



Health, Health Indicators and Health System

Chapter 1, Health

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Definition of Health

Definition of Health by World Health Organization (WHO)

- Widely accepted definition of health is given by the World Health Organization (1948) in the preamble to its constitution.
- **Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.**
- The WHO definition of health has been criticized as being too board.

Definition of Health Cont.

- Some argue that health cannot be defined as a “state” at all, but must be seen as a process of continuous adjustment to the changing demands of living and of the changing meanings we give to life.
- It is a dynamic concept.
- In spite of the above limitations, the concept of health as defined by WHO is broad and positive in its implications.
- It symbolizes the aspirations of people and represents an overall objectives or goal towards which nations should strive.

New Philosophy of Health

- Health is a fundamental human right
- Health is the essence of productive life, and not the result of ever increasing expenditure on medical care.
- Health is inter sectoral.
- Health is an integral part of development
- Health is central to the concept of quality of life
- Health involves individuals, state and international responsibility.
- Health and its maintenance is a major social investment
- Health is a worldwide social goal.

Concepts of Health

- An understanding of health is the basis of all health care.
- Health is not perceived the same way by all members of a community including various professional groups (e.g., biomedical scientists, social science specialists, health administrators, ecologist, etc.) giving rise to confusion about the concept of health.

Concepts of Health Cont.

- In a world of continuous change, new concepts are bound to emerge based on new patterns of thought.
- Health has evolved over the centuries as a concept from an individual concern to worldwide social goal and encompasses the whole quality of life.
- A brief account of the changing concepts of health is given below:
 - Biomedical Concept
 - Ecological Concept
 - Psychosocial Concept
 - Holistic Concept

Biomedical concept

- Biomedical concept viewed the health as an **“absence of disease”**.
- If one was free from disease, that person was considered healthy.
- It was based in the **“germ theory of disease”** which dominated medical thought at the turn of the 20th century.

Biomedical concept cont.

- The medical profession **viewed the human body as a machine, disease as a consequence of breakdown of the machine and one of the doctor's task as repair of the machine.**
- Thus health, in this narrow view, **became the ultimate goal of medicine.**
- The biomedical concept is criticized that it **minimized the role of the environmental, social, psychological and cultural determinants of health.**

Ecological Concept

- Ecological concept viewed health as a **dynamic equilibrium between man and his environment and disease** a maladjustment of the human organism to environment.
- Human, ecological and cultural adaptations do determine **not only the occurrence of disease but also the availability of food and the population explosion.**

Ecological Concept Cont.

- It is stated that improvement in **human adaption to natural environment** can lead to **longer life expectancies** and a **better quality of life** even in the absence modern health delivery services.

Psychosocial Concept

- The psychosocial concept revealed that health is not only a biomedical phenomenon, but one which is **influenced by social, psychological, cultural, economic and political factors of the people concerned.**
- These factors must be taken into consideration in defining and measuring health. Thus health is both biological and social phenomenon.

Holistic Concept

- The holistic model is a **synthesis of all the above concepts**.
- It recognizes the strength of social, economic, political and environment influences on health.
- It has been variously described as a multidimensional process involving the well-being of the whole person in the context of his environment.

Holistic Concept

- The holistic approach implies that all sectors of society have an effect on health, in particular, agriculture, animal husbandry, food, industry, education, housing, public works, communications and other sectors.
- The emphasis is on the promotion and protection of health

Dimension of Health

- Health is **multidimensional**.
- The WHO definition envisages **three specific dimensions the physical, the mental and the social**.
- Many more may be cited, namely, spiritual, emotional, vocational and political dimensions.
- As the knowledge base grows, the list may be expanding.
- Although these dimensions function and interact with one another, each has its own nature, and for descriptive purposes will be treated separately.

Dimension of Health Cont.

- Physical Dimension
- Mental Dimension
- Social Dimension
- Spiritual Dimension
- Emotional Dimension
- Vocational Dimension

Physical dimension

- The physical dimension of health is based on the notion of “**perfect functioning**” of the body.
- It conceptualizes health biologically as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body.

Physical dimension Cont.

- However, the term “**optimum**” is not definable.
- This state of normality has fairly wide limits.
- These limits are set by observation of a large number of “normal” people, who are free from evident disease.

Physical dimension Cont.

Modern medicine has evolved tools and techniques which may be used in various combinations for the assessment of physical health. They include:

- Self-assessment of overall health
- Inquiry into symptoms of ill-health and risk factors/medications
- Inquiry into levels of activity (e.g., number of days of restricted activity within a specified time, degree of fitness)
- Inquiry into use of medical services (e.g., the number of visits to a physician, number of hospitalizations) in the recent past.
- Standardized questionnaires for specific diseases.
- Clinical examination nutritional and dietary assessment, and biochemical and laboratory investigations.

Physical dimension Cont.

- At the community level, the state of health may be assessed by such **indicators as death rate, infant mortality rate and expectation of life.**
- Ideally, each piece of information should be individually useful and when combined should permit a more complete health profile of individuals and communities.

Mental dimension

Mental health is not mere absence of mental illness.

Good mental health is the ability to respond to the many varied experiences of life with flexibility and a sense of purpose.

Mental health is defined as “ a state of balance between the individual and the surrounding worlds, a state of harmony between oneself and others, a co-existence between the realities of the self and that of other people and that of the environment.

Mental dimension

Some decades ago, the mind and body were considered independent entities. However researchers have discovered that psychological factors can include all kinds of illness, such as essential hypertension, peptic ulcer and bronchial asthma. Some Major mental illness such as depression and schizophrenia have a biological components. However, there is no precise tool to assess the state of mental health.

Mental dimension Cont.

Psychologists have mentioned the following characteristics as attributes of a mentally healthy person:

- a) Mentally healthy person is free from internal conflicts; he is not at “war” with himself.
- b) He is well-adjusted, i.e., he is able to get along well with others. He accepts criticism and is not easily upset.
- c) He searches for identity

Mental dimension Cont.

- d. He has a strong sense of self-esteem.
- e. He knows himself: his needs, problems and goals (this is known as self-actualization)
- f. He has good self-control-balances rationality and emotionality.
- g. He faces problems and tries to solve them intelligently, i.e., coping with stress and anxiety.

Assessment of mental health at the population level may be made by administering mental status questionnaires by trained interviewers.

Social dimension

- Social well-being implies harmony and integration within the individual, between each individuals and other members of society, and between individuals and the world in which they live.

Social dimension Cont.

In general, social health takes into account that every individual is part of a family and of wider community and focuses on social and economic conditions and well-being of the “whole person” in the context of his social network. Social health is rooted in “positive material environment” which is concerned with the social network of the individual.

Spiritual dimension

Spiritual health refers to that part of the individual which reaches out and strives for meaning and purpose in life.

It is the intangible “something” that transcends physiology and psychology.

Includes integrity, principles and ethics, the purpose in life, commitment to some higher being and belief in concepts that are not subject to “State of the art” explanation.

Emotional dimension

- Historically the mental and emotional dimensions have been seen as one element or as two closely related elements.
- However, mental health can be seen as “knowing” or “cognition” while emotional health relates to “feeling”

Vocational Dimension

- The vocational aspect of life is a new dimension.
- When work is fully adapted to human goals, capacities and limitations, work often plays a role in promoting both physical and mental health.
- The importance of this dimension is exposed when individuals suddenly lose their jobs or are faced with mandatory retirement.
- For many individuals, the vocational dimension may be merely a source of income.
- To others, this dimension represents the culmination of the efforts of other dimensions as they function together to produce what the individual considers life “Success”

Vocational Dimension Cont.

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Other dimensions of health

A few other dimensions have also been suggested such as:

- Philosophical dimension
- Cultural dimension
- Socio-economic dimension
- Environmental dimension
- Educational dimension
- Nutritional dimension
- Curative dimension
- Preventive dimension

Other dimensions of health

Cont.

- A glance at the above dimension shows that they are many “non medical” dimensions of health, e.g., social, cultural, educational, etc.
- These symbolize a huge range of factors to which other sectors besides health must contribute if all people are indeed to attain a level of health that will permit them to lead a socially and economically productive life.

Concept of Wellbeing

- **WHO Definition** of health introduces the concept of “well being”
- No satisfactory definition of the term “well-being” of an individual or group of individuals have objectives and subjective components.
- The **objective components** is related to the “standard of living” or “Level of living”
- The **Subjective component** of well being (as expressed by each individual) is referred to as “**Quality of Life**”

Standard of Living (WHO)

- Standard of living refers to the **usual scale of our expenditure, the good we consume and the services we enjoy.**
- WHO also defines as **income and occupation, standards of housing, sanitation and nutrition, the level of provision of health, educational, recreational** and other services may all be used individually as measures of socio-economic status, and collectively as an index of the “standard of living”.
- There are vast inequities in the standards of living of the people in different countries of the world.
- The extent of these differences is usually measured through the comparison of per capita GNP on which the standard of living primarily depends.

Level of Living (United Nations)

- The parallel term for **standard of living** used in **United Nations** documents is **“level of living”**.
- It consists of nine components: **health, food consumption, education, occupation and working conditions, housing, social security, clothing, recreation and leisure and human rights**.
- These objectives characteristics are believed to **influence human well-being**.
- It is considered that health is the most important component of the level of living because its impairment always means impairment of the level of living.

Quality of Life

- Defined by WHO as “the condition of life resulting from the **combination of the effects of the complete range of factors** such as those determining health, happiness (including comfort in the physical environment and a satisfying occupation), education, social and intellectual attainments, freedom of action, justice and freedom of expression”.

Quality of Life Cont.

- A recent definition of quality of life is “**a composite measure of physical, mental and social well-being as perceived** by each individual or by group of individuals – that is so say, **happiness, satisfaction and gratification** as it is experienced in such life concerns as health, marriage, family work, financial situation, education opportunities, self-esteem, creativity, belongingness, and trust in others.

Quality of Life Cont.

- The quality of life can be evaluated by assessing a person's **subjective feelings of happiness or unhappiness** about the various life concerns.
- People are now demanding a better quality of life.
- Therefore, governments all over the world are increasingly concerned about improving the quality of life of their people by reducing morbidity and mortality, providing primary health care and enhancing physical, mental and social well being.

Quality of Life Cont.

- It is conceded that a rise in the standard of living of the people is not enough to achieve satisfaction or happiness.
- Improvement of quality of life must also be added, and this means increased emphasis on social policy and on reformulation of societal goals to make life more liveable for all.

Indices Measuring Quality of Life

- a. Physical Quality of Life Index (PQLI)
- b. Human Development Index (HDI)

Physical Quality of Life Index (PQLI)

- Physical quality of life index consolidates three indicators, **namely, infant mortality, life expectancy at age one and literacy.**
- These three components measure the results rather than inputs.
- As such they lend themselves to international and national comparison.

Physical Quality of Life Index (PQLI)

Cont.

- For each components, the performance of individual countries is placed on a scale of 0 to 100, **where 0 represents an absolutely defined “Worst” performance and 100 represents an absolutely defined “best” performance.** The composite index is calculated by averaging the three indicators, giving equal weight to each of them.
- The resulting PQLI thus also is scaled 0 to 100.

Physical Quality of Life Index (PQLI)

Cont.

- PQLI has not taken per capita GNP into consideration, showing thereby that “money is not everything”.
- For example, the oil-rich countries of Middle East with **high per capita incomes** have in fact **not very high PQLIs**.
- At the other extreme, Sri Lanka and Kerala State in India have low per capita incomes with high PQLIs.

Physical Quality of Life Index (PQLI) Cont.

- In short, PQLI does not measure economic growth; it measures the results of social, economic and political.
- It is intended to complement, not replace GNP.

Human Development Index (HDI)

Human development index (HDI) is defined as a composite index combining indicators representing three dimensions-longevity (life expectancy at birth) : knowledge (mean years of schooling and expected years of schooling) and income (GNI per capita in purchasing power parity in US dollars)”

Human Development Index (HDI)

Cont.

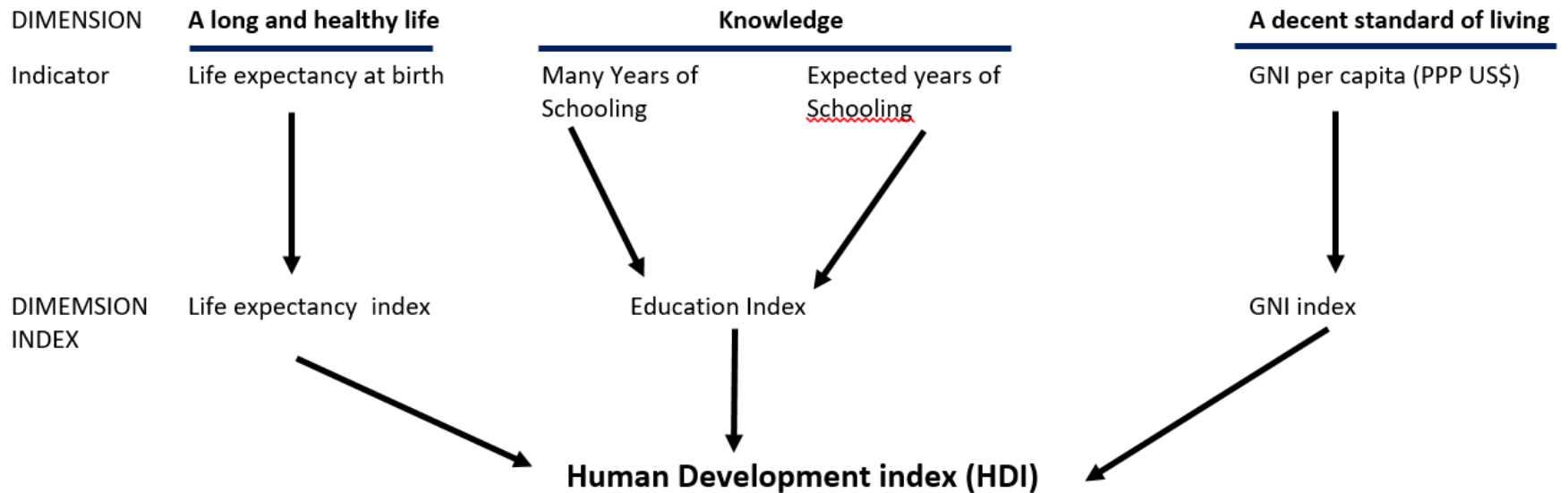


Figure (1) Calculating the Human Development Index (HDI)

Human Development Index (HDI)

Cont.

- The concept of HDI reflects achievements in the most basic human capabilities, namely, leading a long life, being knowledgeable and enjoying a decent standard of living. Hence, these three variables have been chosen to represent those dimensions.
- The HDI is a more comprehensive measure than per capita income.
- The HDI values range between 0 to 1. It also allow comparison with other countries.

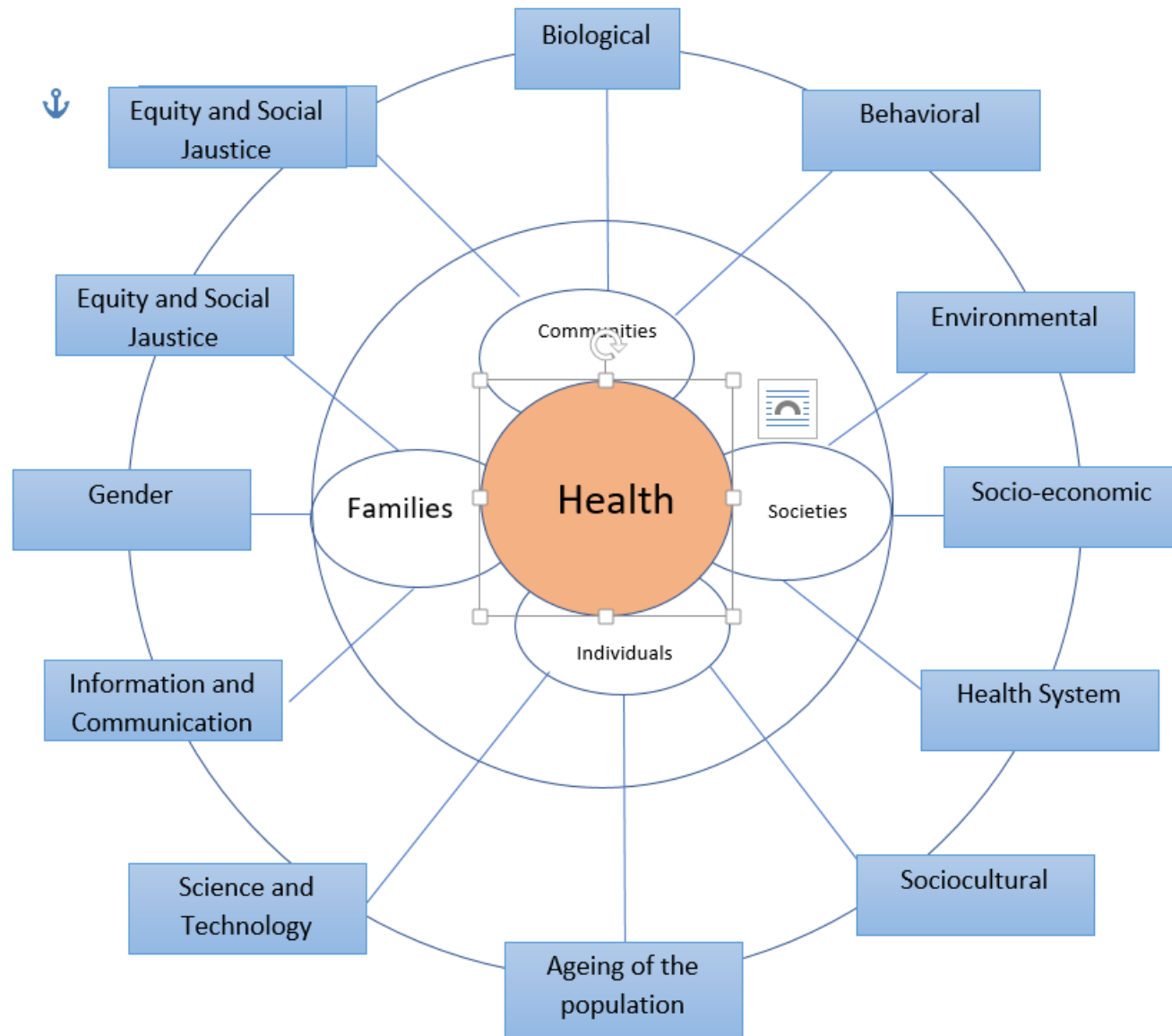
Determinants of Health

- Health is multifactorial.
- The factors which influence health lie both within the individual and externally in the society in which he or she lives.
- The health of a person depends on a combination of two sets of factors: genetic factors and the environmental factors.
- The interactions of these factors may cause health promoting or deleterious result.

Determinants of Health Cont.

- Thus, conceptually, the health of individuals and whole communities may be considered to be the result of many interaction.
- Only a brief indication of the more important determinants or variables is shown in figure

Determinants of Health Cont.



Determinants of Health Cont.

- Biological Determinant (Heredity/Genetic)
- Behavioral and social-cultural conditions
- Environmental factors (External and Internal)
- Socio-economic condition
- Health Services
- Ageing of population
- Gender
- Other Factor

1. Biological determinants (Heredity/Genetic)

- The physical and mental traits of every human being are to some extent determined by the nature of his genes at the moment of conception.
- The genetic-make up is unique in that it cannot be altered after conception.
- A number of diseases are now known to be of genetic origin, e,g., chromosomal anomalies, error of metabolism, mental retardation, some types of diabetes. Etc.

1. Biological determinants (Heredity/Genetic)

- The state of health, therefore depends partly on the genetic constitution of man.
- Nowadays, medical genetics offers hope for prevention and treatment of a wide spectrum of diseases.
- The prospect of better medicine and longer, healthier life. It plays a particularly important role in genetic screening and gene therapy.

1. Biological determinants (Heredity/Genetic)

- This determinant defined health as the state of the individual which is based upon the absence from the genetic constitutional of such genes as correspond to characters that take the form of serious defect and derangement and to the absence of any aberration in respect of the total amount of chromosome material in the karyotype or stated in positive terms, from the presence in the genetic constitution of the genes that correspond to the normal characterization and to the presence of a normal karyotype.

1. Biological determinants (Heredity/Genetic) Cont.

- The “positive health” advocated by WHO implies that a person should be able to express as completely as possible the potentialities of his genetic heritage.
- This is possible only when the person is allowed to live in healthy relationship with his environment an environment that transforms genetic potentialities into phenotypic realities.

2. Behavioral and socio-cultural conditions

- Lifestyle is a diffuse concept often used to denote “the way people live”, reflecting a whole range of social values, attitudes and activities.
- It is composed of cultural and behavioral patterns and lifelong personal habits. (e.g., smoking, alcoholism) that have developed through processes of socialization.
- Lifestyles are learnt through social interaction with parents, peer groups, friends and siblings and through school and mass media.
- Health requires the promotion of Healthy lifestyle. In the developed countries, many current-day health problems especially (e.g., coronary heart disease, obesity, lung cancer, drug addiction) are associated with lifestyle changes.

2. Behavioral and socio-cultural conditions

- In developing countries, traditional lifestyles such as lack of sanitation, poor nutrition, elementary human habits, customs and cultural patterns are connected with risks of illness and death.
- It may be noted that not all lifestyle factors are harmful. There are many that can actually promote health. Examples include adequate nutrition, enough sleep, sufficient physical activity etc.
- In short, the achievement of optimum health demands adoption of healthy lifestyles.
- Health is both a consequence of an individual's life style and a factor in determining it.

3. Environmental factors (External and Internal)

- It was Hippocrates who first related disease to environment, e.g, climate, water, air, etc.
- Environment is classified as “internal” and “external”
- The internal environment of man pertains to each and every components part, every tissue, organ and organ system and their harmonious functioning within the system.
- Internal environment is the domain of internal medicine.

3. Environmental factors (External and Internal) Cont.

- The external or macro-environment consists of those things to which man is exposed after conception.
- It is defined as “all that which is external to the individual human host”
- It can be divided into physical, biological and psychosocial components, any or all of which can effect the health of man and his susceptibility to illness. Some epidemiologists have used the term “micro-environment” (or domestic environment) to personal environment which includes the individual’s way of living and lifestyle, e.g., eating habit, other personal habits(e.g., smoking or drinking), use of drugs, etc.

3. Environmental factors (External and Internal) Cont.

- Environment has a direct impact on the physical, mental and social well-being of those living in it.
- The environmental factors range from housing, water supply, psychological stress and family structure through social and economic support systems, to the organization of health and social welfare services in the community. Protection and promotion of family and environmental health is one of the major issues in the world today.

4. Social Economic condition

- **Socio-economic conditions** have long been known to **influence human health**.
- For the majority of the world's people, health status is **determined primarily by their level of socio-economic development**, e.g., per capita GNP, education, nutrition, employment, housing, the political system of the country, etc.

4. Social Economic condition Cont.

- (a) Economic Status
- (b) Education
- (c) Occupation
- (d) Political System

Economic Status

- The per capita **GNP** is the most widely accepted **measure of general economic performance**. The economic status determines the purchasing power, standard of living, quality of life, family size and the pattern of disease and deviant behavior in the community.
- The affluence may also be a contributory cause of illness as exemplified by the high rates of coronary heart disease, diabetes and obesity in the upper socio-economic groups

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Education

- A **second major factor influencing health status is education** (especially female education).
- The world map of illiteracy closely coincides with the maps of **poverty, malnutrition, ill-health, high infant and child mortality rates.**

Occupation

- The state of being employed in productive work promotes health, because the **unemployed usually show a higher incidence of ill-health and death.**
- For many, **loss of work** may mean **loss of income and status.**
- It can cause **psychological and social damage.**

Political system

- Health is also **related to the country's political**.
- Often the main obstacles to the implementation of health technologies are not technical, but rather political.
- Decisions concerning resource allocation, manpower policy, choice of technology and the degree to which health services are made available and accessible to different segments of the society are examples of the manner in which the political system can shape community health services.

Political system cont.

- The percentage of GNP spent on health is a quantitative indicators of political commitment.
- The WHO has set the target of at least 5 per cent expenditure of each country's GNP on health care.
- The political commitment and leadership are oriented towards social development, and not merely economic development.
- If poor health patterns are to be changed, then changes must be made in the entire sociopolitical system in any given community.
- Social, economic and political actions are required to eliminate health hazards in people's working and living environments.

Health Services

- Health and welfare services covers a wide spectrum of personal and community services for treatment of disease, prevention of illness and promotion of health.
- The **purpose of health services is to improve the health status of population.**
- For example, **immunization of children can influence the incidence/ prevalence of vaccine preventable diseases.**

Health Services Cont.

- Provisions of safe water can prevent mortality and morbidity from water-borne diseases.
- The care of pregnant women and children would contribute to the reduction of maternal and child morbidity and mortality.
- **To be effective**, the health services must reach the social peripheral, equitably distributed, accessible at a cost the country and community can afford, and socially acceptable.

Ageing of the population

- By the year 2020, the world will have more than **one billion people aged 60 and over**, and **more than two-third of them living in developing countries**.
- A major concern of rapid population ageing is the **increased prevalence of chronic diseases and disabilities**

Gender

- The 1990s have witnessed an increased concentration on women's issues.
- In 1993, the Global Commission on Women's Health was established.
- The Commission drew up an agenda **for action on women's health covering nutrition, reproductive health, the health consequences of violence, ageing, lifestyle related conditions and the occupational environment.**
- It has brought about an increased awareness among policy-makers of women's health issues and encourages their inclusion in all development plans as a priority.

Other Factors

- Together with transition from post-industrial age to an information age, interconnected revolutions occurred in information and in communication.
- The development of these technologies offers tremendous opportunities in providing an essay and instant access to medical information once difficult to retrieve.
- It contributes to dissemination of information worldwide, serving the needs of many physicians, health professionals, biomedical scientists and researchers, the mass media and the public.

Other Factors Cont.

- Other contributions to the health of population derive from systems outside the formal health care system i.e., health related systems (e.g, food and agriculture, education, industry, social welfare, rural development), as well as adoption of policies in the economic and social fields that would assist in raising the standard of living.
- This would include employment opportunities, increased wages, prepaid medical programmes and family support systems.
- In short, medicine is not the sole contributor to the health and well-being of population. The potential of inter sectoral contributions to the health of communities is increasingly recongnized.

Reference

(1) Park's Textbook of Preventive and Social Medicine, K. Park, 24th Edition, 2017

Thank you

