of rejection, withdrawal of affection, ridicule and sexual isolation. He faces difficulty in interacting with others, cannot participate in group activities and recreations, his/her colleagues at work complain about him; when the white spot is visibly distinct in exposed area, his (more in case of girls) chances of marriage are adversely affected and marital discord increases. Wittkower opines that "it is reasonable to estimate that emotional factors are of significant etiological importance in something between one quarter and one half of all skin diseases. (Behl, P.N., 1987).

The interaction between mind and the skin may take many different forms. If a patient is not a “stress responder” with respect to his or her cutaneous disease, the patient may still be devastated emotionally by the disfigurement. In many cutaneous disorders, such as Vitiligo or Alopecia Areata the psychosocial impact of disfigurement is the main morbidity. (Koo, JYM., 1987). The skin, situated at the interface of the organism and its environment is well-recognized as an important somatic mirror of one’s emotions and a site for the discharge of anxieties. The cosmetic disfigurement, physical discomfort or social stigma that accompanies skin disorders may have profound effects on the patient’s peace of mind and his capacity to establish social relationships. (Malkani, R.C., 1994). Somatization is an important concept that recognizes that an emotionally distressed patient is more likely to present with physical
symptoms than to complain about psychological or social problems. (Murphy, M., 1989).

Psychological factors often play an important role in the diagnosis and management of patients who present with a chief complaint related to their skin. (Dover, J.S. et.al 1996). The skin and the nervous system have a common embryological origin, which supports a positive connection between skin changes and psychological phenomena. The skin represents both the symbolic and literal boundary between the internal and external environments, and any conflict or stress may manifest as cutaneous changes.

A large proportion of patients with skin disorders have associated various degrees of psychic disturbances, which may be the cause and/or effect. Understanding of the mind-body interaction has been attempted since ages and has gradually grown from anecdotes to epidemiologic studies to patho-physiological science. (Singh, G., 2001). Skin is the surface of contact between us and the environment. We extend beyond our skin; we “invest” or place energy in friendships, love relationships, ideas and ideals outside of ourselves and even outside of our time. (Nadelson, T., 1979).

1.23 Emotional Reaction to Vitiligo:

It is seen that disfiguring skin lesions may profoundly affect a person emotionally to a high degree and quite often lead to psychological morbidity like anxiety, depression disturbed self concept, shame, embarrassment and a poor self-image in a high percentage of subjects afflicted with Vitiligo. (Jowett, S., Ryan.T., 1985). Sufferers from vitiligo have low self-esteem. (Porter, JR., 1986).
The concept of stigmatization is important in this context and can be defined as a biologic or social mark that sets a person off from others, is discrediting and disrupts interactions with others. (Ginsburg, JH., Link BG., 1989).

Disfiguring skin lesions may profoundly influence the emotional development of the patients, which is also affected by the attitude of the patients, teachers and friends and society at large. With the approach of puberty, a disfiguring skin disease becomes an increasing anxiety to many patients and may impede them from establishing easy relationships with the opposite sex. Some become introspective and solitary, while others become aggressive and non-cooperative. Such patients also suffer from psychological distress which is apparent in their social interactions and does not lessen with age. Individuals with skin problems in important body image areas may be depressed. (Jowetts, Ryan, T., 1985).

It has been noted that the effective management of one-third of patients attending skin departments depends to some extent upon the recognition of emotional factors. The relationship between the mind and the skin is usually complex and may range from natural anxiety over disfiguring skin lesions through disproportionate worry over minor blemishes, to disturbances of body image which lead patients to become obsessed with their skin in the absence of any abnormality. Lowered self concept, Anxiety and Depression are the commonest underlying psychological factors. (Koblenzer, C.S., 1983, KooJYM., 1989, and Panconesi, E., 1984).

Vitiligo can affect a person's emotional and psychological well-being and may create difficulty in getting or keeping a job. People
with this disorder can experience emotional stress, particularly if vitiligo develops on visible areas of the body, such as face, hands, arms and feet. Adolescents, who are concerned about their appearance, can be devastated by widespread vitiligo. Some feel embarrassed, ashamed, depressed or anxious about how others will react. (Shuster, S., Fisher, G., Harris, E et al 1978).

According to Robert Griesemer’s 4576 case study with patients having skin diseases (Padus-1992) it was inferred that suppression of mental irritation of high intensity can aggravate unhealthy skin conditions and may also generate in mind an obsessive urge to scratch a healthy skin until it gets bruised and soared to pacify psychomotor disturbances.

The diseased skin binds and limits the full scope of a normal repertory of feelings. Anxiety, love and anger all stop at the skin. The patient’s family also shows distress and frustration. Although Vitiligo is not painful or life threatening it may negatively affect the patient’s quality of life by occasioning a great deal of emotional pain. Vitiligo is not ‘serious’ by medical standards, but can have serious psychic consequences. Persons feel that the prognosis is hopeless, and think that neither family nor physician cares about them. So, Vitiligo patients manifesting poor self concept, anxiety and depression may be in need of proper psychological diagnosis and psychotherapeutic intervention.

1.24 Psychological and Social Aspect of Vitiligo:

Psychological factors in dermatology deal with two groups of patients where a skin disease exists but gets aggravated by psychological pressures. People having vitiligo face tremendous
social and psychological difficulties. Sometimes their psychological condition deteriorates so much that they start thinking about committing suicide. Sometimes victims are terminated from employment because many people believe that the disease is contagious. It is also a wrong assumption that if any parent has vitiligo, it can also get transferred to the child.

Vitiligo is not associated with any physical symptom but it can cause tremendous psychological suffering arising out of social stigma consequent to widespread prejudice, ignorance and lack of scientific appraisal by the community (Dutta, A.K., and Banerjee, B.N., 1973). Anxiety and Depression are frequently encountered in dermatology practice which may result in Social Phobia. The conspicuous depigmenting lesion appears bizarre and can be very disturbing psychologically especially in dark-skinned people. (Saraf, V., Sarangi, K., Amladi, S., 2000).

Furthermore, the chronic nature of the disease may induce a mood of serious depression or emotional upset which makes it difficult for the patient to follow accurately the physician’s instructions and help his/her own treatment. (Rhodes, E.L., 1984).

Patients with vitiligo are usually active and tense and some are aggressive. They often have familial and interpersonal conflicts and feel threatened by an emerging hostility. Because of the disease, they often show great concern over other people’s opinion of them. They feel looked at and talked about, their ideas regarding themselves are affected. (Lerner, A.B., 1972). The patient suffering from vitiligo has to undergo social humiliation and pressure. Even in modern times in both rural and urban areas as soon as the disease is detected the
victimized individual is stamped and people behave indifferently toward the individual for example they pass remarks on him, treat him as if he is a pitiable person. In rural areas the person is perceived as an ugly being, a cursed soul and inauspicious and hence ostracized by society. These social pressures make the victim anxiety ridden, lower down his self concept and self esteem and aggravates morbid depression and aggression. Due to these psychological pressures, the symptoms (instead of improving) become chronic. (Porter, J., Beuf, A., Nordland, J., Lerner, A., 1979, 1978). Vitiligo is a disease of psychosocial sufferings.

The slightest spot on the skin may call forth a psychological fear in the minds of aspiring marriageable brides and bride grooms. Affected persons are shunned by the society presumably to render others safe. Thereby the public at large maintain a disdainful distance from the sufferers. Many patients with lesions and spots develop inferiority complex and believe that they are social outcast (Wali, M.A., 1985).

Porter et al (1990, 1988) described the ways vitiligo can affect social and sexual relationships. A majority of patients reported that they experienced anxiety and embarrassment when meeting strangers or beginning a new sexual relationship. However, when persons are able to adjust to the reality of their disfigurement, they can adjust effectively in the social milieu. (Patridge, J., 1994).

Vitiligo may be a severe social and economic handicap as a physical defect because of the profound social significance of appearance and the attitudes of society toward one whose appearance is atypical. Still nowadays, in rural as well as in urban
areas, as soon as the disease is detected, the person is stamped and people begin to behave differently with him.

Whenever a person gets a severe, chronic disabling or disfiguring disease, he/she often asks as to why he/she got it? These thoughts indicate that the patient considers it as a punishment presumably caused by unconscious feelings of guilt. Many patients attribute skin lesions to a sexual causation which stems from distortions in thinking during the earliest years of life. Nothing is more punitive than to give a disease a meaning, that meaning being invariably a moralistic one (Sontag, S., 1978).

All of us have a mental impression, a body image of how we look and we all assume that “this is how others see us”. (Coterill, A., 1986). Age, cosmetic changes, social norms and drugs modify one’s body image. Depression is the most common psychological illness in which Dysmorphophobia occurs.

Vitiligo is one of the commonest skin diseases seen in dermatologic practice and is believed to affect an estimated 40 to 50 million people worldwide. (Nordland, JJ., et.al. 1993).

Social behaviour can be adversely affected by a pigmentation disorder. It is extremely difficult for young men to obtain jobs, especially when involvement of the face or other exposed areas makes the disease so conspicuous. Similarly, under the Hindu system of family-arranged marriages, it is almost impossible for a young girl with vitiligo to be given in marriage and if at all she gets married the father has to offer a much larger dowry. There is also the fear that vitiligo will be passed on to the child.
In rural India, ancient myths and stigma persist to the most modern times. The popular belief is that if the body of a person affected by Leucoderma is buried, the area would get no rain. (Mosher, D.B., et.al. 1979).

Pt. Jawaharlal Nehru ranked Vitiligo as one of the three major medical problems of India after Leprosy and Malaria.

In some Indian religious texts (Fitzpatrick, T.B., 1993) it is said that a person who did "Guru Droh" in his previous life suffers from vitiligo in this life. Thus in India people afflicted with the disease have more social problems than in other countries. In our country, a married woman developing vitiligo after marriage shall have marital problems to the extent of getting divorced. Also, sometimes strangers and even close friends can make extremely hurtful and humiliating comments subjecting the person to emotional distress and interference with their employment. (Ginsburg, I.H., 1996). Vitiligo lesions over exposed areas can affect a person's chance of getting a job and hence restrict career choices. Patients, if children often lose vital days from school and parents may have to take time off their work to regularly accompany them for hospital appointments. (Hill-Beuf, A., 1984).

Stigma in Vitiligo can be defined as “characterized or branded as disgraceful or ignominious”. They can be related to fear of negative evaluation, anxiety and depression. Skin disease carries the taint of contagion and is something which is socially unacceptable because of public ignorance and superstition. Disfiguring skin lesions may profoundly influence the emotional development of a child which is also affected by the Attitude of parents, teachers and later the society.
at large. With the approach of puberty, this disease becomes an increasing anxiety to many teenagers and may impede them in developing easy relationships with the opposite sex. The adolescent may become increasingly introspective and solitary, or aggressive and non-cooperative. (Boulos, M.N.K., 2005).

In general, young adults with severe vitiligo, and those for whom appearance is important have more difficulty in coping with the disease. Particularly, in teenagers, mood disturbances like irritability and depression are common.

1.25 Treatment:

- **Psychotherapy**: It includes creating awareness of the disease and its treatment to patients and his/her family.

- **Combination treatment**: Such as phototherapy and medicine give the best results.

- **Photochemotherapy**: It is done through UVA or UVB bulb rays with the help of psoralen drug.

- **Homeopathic treatment**: It is done by natural products or medicines like Babchi oil or Anti-vitiligo oil.

- **Transplantation**: It is the transfer of pigment producing cells (melanin) from one body to another depigmented part of body.

- **Improving the Doctors interpersonal skills**: With the vitiligo patient increases their satisfaction and may have a positive effect on adherence to treatment protocol and better outcome.
Vitiligo hits the psychological level of the patient i.e. the affected person loses integrity, power, confidence and dedication.

With this objective in view and in the context of Psychological ill-effects of Vitiligo as described above the present investigator will carry out this research work on “Self-Concept, Anxiety and Depression of Vitiligo Cases and People’s Attitude Towards them”.

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