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The hypothesis that mind and body are related, dates back to pre-scientific era but had its scientific credibility only recently. The father of psychoanalysis Sigmund Freud, stated that psychological problems can get manifested as physical symptoms as in the case of Conversion Hysteria.

Dunbar (1955) identified many physical problems which are caused due to psychological factors and they were named as Psychosomatic illnesses. More recently the works triggered by the model of stress and strain provided by Hans Selye (1974) have found evidences beyond doubt for the relationship between mind and body. Many psychological factors and problems were found to be either causing or influencing many physiological disorders. Some theorists attempted to link "Symptom choice" not only to the nature of the conflict but also to personality type.

Personality is one such major psychological factor which is found to be related to the physical illness in a variety of ways. Friedman and Rosenman (1974) found that a particular type of personality called Type A Personality characterised by trades like drive to succeed, aggressive and competitive ways, were found to be more susceptible to coronary heart diseases, CHD. To give another example, Kobasa (1979) found that particular type of personality type called Hardyness were found to be negatively related to physical illness. Many other researchers have also pointed out the link between the personality and physical health.
Researchers have identified the specific personality syndrome causing specific diseases like cancer prone personality, CHD prone personality, peptic ulcer prone personality, jobs (Kesseler; Watman 1987).

The holistic or unified concept of the body and mind has lead to the development of a new research discipline, BEHAVIORAL MEDICINE, also called "health psychology". The field of HEALTH PSYCHOLOGY is also made possible due to the recent advances in medical profession and the emergence of a robust psychology.

Behavioral Medicine is combined of three historical trends. The first is the holistic thinking: the recognition that our way of living and state of mind effect our physical well being. The second is the acknowledgment that the science of psychology with its accumulated wisdom regarding emotional and intellectual functioning has much to contribute to the study and cure of physical illness. The third is the discovery that certain treatments pioneered by behavior psychology, such as biofeedback and relaxation training can help to relieve stress related physical ailments. One of the most dramatic and serious questions challenging mankind today is to manage the problem of blindness.

A person is regarded as blind if he is unable to perform any work, for which eyesight is essential. In the United Kingdom some 116000 people are registered as blind, but of these people a small proportion, about 10% are totally blind, i.e. they are not able to differentiate between dark and light. As there is no statuary definition of partial sight, in talking about blindness,
It is often easier to use the term visually handicapped as it is a better description of the total situation.

Blindness is caused mainly by three diseases namely cataract, glaucoma and senile degeneration of the retina or retinal detachment. There are other conditions that are less common causes of blindness such as optic neuritis, intracranial lesions and accidental trauma.

CATARACT

Cataract is an eye disease, which is largely a disease of the elderly but may also be congenitally determined presenting either at birth or later during the developmental process. Cataract can start in the eye from 4 to 5 decades to 5 to 6 decades. Its incidental rate - according to the 1990 census says, 81% of the blindness in our country is due to cataract. The incidental rate amongst men and women is the same.

Cataract is of two types - soft cataract and brown cataract. Soft cataract matures very fast, it may start at the age of 45 and mature in a few years time, whereas brown cataract takes a very long time to mature. It can start in the eye at the age from 50 years to 60 years and may mature by 70 years or later, the patient sometimes dies and the cataract still remains immature.

In India we find cataract of both the types. The onset of cataract and the maturation of cataract both are faster in India, than in other foreign countries, the incidental rate is higher in India than foreign countries. The reasons could be malnutrition,
direct exposure to the ultraviolet rays of the Sun; some chemical changes or reaction inside the body, these factors are not relevant to foreign countries.

There are other factors, which are responsible for the formation of cataract, some diseases, particularly like diabetes, myelitis, some vitamin deficiencies and trauma. In the tropical countries it is thought that ultra violet light may be partly responsible in the formation of cataract. Also undue exposure to heat or cold might be a possible factor.

Semile cataract is the type most commonly seen and it is the degenerative process of the lens. The change associated with presbyopia occurs, the lens becomes less transparent and tough, but in addition it becomes yellow in color and opaque. The opacity prevents refraction of light.

Although referred to as senile cataract, the change may begin to develop early in the middle age, by the age of 70 years the majority of individuals have some lens changes which may, however, cause only slight difficulty with the vision.

GLAUCOMA

Glaucoma is one of the leading causes of blindness all over the world. In the recent studies conducted in various countries of the world it was found that Glaucoma affects mostly middle age (4 to 6 decades) and 1.5% to 2.5% of population suffers from glaucoma. In this disease the pressure inside the eye (intra ocular pressure) is raised, and if not controlled early, it adversely affects the optic nerve head of the eye and leads to
permanent blindness, this blindness which is permanent not only brings misery to the individual but also results in loss of productivity and affects the physical capacity of the individual.

Blindness due to retinal condition is also common worldwide. The incident rate of blindness in retinal detachment is less than 0.5 or so. The occurrence of retinal detachment is found more in males than in females in the population. Retinal detachment can take place due to heavy weight lifting, sudden jerk, trauma in the eye, and it is also hereditary. It is more common amongst the myopics. There are two very important retinal diseases leading to blindness - Retinal detachment and senile degeneration of the macula.

Retinal Separation:

The condition which is often called detachment may more accurately be described as separation of the retina. It is found that, in myopic patients retinal separation occurs usually between 3 and 4 decades and is more common in men than in women. Separation is a gradual condition starting often at the periphery where the retina is thinnest and extending gradually until the affected eye is totally blind. This process may take only days or may extend over weeks and months.

Retinitis Pigmentosa (Primary pigmentary degeneration of the retina)

This is a slow degenerative disease of the retina usually occurring in both the eyes and being hereditary. The most
characteristic symptoms are night blindedness and complaints of failing vision in poor lighting conditions. The onset is often during the early teenage with gross handicap occurring in the middle or advanced age. No treatment is available but the patients may be prescribed some aids to help with mobility until blindness is total.

STATEMENT OF THE PROBLEM:

The relationship between medical profession and application of psychological understanding and intervention procedure is no longer restricted now, lot of research is carried out to find significant association between the two.

The psychological processes like, thinking, learning, emotions, etc. influence and affect the body functions to such an extend that, serious attempts are made by physicians and psychologists to constantly explore the resources and skills to understand the complex psychophysiologic diseases.

It has become almost impossible to keep the boundaries of medical profession and application of psychological concepts and theories. Selye (1956) postulated that any life change could act as a stress causing physiological arousal and enhancing susceptibility to illness. Many writers have pointed out that psychosomatic diseases are mainly affecting western advanced civilization. In developed countries like U.S.A., U.K. and Japan, who have different cultures, socio-economic groups, social structures etc., psychosomatic diseases like high blood pressure, peptic ulcers are found more amongst the upper socio-economic
group. However, in the last 40 years, our country, India, has made significant progress in socio-economic status and industrialization. In its wake, Indians have also been found out to be suffering from stress. This stress and strain have affected all the spheres of our life, work places, home environment, social structure and many studies have been undertaken as to how this stress and strain contribute to the causation of such psychosomatic diseases like high blood pressure, peptic ulcers, etc. The influence of stress in the predisposition of such an important eye disease as Glaucoma was studied by Thakore et al (1985) at Banaras Hindu University Eye Hospital, Varanasi, and a significant correlation was found out in favour of a hypothesis suggesting that stressful state is probably a significant factor for the predisposition of Glaucoma.

There can be many contributing factors in the formation of glaucoma condition. Under this study the researcher has focussed on how in a developing country like India, such factors with a different culture group, work and home environment, social structures, contribute to the causation of common eye disease conditions which lead to blindness and which types of personalities are more prone to them.

One such study was undertaken on level of neuroticism and level of anxiety in primary open angle glaucoma patients (Mathur 1988), on the basis of the conclusion of this study, the researcher is motivated to explore more about the personality factors contributing to the diseases such as Cataract, Glaucoma and Retinal detachment in the eye. Therefore the present problem
was formulated: "A STUDY OF PERSONALITY FACTORS IN PATIENTS WITH COMMON EYE DISEASES".

THEORETICAL BACKGROUND

In the terms of sociology, man is considered a social animal. In short, an individual is a psychobiological unit having continued interaction with the environment. The relevant social cultural factors are important to this interactional view for the environment affects the types in incidence of disorders found in different groups. The ailment to which people are most vulnerable, whether physical, psychological or both are determined in no small part by when and where they live. Likewise on a more specific level the life situation of an individual has much to do with the onset of a disorder, its form and duration or whether not he recovers. It is therefore very necessary to approach a disease process in an individual both from a physiological as well as psychological point's of view. In current theory, the role of stress in physical illness has not only broadened, it has become far more complex. Researchers now recognize that even if an illness is caused by a purely physical factor, that illness in turn causes emotional stress. Traditionally the medical profession had been concerned with physical illness and has concentrated its efforts on understanding and controlling the organic factors in diseases. In psychopathology on the other hand interest has centered primarily on uncovering the psychological and emotional factors that lead to the development of disease - disorder. Today we realise that both of these approaches are
limited. Although an illness may be primarily physical or psychological, it is always a disorder of the whole person. Fatigue or a bad cold may lower our tolerance to psychological stress, an emotional upset may lower our resistance to physical disease.

The inter-disciplinary approach to all disorders which fill relevant biological, psychological and sociological data into a coherent picture is also referred to as psychosomatic approach. It is now reflected in medical and psychological thinking with respect to the treatment not only of the physical illness brought on by emotional tension but also those cases where no cause other than physical ones are obvious. Many professionals are coming to believe that physical illness can no longer be studied apart from psychological factors.

It has been estimated that least one out of every two persons, who seeks medical aid suffers from an illness related to emotional stress. It is this realization, Flander Dunbar (1943) and Alexander (1950), pioneers in the field of psychosomatic medicine, concluded that it is often more important to know, what kind of patient has the disease, than what kind of disease the patient has.

Psychosomatic disorders mainly are, Peptic ulcers, Essential Hypertension, Asthma, Obesity and Headache, which are brought on in large parts by psychological and emotional factors. In the psychosomatic disorders we often find:
1. The effect of sustained emotional tension on visceral organ system.

2. The tendency in a given person for a single organ system to be involved such as the respiratory or gastrointestinal system.

3. The frequent production of organic pathology.

Over the years, physicians repeatedly noted a connection between certain disorders, such as ulcers and high blood pressure, and psychological tension. And so a list of psychophysiological disorders gradually evolved, the same list that was included in the early editions of the DSM. In psychosomatic diseases, emotional disturbances and physical signs and symptoms occur together. Emotional factors are clearly related to onset and exacerbation of symptom. Emotional disturbances affect to predispose, precipitate and perpetuate the disease and its symptoms. Though there may be other etiological factors, "psychological factors are also important in symptom formation".

It is found clinically and experimentally that emotional stimuli can result into physiological changes, for example, on seeing the food of choice, a hungry person starts over salivating, while waiting for an interview many people suffer from frequency of micturition. In hypnotized person, blisters can be caused, without trauma, only by suggestions. Excess secretion of non-adrenalin hormones has been found in athletes taking part in games, while excess secretion of adrenalin has been found in reserve in players and coaches. The automatic nervous system
(AMS) has been a major object of study for researchers investigating the relationship between psychological processes and physical disorders, because it mediates between environmental stress and such crucial biological functions as respiration, digestion and blood circulation.

There are basically two types of body functions, one is volitional and the other is autonomic.

Volitional functions of the body are performed by will, like movement of the body, but autonomic functions like digestions of food, after eating food, and assimilation, the heart beat, respiration, blood pressure, bladder contraction, perspiration, salivation, adrenaline secretion and gastric acid production, these autonomic functions allow the body to cope with the ebb and flow of environmental demands, such autonomic functions can be affected by emotional or psychic influences. The transactions of an emotional stimuli into various bodily changes takes place through complex neuro-hormonal, biochemical and metabolic processes. They act through cortical centres in the brain hypothalamus, pituitary, adrenalin glands and autonomic nervous systems. In psychosomatic diseases emotional abnormalities lead to disturbances in the autonomic nervous system resulting into somatic symptoms with or without structural changes or diseases. Thus a psychosomatic disease has a dual heritage and purpose recognized by both psychological and biological disciplinaries. It evokes at the frontier between psychiatry and medicine.
ACTIVATION THEORY

Over the last decades, brain sciences including psychoneuro-endocrinology have established that the main source of variance in autonomic and endocrine activity is the central nervous system (CNS - Mason, 1971). The somatic response to external and internal CNS stimulation is a widespread, general response, affecting most or all bodily processes. Some specificity or bias may exist, as individual response profiles, either specific to the stimulation, or to the individual. This general response will be referred to as activation. Activation may lead to somatic pathology. This offers a new psychosomatic theory built on several disciplines within experimental and clinical psychology as well as traditional medical disciplines like physiology, endocrinology and epidemiology. Recent multifactorial evidence points to several psychoendocrine response types. Activation is still a general response, but individual variance is present in humans. This individual variance seems related to specific personality traits. Such evidence, together with knowledge of coping and defense mechanisms, suggests hypotheses which make the new psychosomatic theory more specific and perhaps more useful than previous theories.

CLASSIFICATION OF PSYCHOSOMATIC DISORDERS

Psychosomatic disorders are classified according to the organ system affected and it seems that no part of the body is immune. The American Psychiatric Association (APA) has classified under psychophysiology these disorders of the psychological and
emotional factors, rather than organic ones, the ten groups and some of the specific disorders in each according to the DSM II are:

1. **Psychophysiologic Skin Disorders**
   - Neurodermatitis, atopic dermatitis, eczema and some cases of acne and hives.

2. **Psychophysiologic Musculoskeletal Disorders**
   - Backaches, muscle cramps, tension, headaches and some cases of arthritis.

3. **Psychophysiologic Respiratory Disorders**
   - Bronchial asthma, hyperventilation syndrome, hiccups and recurring bronchitis.

4. **Psychophysiologic Cardiovascular Disorders**
   - Hypertension, paroxysmal tachycardia, vascular spasm, heart attacks and migraine headaches.

5. **Psychophysiologic Haemic and Lymphatic Disorders**
   - Disturbances in the blood and lymphatic systems.

6. **Psychophysiologic Gastrointestinal Disorders**
   - Peptic ulcers, chronic gastritis and mucous colitis.

7. **Psychophysiologic Genitourinary Disorders**
   - Disturbances in menstruation and urination.
8. **Psychophysiologic Endocrine Disorders**

Hyperthyriodism and obesity and other endocrine disorders in which emotional factors play a causative role.

9. **Psychophysiologic Disorders of Organs of Special Senses**

Chronic conjunctivitis etc.

10. **Psychophysiologic Disorders of Other Types**

Disturbances in the nervous systems in which emotional factors play a significant role such as multiple sclerosis.

(Now the revised edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) is issued).

After going through the exhaustive list of psychosomatic symptoms, diseases and disorders detailed above, it can be very well appreciated, that emotional stimulus have a very wide spectrum of action and effect on virtually any part and system of the body. Hence, for the purpose of diagnosis and treatment of the psychosomatic diseases equal attention need be paid to physical, psychological, social and inter-personal aspects and their interactions. Psychosomatic medicine, therefore, is really a "whole person's medicine".
SOMATISATION IN NEUROSIS

The somatic output is commonly attributed to the psychosomatic disorder group. But Neurotic development also manifests somatic reactions.

It is also understood that, Somatic complains or malfunction is either a defence or a prevention against severe psychological dysfunction in personality. This is the instrumental use of the body organs to save the psychological equilibrium. Anxiety is at the root of neurosis. Frend had argued that anxiety stemmed not from external threats, but from internal ones in the form of unacceptable id impulses attempting to break through into the consciousness and behaviour. In cases where anxiety is experienced chemically and directly, without elaborate defense, that is anxiety disorder, the cause is repressed but the anxiety leaks through. In the panic attack, the cause that is the id impulses moves closer to the boundaries of the conscious mind, the ego responds with desperate efforts at repression, and a state of maximum conflict ensues. Once the ego regains the upper hand and the impulse is once again safely repressed, the attack passes.

Usually in anxiety the defences are more elaborate than ordinary repression, and it is these defences that appeal as the symptom of neurotic disorder.

In Phobic disorder, displacement may be at work.

In amnesia, and in all dissociative disorders involving amnesia, theorist see total repression at work, the psychodynamic theory would suggest that in multiple personality, the individual
acts out the unconscious impulse directly or symbolically in the
dissociative state while the ego protects itself from
consciousness of the forbidden impulse by maintaining amnesia for
the episode.

In obsessive compulsive disorder obsession is a thought or
an image that keeps recurring to the mind, though the individual
may consider it senseless and unpleasant. Compulsion is an
action, that a person feels compelled to repeat again and again
though there is no conscious desire for it. There is always a
fear for something which the person does not want to do, but as
there is a constant thought, he feels disturbed for e.g. A thought
that the person will kill his wife, or the person may think he
will kill himself. And these mere thoughts will keep him in the
state of uneaseness and fear. He may not bring these thought into
action any way. The psychodynamic theory would suggest that the
unconscious aggressive impulse has in fact made its way into the
conscious mind. Cleanliness rituals and obsessions with germs
would be interpreted as a combination of fixation and reaction
formation, the ego defending itself against the anal desire to
soil to play with feces, and to be generally messy and destructive.

In hypocondriasis and somatization disorder, psychodynamic
theory would see a strong element of regression. According to
this theory patients with such disorders defend themselves against
the anxieties of adult life by regressing to the state of sick
child, where they hope to receive extra attention and support,
these extra satisfactions that the neurotic receives in the form
of comforting and relief from responsibilities are called
secondary gains. The primary gain in hypocondriasis, somatisation disorder and all other neurosis, is the relief of anxiety through the use of the defense mechanism.

In conversion disorder, the conversion symptom serves simultaneously to block awareness of the forbidden impulse, and to express it, by incapacitating some part of the body related to that impulse, for e.g. Paralysis, might be a defence against the expression of murderous anger.

Freud said that, neurotic symptoms have symbolic significance, because the symptom is a defense against specific impulse, it serves as a clue to the nature of the impulse.

COMMON EYE DISEASE CONDITIONS

Recently, the relationship between Psychological stress and physical illness has undergone a major re-evaluation, and it is believed to be far more important than it was once thought to be. Researchers used to believe that only certain disorders like asthma, ulcer, migraine, hypertension etc. were strongly influenced by psychological states. Accordingly, earlier editions of DSM listed these conditions as the "psychophysiological disorders". Now evidence suggests that almost any physical disorder, from cancer to the common cold, can be to some extent "psycho physiological". Hence recent editions of the DSM no longer contain a list of specifically psycho physiological disorders. Instead, there is one comprehensive category "psychological factors affecting physical conditions", the implication being that such factors may affect any physical
Hence, applying the above principle in psycho-physiological disorders of organs of special senses mentioned in column No. 9 of classification of psychosomatic disorders e.g. THE EYE, now we can say that many more diseases can be added under this heading besides chronic conjunctivities.

CATARACT

The Lens

The lens lies in front of the vitreous body and behind the iris. It is a soft, transparent, biconvex body enclosed in a thin homogeneous capsule. The lens is composed of a series of concentric lamellae of fibres, the edges of which are connected by a cement like substance, enclosed within a thin capsule. This capsule is a transparent membrane which closely surrounds the lens and is thicker on the anterior surface. The capsule is formed early in fetal life, probably as a secretion from the epithelial cells which form the lens vesicle in the embryonic fetus. The function of the capsule is to mould the lens and protect its substance from the vitreous and the aqueous. It also plays an important part in accommodation.

The lens is retained in position in front by the pressure of the aqueous humour and behind by the vitreous humour which is a clear transparent gel like substance filling the space between the posterior surface of the lens and the inner surface of the retina, and by the zonule or the suspensory ligament. This is a delicate membrane which covers the inner surface of the ciliary and
processes and the lens surface.

The physical characteristics of the lens vary at different periods of life. In the fetus it is nearly spherical and rather soft. In the adult the anterior surface is less convex than the posterior surface and its substance is firmer. From about 40 to 45 years of age the lens increases in size, is flattened, assumes a yellowish tinge and becomes tougher, and these changes constitute the condition of presbyopia.

REFRACTION OF LIGHT

The lens plays an important part in the refraction of light.

Refraction is the deflection of light when it enters obliquely, a medium of different density, for instance as from air to water, for example, by placing a ruler in a jug of water, the ruler looks bent at the surface of the water. As the rays of light pass from the air through the transparent structures of the eye known as the refractive media, the rays are bent. The refractive media include the cornea, the lens and the vitreous. The lens is important in this process as it bends the light rays in order that they can be focussed on the retina. From the retina the light is converted into light impulses which are transmitted to the optic nerve to the centre of sight in the occipital lobe of the brain.

If the lens stays at a fixed focal length the image would be blurred when the object was brought close to the eye. To enable close objects to be seen clearly some change must take
place in the convexity of the lens to alter the focal length. This process is known as 'Accommodation'.

Accommodation is possible because of the zonule or suspensory ligament which surrounds the lens and which is controlled by the ciliary muscles. When the ciliary muscle contracts, the suspensory ligament relaxes, increasing the lens curvature. This is accompanied by some convergence of the eyes and the constriction of the pupils to enable light rays to pass through the central portion of the lens. In the normal eye it is possible to see objects as closely as 25 cm away. Closer work requires the use of a special lens such as that used by a watch maker.

CATARACT

Cataract was the name applied to the condition of the lens opacity centuries ago. When the loss of vision was thought to be caused by the 'curtain' which fell down over the inside of the eye, rather like a waterfall.

'Mottabind' as most commonly called in India, is a very common eye disease, which may also lead to blindness, if the cataract lens is not removed in time. All throughout the world Cataract is found in every second alternate individual. Its rate is 50% and is common in both males and females.

Though it is a disease of the elderly, it may be congenitally determined, presented either at birth or latter during the developmental process. There are many disease factors concerned in the production of Cataract particularly Diabetes
Myelitis, some Vitamin deficiencies like Vitamin B₁₂, B₂, C and for trauma is also a precipitating factor for the development of Cataract. Hence Cataract can be found in five conditions:

1. Senile Cataract
2. Congenital and Developmental Cataract
3. Traumatic Cataract
4. Diabetic Cataract, and
5. Complicated Cataract

**Senile Cataract**

The most commonly found is the Senile Cataract, and it is a degenerative process. The change associated with Presbyopia occurs, the lens becomes less transparent and tougher, and in addition it becomes yellow in color and opaque. The opacity prevents refraction of light. In Senile Cataract the changes begin to develop early in the middle age from 5 decades to about 7 decades and at 70 years the majority of individuals have lens changes, which may, however, cause only slight difficulty with vision.

The onset of the condition is gradual with a slight impairment of vision which becomes progressively worse.

Diagnosis of cataract can be established quickly as it is possible to see the changes in the lens by the use of an Ophthalmoscope.

The only treatment for Senile Cataract is removal of the lens which is the natural lens by operation. The patient is given
spectacles for the eye in which the lens has been removed. The glasses prescribed are thick convex lenses which are a substitute for the natural lens, this makes the spectacles rather heavy. Intraocular lenses can also be fitted inside the eye in substitute for the natural lenses. Then the need for spectacles does not arise.

**Congenital/Development Cataract**

A Congenital Cataract is present at birth and a developmental cataract occurs in the early years of life as a result of the congenitally determined defect. These forms of cataract may be caused by hereditary toxic, nutritioned or inflammatory processes. For example, it is the cataract which may occur in an infant when the mother has been contracted with Rubella in the first eight weeks of pregnancy. This condition is usually bilateral and results from the toxic effects which take place during the time of the development of the eyes in the embryo. A child with congenital cataract will need to be admitted to hospital for treatment and two or more admissions may be needed at close intervals. Binocular congenital cataracts should be removed by needling, in which capsule of the lens is torn with a special needle, within a few months of birth if they are severe enough to render the infant blind and so prevent the development of macular fixation, otherwise, if only one eye is affected, a needling is generally carried out at about the age of six years.
Traumatic Cataract

Any break in the lens capsule as a result of injury, for example, a perforating injury of the eye caused by a sharp instrument may result in cataractous change. If there is a large opening made in the lens capsule, aqueous will enter and this will cause absorption of the lens. Operative treatment is necessary.

Unilocular Cataract which may follow trauma often results in the patient finding that he has difficulty with spectacles after operation. The spectacle lens for aphalric correction will give up to 20% magnification whilst the other eye is normal. This may cause diplopia (double vision) and for these patients contact lenses may be prescribed.

Diabetic Cataract

Diabetic Cataract is less often seen today as there has been an increasing emphasis on the need for early diagnosis and treatment of diabetes myelitis. Diabetic cataract sometimes occurs in adolescent patients with this disease.

Senile cataract in diabetic patients is similar to that in non-diabetic subjects but the incidence is higher in the diabetic patient and the condition tends to develop more rapidly.

Complicated cataract

This cataract may occur following a long standing ocular disease such as uveitis, glaucoma, or retinal detachment; and may also be seen in patients with, intra ocular tumours, such cataract seldom warrants removal.
Glaucoma

Also known as 'Jhamer' in Gujarat and 'Kala or Neela Motia' in other parts of the country is a serious disease of the eye, in which the pressure in the eye rises above the average normal values of 16 to 20 mm of mercury. This continuous rise can lead to permanent blindness. The normal pressure in the eye is mainly due to fluids inside the eye, aqueous humour, in the anterior chamber of the eye and vitreous humour in the posterior compartment of the eye mainly due to aqueous humor circulation. Maintenance of the intra-ocular pressure within the average normal limits is very vital for the proper functioning of the eye otherwise this continuous rise of pressure inside the eye may lead to permanent blindness. Aqueous humor is formed from the ciliary processes of the ciliary body of a very special process of secretion from the blood vessels. It comes down in the posterior chamber of the eye and through the pupil enters the anterior chamber. It supplies nutrition to the vitreous, lens and cornea. After this it drains out of the eye through the special structure at the periphery of the anterior chamber, "Trabecular Mess Work" into a circular channel known as canal of Schlem. This circulation of aqueous humor in the eye also provides normal intra-ocular pressure.

The pressure inside the eye will rise if aqueous formation is more than the normal, or its exit from the eye is hampered. When certain changes take place (Sclerosis of the Trebecular Mess Work), there is obstruction to the outflow of the aqueous humor and the pressure with the eye increases. This rise of pressure if
not treated early may damage the vital optic nerve head at the back of the eye, which sends visual messages to the brain and the person loses sight and becomes blind. This process of formation of aqueous and its exit from the eye after supplying nutrition as mentioned above is very delicately controlled by autonomic nervous system, and may be affected by psychic factors.

Glaucoma affects about 0.5 to 2.5 percent people all over the world. It is estimated that in India 1 out of every 7 eyes of glaucoma patients had already lost vision before reaching the hospital. Further 1 in 80 patients had lost sight in both the eyes and was not aware that the loss of sight was due to Glaucoma. This is purely because of lack of awareness of the people about Glaucoma.

There are many causes of Glaucoma, and it may vary among individuals. Most common type of Glaucoma is the Primary Glaucoma, of which there are two basic varieties:

1. Chronic Open Angle Glaucoma, also known as 'Neetha Jhaamer'. This is mostly a silent disease affecting people of both sexes, almost equally at the age of about 45 to 55 years. The pressure inside the eye gradually produces damage to the optic nerve, at the back of the eye, leading to complete blindness. These patients are detected on a routine thorough clinical examination especially if they are about 45 to 55 years of age. The tension is easy to measure by a simple instrument called Tonometer. Further examination of the eye is then done to see the visual
activity, optic disc, and visual fields are recorded. This conforms the diagnosis and the severity of the disease.

2. Closed Angle Glaucoma or Congestive Glaucoma is another variety of the Primary Glaucoma, the cause of which is also not very well understood. It starts suddenly with severe pain in the eye due to acute rise of pressure inside the eye and is associated with emotional upset. Because of the severe pain the patient seeks medical advice early.

Glaucoma may be present at a very early stage, for example, at birth because of certain serious maldevelopment of the eye (Congenital Glaucoma). Glaucoma may also be secondary to some intra-ocular diseases, like diabetes or high blood pressure.

In all Glaucoma the most common cause for rise of intra-ocular pressure is the obstruction to the aqueous outflow or rarely to increased aqueous formation. The exact cause for this anomaly is not known, probably changes in the autonomic nervous system should also influence its course.

The medical treatment for the control of Glaucoma consists of drugs used locally as drops, either increases the parasympathetic activity in the eye (Pilocarpine) or depresses the sympathetic stimuli (Timolol). If the tension in Glaucoma is not controlled by this medical treatment, then surgery is practiced to save vision.
The Retina forms the innermost layer of the eye and is referred to as the light perceiving layer. It is a soft, delicate, thin membrane which in the living eye is transparent. The thickness of the Retina gradually diminishes from 0.4mm near the entrance of the optic nerve to 0.1mm at the ora strata, its anterior extremity. It is purplish red in colour because of the visual purple, or rhodospin, in the rods which with the cones make up the outer layer of the optical part of the Retina. The Retina is placed between the haploid membrane of the vitreous internally and the choroid externally. The inner surface of the Retina has a yellow spot or macula lutea about 1-2mm in diameter which is the area of the most distinct vision. About 1mm to the nasal side and slightly below is a whitish disc which appears slightly raised and corresponds to the entrance of the optic nerve; this is the optic disc. This area consists only of nerve fibres, which are insensitive to light and which is known as the 'Blind Spot'.

In the detailed complex structure of the Retina, shown in Fig. the light sensitive elements consist of the specialized layer of rod and cone shaped cells. The rods are used when the light intensity is low and give a grey picture. They are densely crowded at the front of the Retina. They convert the light stimulus into a volley of electrical impulses which travel along the sensory nerves to the visual area of the brain. For this function rhodospin is required. The pigment is slowly broken down as it absorbs light of low intensity and the breakdown releases the energy which triggers off the nerve impulses. The function of
the pigment cells found out to be choroid is the renewal of rhodospin. Rhodospin is a substance composed of protein and the pigment carotene, this compound when bleached by light rays splits, and the pigment is converted into Vitamin A. In the dark Rhodospin is resynthesized from Vitamin A and protein.

The other receptors in the Retina, the cone-shape cells, are used in day light vision and are responsible for the appreciation of colour. The cones are confined to the central regions of the Retina. Sensitivity to different colours is not uniformly distributed over the Retina, the area sensitive to blue is the largest and that sensitive to red next in order of size.

Visual Pathways

Nerve impulses from the Retina are transmitted along the optic nerve to the brain. The fibres of the optic nerve, forming the innermost layer of the Retina, coverage at the optic disc and then pierce the outer layers of the Retina. The optic nerve is about 4 cm long and passes backwards and medially through the back of the orbital cavity. It then runs through the optic foreman into the conical cavity and joins the optic charisma. At this point the nerve fibres from the medial side of the Retina cross to the opposite side and join the fibres from the lateral side of the retina which remains on the same side. These fibres form the optic tract and pass through a relay station, the lateral geniculate body to the visual cortex of the occipital lobe of the brain. The visual pathways are shown in Fig.
The left side of the visual field is seen by the right half of the eyes and conversely the right side of the visual field by the left half of the eyes, in the normal eye, the visual areas of the brain fuse the two separate images transmitted to them from both eyes to form one single mental impression of the object viewed.

Electrodiagnostic instruments have been introduced to aid detection of the conditions of the Retina when it is not possible to view by the ophthalmoscope. An Electrocardiogram measures the electric potential of the Retina, an Electro-oculogram records the changes of ocular potential due to metabolic activity.

Pathological conditions of the retina present either with a sudden painless loss of vision or with a long standing visual loss that may be so gradual in its onset that it is not noticed by the patient. Separation of the retina is the most common of these conditions.

A proportion of patients with retinal changes are referred to the ophthalmologists from medical clinics, for example, hypersensitive patients with retinal degeneration and those suffering from diabetes myelitis, in whom, especially the elderly who may have been treated for many years. Retinal changes are almost always bilateral.

Retinal Separation

The condition which is often called 'detachment' may more accurately be described as separation of the retina. since where there is a breach in the retinal tissue, fluid accumulates between
the layer of rods and cones and the pigment epithelium of the retina. This can happen because the outer layer of the retina (the pigment epithelium) and the inner layers (the optical parts) lie in apposition without any form of union except round the optic disc and at its wavy border, the ora serrata. Thus primary retinal separation occurs when any cause such as a breach, allows fluid from the vitreous to seep into the subretinal space.

Primary separation of the retina may follow injury to the eye or myopic changes or it may be idiopathic. In myopic patients retinal separation occurs usually between 3 to 4 decades and is more common in men than in women. Those people where myopic changes more commonly occur, for example, Jews, have a higher incidence of retinal separation, although it is interesting to note that the Chinese who are also often myopic, rarely develop retinal separation.

Separation of the retina may also occur as a secondary manifestation, when no tear is present, in many conditions, of which toxæmia of pregnancy retinal retinopathy and a mass in the choroid are examples.

In primary separation of the retina there is no pain and thus the patient may not seek medical help at the outset. When seen by a Doctor some patients complain of flashes of light, the result of the stimulation of the loose retina as the eye is moved, others describe the loss of vision as a shadow starting somewhere at the side of the field of vision and increasing in size. Separation is a gradual condition starting often at the periphery where the retina is thinnest and extending gradually until the
affected eye is totally blind. This process may take only days, or may extend over weeks and months.

On examination with the Ophthalmoscope the retina will present a dull, grey color and may be in folds. Holes and breaks may be visible, these may take the form of U-shaped tear or round holes on the retina may be torn away at the ora serrata. Once a diagnostic of retinal separation has been made the patient should be admitted to the hospital ward. This may come as a considerable shock to the patient who is usually in good general health, and there will be anxiety concerning the sudden loss of sight and the prospect of two or three weeks in the hospital. The patients at this time feel anxious and they present themselves as frank anxiety, disbelief or even open hostility. The patient may also be apprehensive because the successful outcome of surgery cannot be guaranteed.

While about 75% of all the detached retinas can be replaced, the factor essential to a more positive prognosis is time. The chances of a successful replacement in a case left untreated after a year would be worsened significantly. Unsuccessful results after treatment would require further surgery in about three to four weeks and in such cases the ultimate prognosis is even less good.

Selye (1956-1974) described a "general adaptation syndrome" which divides the body's reaction into three successive stages: 1. alarm and mobilization - a state of rapid, general arousal in which the body's defences are mobilised. 2. resistance - the state of optimal biological adaptation to stress and 3. exhaustion.
and disintegration - a stage reached when the body loses its ability to cope with prolonged stress.

General arousal in reaction to stress however, does not explain why some people respond to such stress by developing ulcers, other migraine, and others high blood pressure.

**Somatic weakness**

According to this theory, a psychophysiological complaint is most likely to develop in a person's weakest or most vulnerable organ system. For e.g. in a person who has a strong digestive system, an average vascular system and a weak respiratory system, severe stress of any kind would be likely to have damaging effect on his respiratory system, possibly in the form of Asthma. When there is no physical outlet for an emotional and stressful state of mind or a conflicting situation, then the individual finds an internal outlet for the stress, affecting the body organ system. Unciously the stress is discharged upon that organ system which is genetically weak, thus it differs from person to person, because it is unlikely that any two human being have an equivalent set of organ systems.

**HISTORICAL BACKGROUND**

Several lines of evidence suggests that fear-anxiety, distress-confusion, frustration-insecurity, etc. some of the manifestations of stress cause more illness in modern societies than those caused by infections by micro-organisms. However, primitive society of the year 10,000 B.C. believed that diseases
are caused by spiritual powers and vengeance of God. The Babylonian, Assyrian and Greek-O-Roman civilization adopted a holistic approach to medicine. During the medieval period, mysticism and religion dominated medicine with renaissance came the interest in natural sciences. Owing to advances in autopsy, autopsy and in microscopy began the scientific understanding of medicine, and psychic influences were rejected as unscientific. Although psychosomatic approach was stressed by Socrates, Galen and Hypocrites, it was Frend who brought the concept of Psyche and Soma together in the understanding of diseases, specially those not caused by infections. He demonstrated the importance of emotions in producing both mental disturbance and somatic disorders.

Central nervous system plays an important role in either the genesis or the maintenance of such psychosomatic diseases like high blood pressure, peptic ulcers, etc. Several lines of evidence suggests that emotional stimuli have a very wide spectrum of action and effect on virtually any part and any system of the body. This is also very true for those organs and body functions which are directly under the control of autonomic nervous system.

In psychosomatic diseases emotional abnormalities lead to disturbances in autonomic nervous system, resulting into somatic symptoms.

PHYSIOLOGY AND PERSONALITY

In the causation of psychosomatic diseases, personality of an individual plays a vital role. Over two thousand years ago,
Hypocrites, the most famous of the ancient Greek physicians developed a four-fold classification of personality types based upon 'humours' or fluids of the body, as they were then understood. Although his theory has long since been discarded in the light of the later evidence, it was the forerunner of later attempts to relate physiological factors to personality make up. On the basis of biochemistry Sheldon defined three types of personalities of psychosomatic constitution. These personalities depend upon relative preponderance of three neuro-hormones, which may be responsible for total personality including its constituent psyche and physique. These neuro-hormones are: Acetylcholine, Catecholamines (nor Adrenalin) and Histamine. In an absolutely normal person which is rare to find the three neuro-hormones are expected to be in a balanced proportion. Sheldon defined the three personalities as dominant, submissive and dependent, according to the preponderance of catecolamine, acetylcoline and histamine respectively. These are parallel to Vata, Pitta and Cough personalities described in ayurvedic system of Indian medicine.

Since there are constitutional differences in all the body organs and systems, upon which growth and behaviour depends, sense organs, nervous system, endocrine glands, respiratory system and so on it seems apparent that such physiological differences contribute to unique reaction, tendencies and vulnerabilities of each individual. Of particular significance is the role of biological energy levels, autonomic reactivity resistance to stress and the quality and stability of the central nervous system.
in determining basic reactions, tendencies and adjustive behaviour. The role of autonomic reactivity in faulty development and functioning has been strongly emphasized by Eysenack (1960) who has suggested that either an excess or a deficiency of autonomic reactivity may lead to trouble.

Maladjusted personalities under stress go for a psychosomatic disease, in which physical factors may be of equal importance but psychological factors related to patients' life situations may play some part in determining the onset and the progress of the disease.

The relationship between mind and body has been accepted by the physicians and researchers. Psychological factors like stress, anxiety and personality play an important role in somatization. In view of such findings the investigator inferred the relationship between stress which can be the factor responsible in the foundation of blindness in terms of development of Cataract, Glaucoma, and Retinal Detachment. The present study is aimed at exploring these possibilities, through empirical research.