

in place, there is the increasing incidence of viral infections like Polio-
elitis, Infective hepatitis and diseases like Heart diseases, Cancer and
diabetic diseases. Malnutrition and deficiency diseases are major health
problems to-day.

Food allergy is on the increase due to serious food adulteration. With
development of the industries the occupational diseases and accidents
are on the increase.

The purpose of medicine should not necessarily be directed against the
mediate cause and effect of disease, but to encourage and try to obtain the
complete picture to enable man to achieve the positive health so that he can
have a peaceful mind and healthful living. The curative medicine tries to
maintain status quo when the illness has come to the individual. The pattern
of diseases in the community changes. With the decline of communicable
diseases, metabolic, degenerative, mental and malignant diseases are in-
creasing.

Man is the supreme being on earth ; give him the highest value and
reserve him and his dignity. The civilisation has brought many new
problems of life. He has to lead more and more an artificial environment,
with increasing stress and strain. The whole mankind is ageing and the
common man is quite overwhelmed with the rapid social revolution.

Changing Concept of Health

Confusion about health has lead various people to view health from
different angles, which in turn gives rise to different concepts. These are :

- Bio-medical concept -- This concept took its origin from the germ
theory of disease. The body was considered as a machine and the
disease as a result of wear and tear of that machine. The doctor's
task was that of mechanic to set right the machine. But such a
concept was inadequate to solve problems like population explo-
sion, malnutrition, chronic disease, drug abuse etc.
- Ecological concept -- The ecologists viewed health as an equilib-
rium between man and his environment and disease as a loss of
that equilibrium.
- Bio-social and Bio-cultural concept -- This concept took into
account not only biological but also social, cultural and psycho-
logical factors as the cause of disease.
- Holistic View -- The holistic view takes into account all the above
concept : Health is viewed as a multidimensional process and
corresponds to the age concept of sound mind in a sound body.

MULTIPLE FACTORS :

Today, we believe that a disease is caused by more than one factors.

Besides the germ, the social and economic factors also are responsible for
the causation of diseases and ill-health. The main task of medicine is to keep
people socially adjusted to the environment or readjust them, if health has
broken down. The medical students should develop an awareness of the
relationship of the patient to the family and to the community. This
relationship is important in determining the nature, onset, course and
outcome of the patient's illness.

In a dispensary, the patient gets medical relief. He comes with a
complaint about his health and he is given some relief. In a hospital the
patient is a bed number. Bed No. 10 is a heart case, Bed No. 12 is a liver case
and so on. All patients are individuals with personal relationship with the
family and environment.

Hence, there is a need for a radical change in the teaching of medicine
in the Medical Colleges. We have travelled a long distance from primitive
medicine to modern medicine and now we feel that we should start
practising comprehensive medicine. Today we are engaged in segmental
care of the health. We attend to the complaint of pain in the body and we try
to provide some relief. It is necessary that there should be a programme from
before birth to the last day of life.

The concept of positive health

Definition of Health

Health implies a sound mind in a sound body, in a sound family, in a
sound environment. The widely accepted definition of health is that given
by the World Health Organisation in 1948 is that "Health is a state of
complete physical, mental and social well being and not merely an absence
of disease or infirmity.

According to W.H.O. definition of Health there are three components
of health -- physical, mental and social. A fourth component has also been
suggested namely "Spiritual health".

I. Physical Health

The signs of physical health in an individual are as follows :

- A normal complexion and a clear skin in the bright eyes, lustrous
hair.
- Firm flesh and not too fat.
- Normal breath, good appetite, sound sleep.
- Regular activity of the bowels and bladder.
- Smooth and easy co-ordinated bodily movements.

(vi) All the organs of the body are of normal in size with normal functions.

(vii) All the special senses are intact.

(viii) The resting pulse rate, Blood Pressure and exercise tolerance are within normal limits for the individual's age and sex.

(ix) In the young and growing individual there is a steady gain in weight and height and in the mature this weight should remain more or less constant at a point 5 lbs. more or less than the individual's weight at the age of 25.

The major methods which can be used for the assessment of physical health are :

(i) Clinical Examination

(ii) Diet assessment

(iii) Nutrition assessment

(iv) Biochemical & laboratory test

(v) Anthropometry

Mental Health

Mental Health does not mean mere absence of mental illness. A mentally healthy person should have the following characteristics or has to fulfil the following criteria [Samuel R. Laycock, Canadian Journal of Public Health, 1962, Vol. 33, Page 413]. Roots of mental ill-health lay deep in "Social Soil". It is mainly poor mental health that leads to diseases like ulcer and hypertension.

(i) He/she feels comfortable about himself/herself, i.e. feels reasonably secure and adequate.

(ii) He/she neither underestimates nor overestimates his/her own ability.

(iii) He/she accepts his/her shortcomings and tries to correct it.

(iv) He/she has a self-respect.

2. (i) He/she feels right towards others meaning that he/she shows interest in others and to love them.

(ii) His/her friendship is satisfying and lasting.

(iii) He/she is able to feel as part of a group without being submerged by it.

(iv) He/she is able to trust others.

(v) He/she is able to take responsibility for his/her neighbours and his/her fellowmen.

3. (i) He/she is able to meet the demands of life and does something reasonably about the problems that may arise.

(ii) He/she is able to think for himself/herself and takes his/her own decisions.

(iii) He/she sets reasonable goals for himself/herself.

(iv) He/she shoulders his/her daily responsibilities.

(v) He/she is not bowled over by his/her own emotions of fear, anger, love or guilt.

Warning signals of poor mental health

William C. Menninger, President of the Menninger Foundation, Topeka, Kansas, U.S.A. drew up the following questions to aid in taking one's own mental health pulse :

1. Are you always worrying ?
2. Are you unable to concentrate because of unrecognised reasons ?
3. Are you continually unhappy without justified cause ?
4. Do you lose your temper easily and often ?
5. Are you troubled by regular insomnia ?
6. Do you have wide fluctuations in your moods, from depression to elation, back to depression, which incapacitate you ?
7. Do you continually dislike to be with people ?
8. Are you upset if the routine of your life is disturbed ?
9. Do your children consistently "get on your nerves" ?
10. Are you "browned off" and constantly bitter ?
11. Are you afraid without real cause ?
12. Are you always right and the other person always wrong ?
13. Do you have numerous aches and pains for which no doctor can find physical cause ?

The conditions charted in these questions are the major warning signals of poor mental health in one degree or another. Help is necessary if the answer to any of these questions is definitely "yes".

Mental Illness

Mental illness is a vast subject, broad in its limit and is very difficult to define precisely. There are Major and Minor illness.

1. MAJOR ILLNESS OR "PSYCHOSES"

Here the person is more or less insane and out of touch with reality. There are 3 types --

- (a) Schizophrenia (Split personality) -- Here patient lives in a dream world of his own.
- (b) Manic Depressive psychoses -- Here the symptoms vary from heights of excitement to depths of depression.
- (c) Paranoia -- Here the patient has undue and extreme suspicion and a progressive tendency to regard the whole world in a framework of delusions.
2. Minor Illness :
- These are of two groups :-
- (i) Neurosis or psychoneurosis -- a condition where the patient is unable to react normally to life situations. He exhibits certain peculiar symptoms such as morbid fears, compulsions and obsessions.
- (ii) Personality or character disorders -- This group of disorders are the results of unfortunate childhood experiences and perceptions.
- CAUSES OF MENTAL ILL-HEALTH :
1. Organic -- such as cerebral arteriosclerosis, metabolic diseases, neurological disorders, endocrine diseases, chronic diseases like Tuberculosis, Epilepsy, Leprosy etc.
 2. Hereditary -- e.g. a child of two schizophrenic parents is 40 times more likely to develop schizophrenia than the child of healthy parents.
 3. Psychosocial Environment -- Worries, anxieties, stress, tension, frustration, unhappy marriages, poverty, industrialisation, urbanisation, changing family structure, population mobility, economic insecurity, cruelty, rejection, neglect and the like. The social environment not only determines individual's attitudes but also provides a framework within which mental health is formulated.
 4. Other Environmental Factors --
 - (a) Toxic substances such as carbon di-sulfide, mercury, manganese, tin and lead compounds.
 - (ii) Psychotropic drugs such as barbiturates, alcohol, griseofulvin, etc.
 - (iii) Deficiency of thiamine and pyridoxine, deficiency of iodine etc.
 - (iv) Measles, Rubella during prenatal and postnatal periods of life.

- (v) Occupational factors such as road and occupational accidents.
- (vi) Radiation.

CRUCIAL PERIODS OF HUMAN BEINGS :

1. Prenatal Period -- During prenatal periods the expectant mothers require not only physical help but also emotional help so that she can produce a healthy baby.
 2. First 5 years of life -- Early infancy and childhood is another crucial period of human beings. The child should have a warm, intimate and continuous relationship with the parents. It has been observed and confirmed by studies, that broken homes are likely to produce behaviour disorders in children.
 3. School going period -- During this period the child learns a lot from the school which keeps a life-long impression on his mind. So the school should be such that it should be able to meet the emotional requirements of the child.
 4. Adolescence -- The transition from adolescence to manhood is crucial from the point of mental health. The basic needs of an adolescent are: (a) More independence. (b) The need to be needed by others. (c) The need to be adequately adjusted with opposite sex. (d) The need to think over the beliefs of elders.
 5. Old age -- It is the lack of economic security and organic condition of the brain that lead to mental illness in the old age. Old people should be more cared so that they maintain proper mental health.
- #### PREVENTIVE ASPECTS
- (1) Primary prevention -- Primary prevention consists of improving the social environment and promotion of physical, mental and social health. It should include working for better health, better living condition and better welfare within the community.
 - (2) Secondary Prevention -- This should include early diagnosis of mental illness through proper screening in school, colleges, universities, factories, recreation centres etc. and early treatment of the mentally ill persons. The family health services should be responsible for proper counselling and help the family in marital conflict, disturbed parent-child relationship and strained interpersonal relationship. Family counsellors should be given priority for counselling the mentally ill.

- (3) Tertiary Prevention -- The aim of this level of prevention is to prevent further breakdown and disruption. It also reduces the duration of mental illness.

Mental Health Services

The mental health services comprise of :-

- (1) Easy diagnosis and treatment
- (2) Rehabilitation.
- (3) Group and Individual psycho-therapy.
- (4) Mental Health Education.
- (5) Use of modern psychoactive drugs.
- (6) After-care services.

Mental Health Programme

The current trend for treatment of psychiatry cases is full integration of psychiatric and health services. The Mental Health Programme is so directed that it has preventive, curative and rehabilitation services. It consists of following elements (1) In-patient services, (2) Out-patient services, (3) Partial hospitalization, (4) Emergency services, (5) Diagnostic services, (6) Pre-care and after-care services, (7) Education, (8) Training, (9) Research.

Drug dependance

"Drug is defined as any substance that when taken into the living organism may modify one or more of its functions". (WHO) and Drug abuse is defined as a self-administration of drug for non-medical reasons in quantities and frequencies which will impair an individual's ability to function effectively and results in social, physical and emotional harm. "Drug dependance" is described as a state, psychic, and sometimes also physical resulting from the interaction between a living organism and a drug, characterised by a compulsion to take the drug on continuous or periodic basis in order to experience its psychic effects.

Drug dependance -- A Problem

In the recent years there has been an increased non-medical use of alcohol and other psychoactive drugs. It has been estimated that about 30-50 per cent of all high school students in USA had made drugs an accepted part of life but the problem is less among girls. The problem of drug dependance has reached epidemic proportions in many countries.

Agent Factors

There are mainly six types of drugs which are in use today;

- (1) Alcohol -- By pharmacological definition alcohol is a sedative

tranquilizer, hypnotic or anaesthetic depending upon quantity consumed. It has a marked effect on the central nervous system. It produces psychic dependance of varying degrees and a primary and continuous depressant effect. It also causes physical dependance.

- (2) Amphetamines and cocaine -- Amphetamines are structurally similar to Adrenaline. They find therapeutic use in obesity, depression, narcolepsy and behaviour disorders in children. Their therapeutic dose is 10-30 mg per day. They cause mood elevation and a feeling of well being and increased alertness. The use of these drugs cause psychic dependance.
 - Cocaine is derived from the leaves of coca plant. It produces a sense of excitement, hallucinations and distorted awareness. There is no physical dependance or withdrawal symptoms.
 - (3) Barbiturates -- Barbiturates have sedative action on all excitable tissues of the body. The drug users prefer the short acting barbiturates like pento-barbital and secobarbital. It produces both physical and psychic dependance.
 - (4) Cannabis -- Today cannabis is the most widely used drug. The resinous exudate from the flowering tops of the female plant produce hashish or charas. The dried leaves and flowering shoots produce bhang and the resinous product from the small leaves is called ganja. This drug is mostly incorporated in cigarettes, drinks and even sweets and cakes. The drug produces euphoria, increased tendency to laugh, interference in the sense of time and space. There is psychic dependance.
 - (5) Heroin -- This is a narcotic analgesic and produces the worst type of addiction. It also produces psychic dependance.
 - (6) LSD -- Lysergic Acid diethylamide (LSD) is a potent psychotogenic drug. It alters the normal structuring of perception. The individual perceives the world in a different manner. There is intensification of colour perception and auditory acuity. But however, there is no physical dependance and hence no addiction liability.
- Host factors** -- The host factors has not yet been defined properly. Studies indicate that pleasure, desire to experiment, a sense of adventure, social and psychological maladjustment are the reasons for the people to resort to drugs.

Environmental factors:

Among the environmental factors are rapid technological advancement, television, world travel, affluence, freedom to speculate, rejection of

Old values have encouraged youngsters to resort to drug with a goal to escape from all worries and anxieties.

Treatment

Drug takers have little motivation to undergo treatment and there is hardly any feeling of guilt among them. The long term treatment should not only be from medical view but also from psychological view. But there is a high relapse rate even after treatment.

Prevention

People should be educated about drugs, their effects and the way the drug trafficker use them. The ex-drug dependant person should be rehabilitated to resume a normal social life. Some legal action is also required to stop the drug trafficking.

Incidence

Total amount of mental disorders cannot at present be estimated because of lack of reliable statistics.

About 2 per 1,000 population in India require psychiatric assistance.

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The responsibility for promoting mental health of society lies not only on psychiatric services but also to a much greater extent on legislators, administrators, educationalists, industrialists and social scientists.

III Social Health

It connotes such abilities as those of making satisfying and lasting friendships, of assuming responsibilities in accordance with one's capacities, of finding satisfaction, success and happiness in accomplishments of everyday tasks of living effectively with others and showing social considerate behaviour.

IV Spiritual Health

It is highly controversial matter and suffice it to say that not everyone will be prepared to accept it as the fourth component of health. It is the intangible something that transcends Physiology and Psychology i.e. the spirit of man.

Positive Health

It has been already stated that according to W.H.O. health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". To this "Spiritual health" has been added.

The Positive health advocated by W.H.O. implies that a person should be able to express as completely as possible the potentialities of his genetic

heritage. In order to effect this, the person must be allowed to live in healthy relationship with his environment which can transform genetic potentialities into phenotypic realities.

The attainment of positive health is one of the important ingredients of good life that a nation should assure for every citizen. Previously health promotion or preservation was considered to be a man's own personal business. This view has now changed to the development of social services ranging from a "foetus in womb to a man in tomb".

These services are as follows :--

- (1) Maternity and Child Health Services.
- (2) Child guidance clinics.
- (3) School Health Services.
- (4) Vocational guidance.
- (5) Occupational Health Services.
- (6) Comprehensive medical care through Health Centres and Hospitals.
- (7) Rehabilitation Services.
- (8) Physical, occupational and diversional therapies.
- (9) Health Education.
- (10) Adequate food supplies and safe food supplies.
- (11) Control of vector and rodents.
- (12) Safe water supplies.
- (13) Proper disposal of human and animal wastes (Environmental sanitation), and slum-clearance.
- (14) Housing programmes.
- (15) Town and village Planning.
- (16) Facilities for recreation and physical training.
- (17) Compensation for unemployment, old age pension, stabilisation of employment.
- (18) Maternity leave and benefits.
- (19) Sickness and disability benefits.
- (20) Marriage Counselling and Genetic Counselling.
- (21) Population Control and Family Planning. etc.

This shows the comprehensive sphere in which medicine has to function--not merely to prevent and cure disease but to preserve and promote the health to the optimum.

Ideal health will, however always remain a mirage because everything in our life is subject to change. Health in this context may be described as Potentiality -- the ability of an individual to modify himself continually in the face of changing conditions of life, not only in order to function better in the present but also to prepare for the future. *It is rather extremely difficult to attain in our complex modern life.*

Health is a relative Concept

Health is a relative concept and there is no fixed standard governing health. What is considered normal in one person may be abnormal in another. For example a new born baby weighs 2.8 Kg. on an average in this country as compared with 3.5 Kg. in developed countries and yet healthy. Many normal people show heart murmurs, enlarged tonsils and X-ray shadows in the chest and yet do not show signs of ill health. Thus health is a relative concept and standard of health varies from person to person and from country to country.

Spectrum of Health

Health is never static. It is dynamic and fluctuates within a range. Perkins defines health as "a state of relative equilibrium of body form and function which results from its successful dynamic adjustment to forces tending to disturb it. It is not passive interplay between body substance and forces impinging upon it, but an active response of body forces working towards adjustment". Health is a pendulum oscillating between a range or spectrum from the minimum at one end to the maximum at the other. It actually implies that health is a "State" which cannot be attained once and for all but ever to be renewed. There are degrees of well-being (as in definition of health) as there are degrees of severity of illness as follows :-

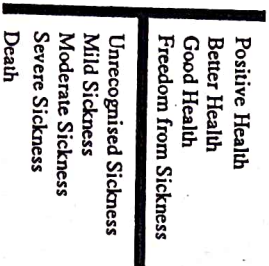


Fig. 1

THE HEALTH-SICKNESS SPECTRUM

Ecology of Health

Ecology has been defined as the Science of mutual relationship between living organisms and their environment. Human ecology is

concerned with the broad setting of man in the environment. Ecology of health is the study of relationship between variations in man's environment and his state of health.

From the point of view of ecological approach -- Health is a state of "dynamic equilibrium" or adjustment between a man and his environment, when this balance is disturbed for any reason -- ill health results. Thus the trend in recent times has shifted from the study of "Disease in Man" to "Man in the midst of Disease".

Factors determining Health

Factors which contribute to the achievement of a state of health are--

1. Heredity.
2. Environment.
3. Ways of living.
4. Economic status.
5. Health Services and other services stated under the heading of "Positive Health".

1. HEREDITY

The mental and physical traits of every human being are to some extent determined by the nature of his genes at the moment of conception. The genetic endowment of man cannot be altered after conception. A number of diseases are now known to be of genetic origin e.g. mental retardation, Diabetes, metabolic disorders of some kind, some kind of epilepsy, Intersex etc.

2. ENVIRONMENT

It is defined as the aggregate of external and internal conditions that have influence on the life and development of organism or human being--its behaviour or society. Man is living in a highly complicated environment which is becoming more complicated as the man is becoming more ingenious. Environment in ecological universe can be of two types :-

- (a) Internal environment.
- (b) External environment.

(a) *Internal environment* -- It pertains to each and every component part of every tissue and organ and their harmonious functioning in the body system. This is a continual adjustment and readjustment in the human mechanism to keep itself in physiological balance or dynamic equilibrium. This steady state of human environment of the body is called "Homeostasis" by the Physiologists.