



MEDICAL UNIVERSITY – PLEVEN >>>
FACULTY OF PUBLIC HEALTH

DEPARTMENT OF PUBLIC HEALTH SCIENCES

Lecture № 1

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Social medicine as a science

- » Definition
- » Structure
- » Methods
- » Development of concepts
- » The education in social medicine
- » Social determinants of health and disease

Outline of the lecture



SOCIAL MEDICINE

Social medicine is a science that is concerned with **public health**.

It is the study of the

- socio-economic,
- environmental,
- cultural,
- psychological and
- genetic **factors**

which have an impact on the group and individual health and the **practical measures** in the society that may be taken to promote health, prevent disease and assist recovery of the sick. >

SOCIAL MEDICINE

The laboratory to practice social medicine is the whole community.

The tools for diagnosing community health are epidemiology and biostatistics;

Social therapy does not consist in administration of drugs but social and political action for the improvement of conditions of life.



SOCIAL MEDICINE

The main objective of social medicine is to protect the health of the population, and its tasks may be defined as follows:

- **to assess** the health of the population and its development;
- **to work out** methods and means for health promotion and prevention of disease, disability, and infirmity;



SOCIAL MEDICINE

- **to organize** medical care and rehabilitation for the whole population;
- **to assess and control** the sanitary conditions of the environment;
- **to control** the birth rate in order to secure the harmonious development of the population (in developing countries).



SOCIAL MEDICINE

In order to achieve its objectives, social medicine has to deal with the information on:

- **SOCIAL ANATOMY:**

age and sex composition of the population,

housing,

social groups,

economic patterns,

per capita income and expenditure,

environmental sanitation,

social environment,

density of population, industries, geographical features, availability of food, the towns, cities, districts, etc.



SOCIAL MEDICINE

- **SOCIAL PHYSIOLOGY** - the way society functions as an organized unit
- **SOCIAL PATHOLOGY** - systematic study of the relationship between diseases and social conditions

SOCIAL PATHOLOGY deals with the dysfunction prevailing in the community as a result of such factors as malnutrition, age and sex composition, poverty, accidents, illiteracy, standard of living, etc. The extent of social pathology is determined by epidemiological surveys. They bring to light the trends in morbidity and mortality and their correlation with social factors and social changes.



SOCIAL MEDICINE

- **SOCIAL THERAPY** - It consist of social and political action for the improvement of conditions of life. Social therapy also implies political action, which the society undertakes in the form of legislation to prevent disease, protect and promote health of its citizens.



SUBJECT MATTER OF SOCIAL MEDICINE

The subject matter of social medicine is **public health**.

For a quantitative estimation of public health the following indices are used:

- 1. Demographic indices (death rate, birth rate, average life expectancy).**
- 2. Morbidity rate.**
- 3. Disability rate.**
- 4. Indicators of physical development of the population.**

The greater part of these indicators is of negative character; it concentrates doctors' attention to pathological conditions and health definition through morbidity intensity.



PARTS OF SOCIAL MEDICINE

According to its specific objectives, social medicine could be divided into two parts:

- **Descriptive part** (epidemiology of population health)
- **Prescriptive part** (organization and management of health services activities).



METHODS OF SOCIAL MEDICINE

SOCIAL MEDICINE is a multidisciplinary science which uses methods from many other branches of science to study community health, to develop appropriate preventive measures, to effectively use the scarce resources, knowledge.

- **Methods of Statistics**
- **Methods of Epidemiology** (observational and experimental epidemiology)
- **Methods of Demography** (population size and composition, birth and mortality rates)
- **Methods of Sociology** (self-administrated questionnaires, interviews, observation)
- **Economic methods**



Development of concepts

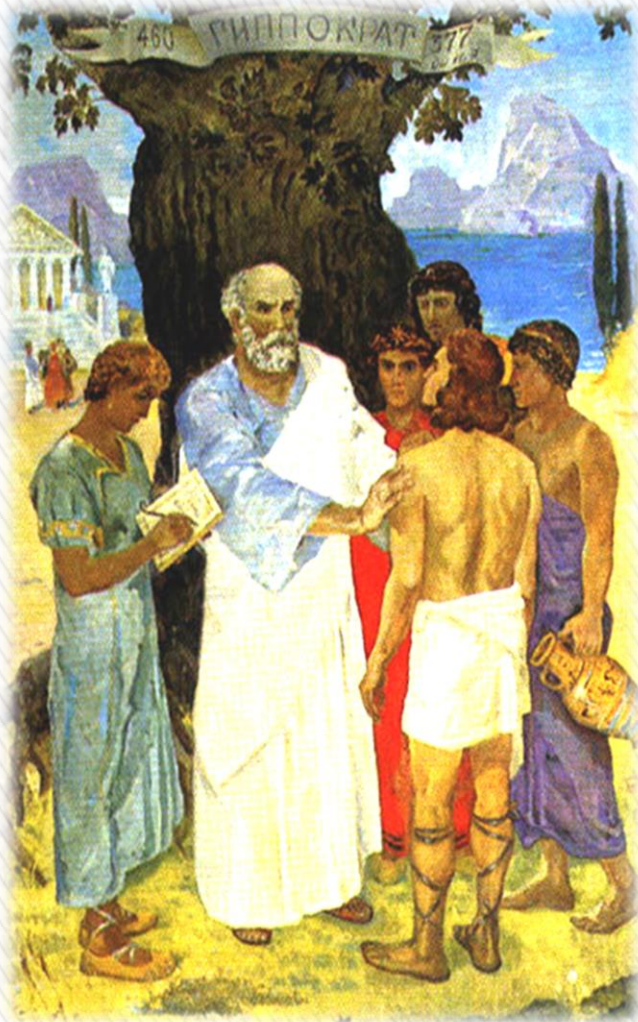


The history of occurrence of our science is closely connected with the need of doctors to explain the reasons of health and illnesses of their patients and also to learn to control their health. From time immemorial man has been interested in trying to control disease. It is possible to give many examples from history of medicine confirming that many doctors connected occurrence of diseases with adverse conditions of a life of their patients.

Development of concepts



Hippocrates (460-370 BC)



- » "The majority of illnesses depend on acts, thoughts of the person and his life conditions."
- » He studied such things as climate, water, clothing, diet, habits of eating and drinking and the effect they had in producing disease.
- » His book "Airs, Water and Places" is considered a treatise on social medicine and hygiene. The Hippocratic concept of health and disease stressed the relation between man and his environment.



Abu Ali Ibn-Sina (980-1037)



- » The great doctor of medieval East Abu Ali Ibn-Sina known to the western world as Avicenna named three important conditions for health preservation:
 - moderate physical exercises,
 - a rational diet
 - and sleep.



Bernardino Ramazzini (1633 – 1714)



- » Italian doctor Bernardino Ramazzini has proved for the first time that not only conditions of life and behavior of a person, but also **working conditions** can cause illness. Its scientific work "Reasoning's on illnesses of handicraftsmen" contains the description of 60 occupational diseases with specifying of their reasons, preventive and treatment measures.



He advocated that medicine be reformed on the basis of the principles:

- the health of the people is a matter of direct social concern
- social and economic conditions have an important effect on health and disease
- the measures to promote health and combat disease must be social as well as medical

(The Medical Reform, 1848)



Rudolf Virchow

Die Medicinische Reform, 1848

Many Russian doctors also considered, that "it is necessary to treat not illness, but a patient", that is a person taking into account individual character, temperament, life and work conditions. At the end of the 18th century many of the professors of the Moscow University stressed the necessity of public health study and introduction of a new subject at medical faculties. But the lecture course on public health has been introduced only in the second half of the 19th century, and only at several medical faculties and occasionally.

Development of concepts



Formation of a new science studying public health has occurred at the very beginning of the 20th century in Germany. Interest to public health in Germany has been caused by adoption of the law of social insurance providing three sources of payment for medical aid: means of the state budget, businessmen's profit, and workers' inpayments. Under new conditions, businessmen became interested in studying health state of workers, morbidity decrease, carrying out of preventive measures. A German doctor **Alfred Grotjan** became a founder of social hygiene (the original name of a science studying public health state).

Development of concepts





- In 1903 Alfred Grotjan began publishing a magazine on social hygiene.
- In 1905 he founded a scientific organization on social hygiene and medical statistics in Berlin.
- In 1920 Alfred Grotjan became successful in establishment of the Chair of Social Hygiene at Medical Faculty of the Berlin University.

Development of concepts



- 1912 - Rene Zand founded the Belgian Social and Medical Association
- 1922 – Semaško – first chair of Social hygiene in Moscow University
- 1942 – first chair in England (at Oxford)

Development of concepts



- In the thirtieth years of the last century in other countries of the world the chairs studying public health have opened.
- Social hygiene is a young science; it still continues to be formed and consequently has no common unitized name as a teaching subject.
- In many countries this subject is called social medicine, medical sociology, preventive and social medicine, sociology of public health services (USA), public health.

Development of concepts



Mission

To contribute to the development of a well-rounded (holistic) medical professional, who will demonstrate knowledge and competence with compassion in dealing with primary health care, desire for lifelong learning, evidence-based practice, interdisciplinary team work, and professional and ethical behavior in practice in order to improve and sustain the health of the population.

The education in social medicine



Goal

To ensure that the medical graduate has acquired broad public health competencies needed to solve health problems of the community with emphasis on health promotion, disease prevention, cost-effective interventions and follow up.

The education in social medicine



Objectives

At the end of the course the graduate doctors should be able to:

- Conceptualize people as the focus of the lifetime service of a doctor and be ready to help always and specially in time of need, minimize the suffering of people and have the ability to “think globally and act locally”;
- Apply the basic epidemiological principles to investigation of diseases, outbreaks, health promotion and disease prevention;
- Contribute to health systems’ performance as a member of the health team in the generation and efficient utilization of human and logistic resources;
- Foster healthy lifestyles in the individual and the community level to prevent environmental degradation and to promote social harmony;
- Identify the health needs of populations and population subgroups through planning, intervention, monitoring and evaluation.
- Provide patient-centered comprehensive primary health care including referral, continuing care and follow-up.
- Ensure research competencies in i) accessing and appraising scientific information ii) preparation of reports and maintaining records iii) presentation of research findings and publishing.

The education in social medicine



State where all the organs of the body are of unexceptional size and function normally.

- A mentally healthy person:
- Feels satisfied with himself.
 - Is well adjusted (able to get along well with others).
 - Has good self-control (faces problems and tries to solve them intelligently).

“Health is a state of complete physical, mental and social well-being, and not merely an absence of disease or infirmity”

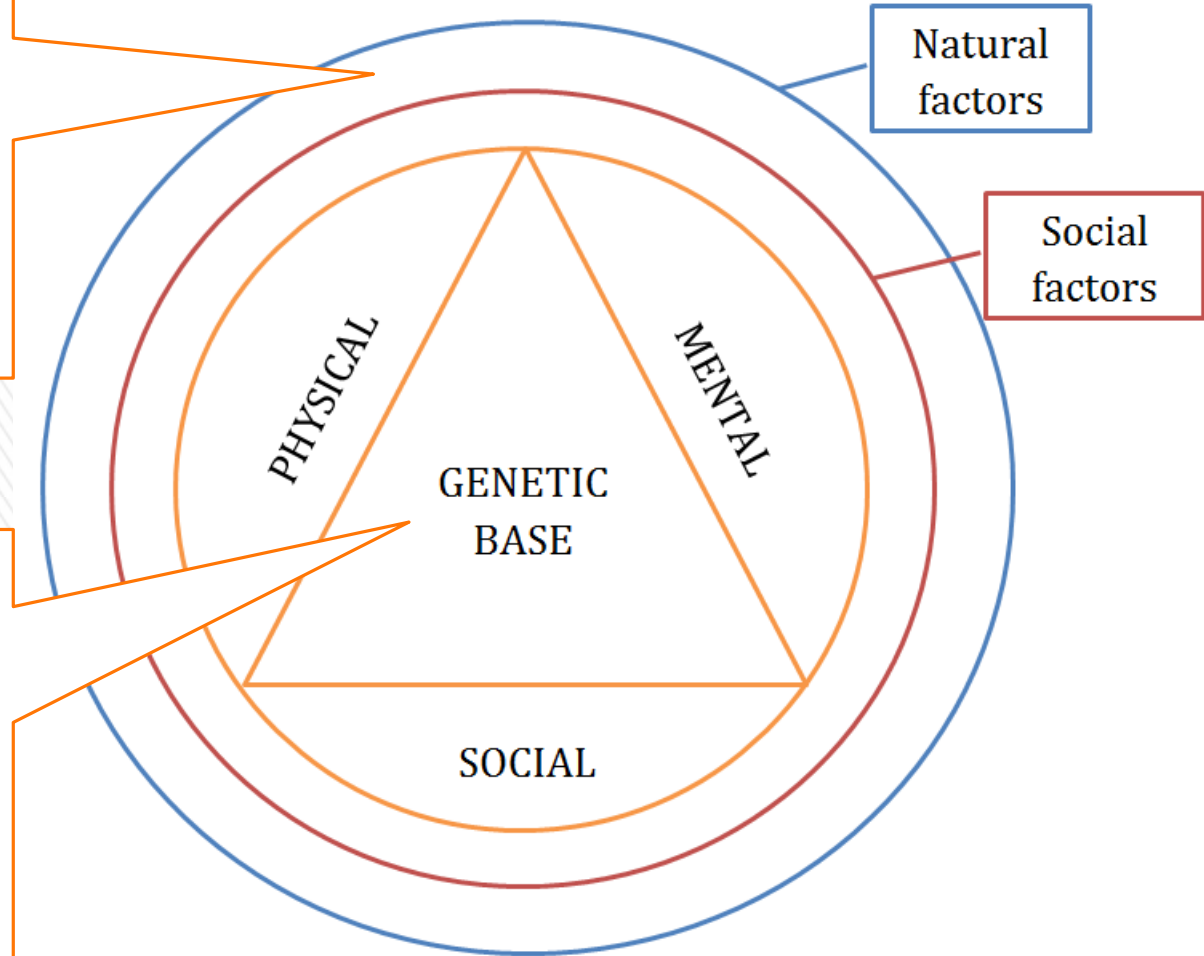
Includes the levels of social skills one possesses, social functioning and the ability to see oneself as a member of a larger society.

Constitution of WHO, 1948

Concept of health ➤

Natural factors act through social factors and life style. Hunger and cold do not equally affect the naked and the hungry and the dressed and the satisfied.

Genetic base is also an important determinant of health. 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.



Concept of health



A person who enjoys health at all three planes (physical, mental and social) is said to be in a state of “positive health”.

The attainment of positive health is one of the important ingredients of good life that a nation should assure for every citizen.

Positive health



There are no fixed standards governing health.

What is considered normal in one person may be abnormal to another. Thus, health is a relative concept and standards of health vary from person to person, and from country to country.

Health as a relative concept



Involves not only the wellbeing in the conception of health but also some new dimensions about what health is:

- Health is fundamental human right;
- Health is the essence of productive life;
- Health is intersectorial;
- Health is integral part of development;
- Health is quality of life;
- Health involves individual governmental and international responsibility;
- Maintenance of health is a major social investment;
- Health is worldwide social goal.

New philosophy of health



In medico-social researches, at health estimation, it is accepted to point out four levels

1. Health of a separate person – **individual health**;
2. Health of social and ethnic groups – **group health**;
3. Health of the population of administrative territory – **regional health**;
4. Health of population, a society as a whole – **public health**.

Unlike the majority of medical and clinical disciplines dealing with a separate person, an individual and his health, public health and public health systems studies a state of health of all population of the country.



Winslow: “Public health is the Science and Art of preventing disease, prolonging life and promoting health through organised community efforts for the

- **sanitation of the environment**
- **control of communicable diseases**
- **education of the individual in personal hygiene**
- **organization of medical and nursing services for early diagnosis and preventive treatment**
- **development of social machinery to insure everyone an adequate standard of living for the maintenance of health”**

Concept of public health



Public health is the planning, carrying out and evaluation of health measures and system services that both maintain and improve the health of a population group and prevent and control diseases within that population group.

Concept of public health



The health of an individual is a dynamic phenomenon.

Health and disease form a continuum.

- **Positive health**
- **Better health**
- **Freedom from sickness**
- **Unrecognized sickness**
- **Mild sickness**
- **Severe sickness**
- **Death**

Spectrum of health



- » Webster: “A condition in which body health is impaired, a departure from a state of health, an alteration of the human body interrupting the performance of vital functions”
- » Oxford English Dictionary: “A condition of the body or some part or organ of the body in which its functions are disturbed or deranged”.
- » Alan Gregg: “Maladjustment of the human organism to the environment.”
- » Susser: “A physiological dysfunction.”

Concept of disease



Factors of community health

Related to material production

Related to human reproduction

family

lifestyle

public health care

education and so on

Related to intellectual production

science

law

religion

art

politics and so on

Related to communications

massmedia

transport

language

Social management

Factors of individual health

» Personal characteristics

» Factors, related to family background

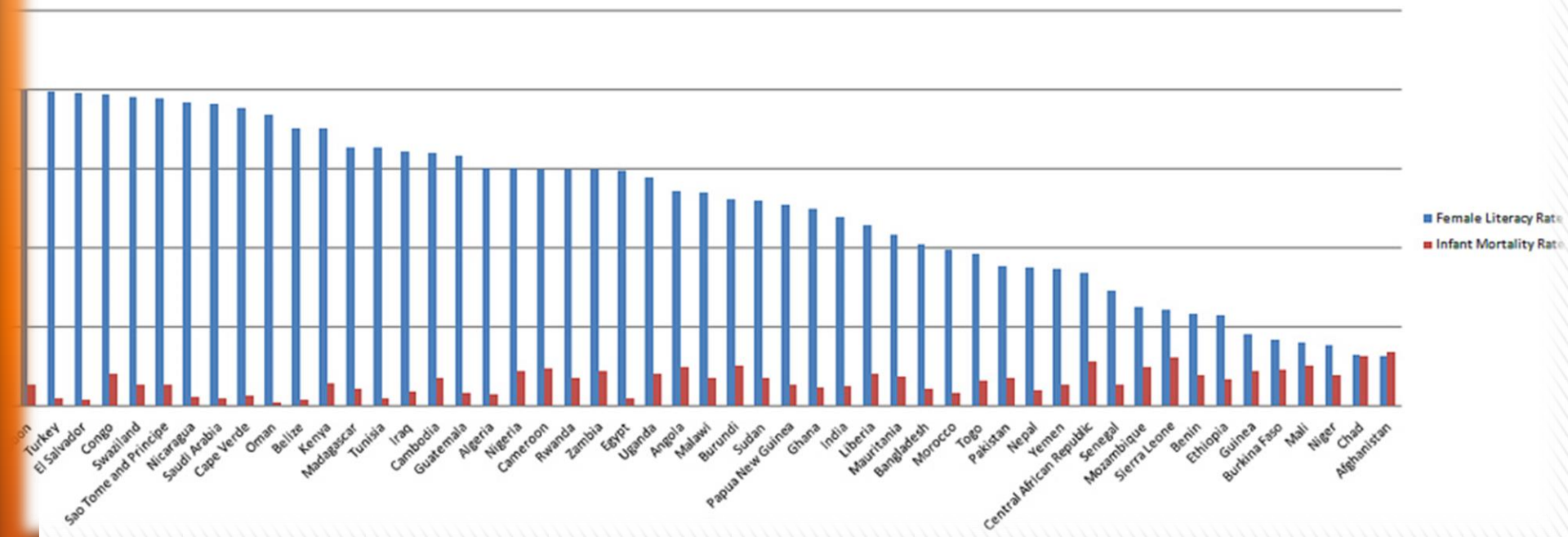
» Factors, related to occupational environment

» Factors, related to social environment

» Factors, related to Health Services

Factors, influencing health

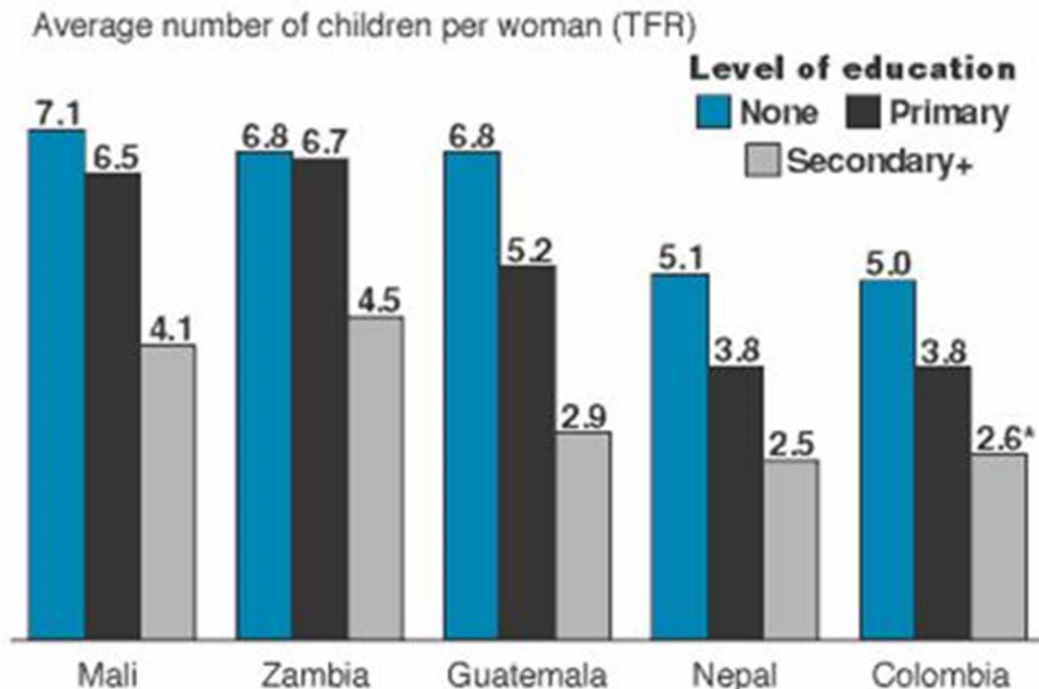




Literacy rate and infant mortality



Women's Education and Childbearing, Selected Countries, 1995–1999



*Secondary level only.

Note: The TFR is the average total number of children born per woman given prevailing birth rates.

Source: Demographic and Health Surveys, Final Country Reports. Available online at www.measuredhs.com.

Literacy rate and TFR



1. STRESS-ILLNESS MODEL

- Stressors /threatening environmental circumstances/ give rise to strains /psychological and physiological changes/ which increase a individual's susceptibility to disease.
- The link between stressors and illness is mediated by a number of factors which may increase or decrease an individual's vulnerability when faced with a stressor.
- Psychological variables such as personality characteristics, coping styles, along with social factors such as social support, socio-economic and family status, interact in complex ways to affect health outcomes.

Explanatory models



2. ENVIRONMENT - BEHAVIOURAL THEORY

- These include - smoking, alcohol consumption, diet, exercise, use of self-care practices, occupational and domestic environment, etc.
- The assumption here is that groups characterized by these broad social variables related to health are also characterized by health-damaging environments and behaviours.

Explanatory models



LINK BETWEEN THE THEORIES

- Health-damaging behaviours are themselves the product of stress.
- For example, rates of smoking and alcohol consumption are highest among those in occupations which have the highest levels of stress.

Explanatory models



1926. Andrija Štampar: 10 health commandments

1. Informing the people is more important than the law.
2. The most important thing is to lay the groundwork for understanding of the health issues in any region.
3. Question of the people's health and its improvement is not a monopoly of the physician, it should include everybody. Only through joint cooperation and synergy will it be possible to improve the health of the entire population.



4. Physician needs to be a social worker; individual therapy does not go very far; social therapy can bring in much more improvement.
5. Physician must not be economically dependent on the patient.
6. In matters of people's health there must be no difference between the rich and the poor.
7. We need to develop an institution in which physician will seek for the patient, and not the other way round, for only this can provide better health for more people.



8. Physician must be a people's teacher.
9. Question of the people's health is of greater economical than humanitarian meaning.
10. Main physicians workplace should be settlement and places where people live, not laboratories and clinics.

