

# CONCEPT OF HEALTH /DISEASE

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# LEARNING OBJECTIVES

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- ✘ Differentiate between health and wellbeing
- ✘ Explain concept of health
- ✘ Name and describe dimensions of health
- ✘ Enlist indicators of health
- ✘ Define disease
- ✘ Differentiate between illness, sickness and disease
- ✘ Describe epidemiologic triad

# 1948 WHO DEFINITION OF HEALTH

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- ✘ “A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”

WHO Constitution

# DIFFERENCE BETWEEN HEALTH AND WELLBEING

- ✘ **health** is a state of being, whereas **wellness** is the state of living a **healthy** lifestyle
- ✘ Wellness is considered a conscious, self-directed and evolving process of achieving full potential.
- ✘ Wellness is multidimensional and holistic, encompassing lifestyle, mental and spiritual well-being, and the environment.
- ✘ Wellness is positive and affirming.



# Concept of Health

- ◆ Biomedical concept
- ◆ Ecological concept
- ◆ Psychosocial concept
- ◆ Holistic concept



# Biomedical concept

- ◆ Health is “absence of disease” ie if one is free from disease than he is considered healthy.
- ◆ Based on germ theory of disease.
- ◆ Question – malnutrition, chronic disease, accidents, drug abuse, mental illness , environmental pollution etc which lead to ecological concept



# Ecological concept

- ◆ Ecologists – health is dynamic equilibrium between man and his environment, and disease is maladjustment of the human organism to his environment.
- ◆ “Health implies the relative absence of pain and discomfort and a continuous adaptation and adjustment to the environment to ensure optimal function”



# Psychosocial concept


- ◆ Development in social science – Health is not only a biomedical phenomenon, but it is influenced by
- ◆ social,
- ◆ psychological,
- ◆ cultural,
- ◆ economic and
- ◆ political factors of the people concerned,
- ◆ “Health is both a biological and social phenomenon”





# Holistic concept

- ◆ Synthesis of all the above concepts,
- ◆ It recognizes the strength of social, economic, political and environmental influences on health
- ◆ Then came a many definitions of health



# Definitions of Health

- ◆ “the condition of being sound in body, mind or spirit, especially freedom from physical disease or pain” (webster)
- ◆ “soundness of body or mind; that condition in which its functions are duly and efficiently discharged” ( oxford)
- ◆ “ a condition or quality of the human organism expressing the adequate functioning of the organism in given conditions, genetic and environmental” ( operational def by WHO)



# Health Definition

WHO define health

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



# Dimension of Health

- ◆ Health is Multidimensional.
- ◆ WHO definition envisages

Physical  
dimension

Mental  
Dimension

Social  
Dimension

# Physical dimension



[http://images01.trafficz.com/cache/h3w4/500\\_1189535325\\_running.jpg](http://images01.trafficz.com/cache/h3w4/500_1189535325_running.jpg)

- ◆ The state of physical health implies 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.



# Mental Dimension

<http://cms.mumbai-mirror.com/portal/files/7/3/2007/10/Image/Mental%20Health.jpg>

- ◆ Mental health is not mere absence of mental illness.
- ◆ Good mental health is ability to respond to the many varied experience of life with flexibility and sense of purpose.



- ◆ “A state of balance between the individual and the surrounding world, a state of harmony between oneself and others, a coexistence between the realities of the self and that of other people and that of the environment”



## Social dimension

- ◆ Social well-being implies harmony and integration within the individual, between each individual and other members of society and between individuals and the world in which they live.
- ◆ “quantity and quality of an individual’s interpersonal ties and the extent of involvement with the community.”





# Spectrum of Health

Health and disease lie along a continuum, and there is no single cut-off point.

Positive health

Better Health

Freedom from sickness

Unrecognized sickness

Mild sickness

Severe sickness

Death

The Health sickness spectrum




# Spectrum concept of health

- ◆ Emphasizes that the health of an individual is not static.
- ◆ It is a dynamic phenomenon and a process of continuous change.



How is  
health in a  
given  
community?



# Indicators of Health

- ◆ Required to measure the health status of a community.
- ◆ Compare health status of one country with others
- ◆ For assessment of health care needs
- ◆ For allocation of resource
- ◆ Monitoring and evaluation of health services

With the goal of good health in mind...think of an indicator as:

*“...a measure that helps quantify the achievement of a health goal.”*

*-Mark Friedman*

- Indicator = Variable.

A variable which helps to measure changes, directly or indirectly (WHO, Guidelines for Health Program evaluation, 1981)

- A health indicator is a characteristic of an individual, population, or environment which is subject to measurement (directly or indirectly) and can be used to describe one or more aspects of the health of an individual or population (quality, quantity and time).

- WHO, Health Promotion Glossary 1998.





# Indicators

- ◆ Mortality indicators
- ◆ Morbidity indicators
- ◆ Disability rates
- ◆ Nutritional status indicators
- ◆ Health care delivery indicators
- ◆ Utilization rates
- ◆ Indicators of social and mental health

- × **1. MORTALITY INDICATORS** :crude death rate, age specific death rate, maternal mortality rate, infant mortality rate
- × **2. MORBIDITY INDICATORS** :incidence and prevalence of a disease
- × **3. DISABILTY RATES** : disability adjusted life years
- × **4. NUTRITIOUS STATUS** : height ,weight, mid arm circumference.
- × **5. HEALTH CARE DELIVERY** : doctor/patient ratio, doctor/nurse ratio, patient bed ratio
- × **6.UTILIZATION RATES**: proportion of people in need of a service
- × **7. INDICATORS OF SOCIAL AND MENTAL HEALTH** :substance abuse



- ◆ Environmental indicators
- ◆ Socio-economic indicators
- ◆ Health policy indicators
- ◆ Indicators of quality of life
- ◆ others



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- × **8. ENVIRONMENTAL INDICATORS**: Proportion of population having access to safe drinking water and sanitation facilities
  - × **9. ECONOMIC INDICATORS** :Rate of population growth, per capita GNP, level of unemployment, dependency rate
  - × **10. HEALTH POLICY INDICATORS** : Proportion of GNP spent on health services
  - × **11. INDICATORS OF QUALITY OF LIFE** : physical quality of life index



# Concept of disease

- ◆ Webster defines disease as “ a condition in which body health is impaired, a departure from a state of health, an alteration of human body interrupting the performance of vital functions.”
- ◆ Ecological point=“a maladjustment of the human organism to the environment.”



# WHO definition

- ◆ WHO defined health but not disease because:
- ◆ Spectrum of disease ( many stages)
- ◆ Some acute, some insidious
- ◆ Carrier state, infect.
- ◆ Some are related to organisms, some other cause.

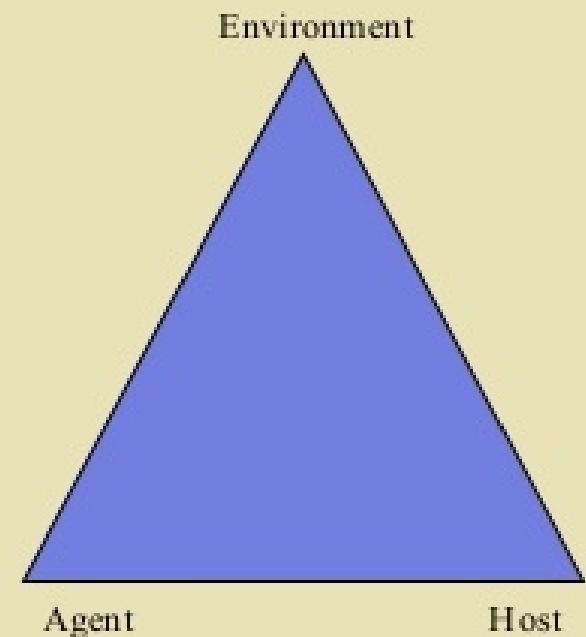
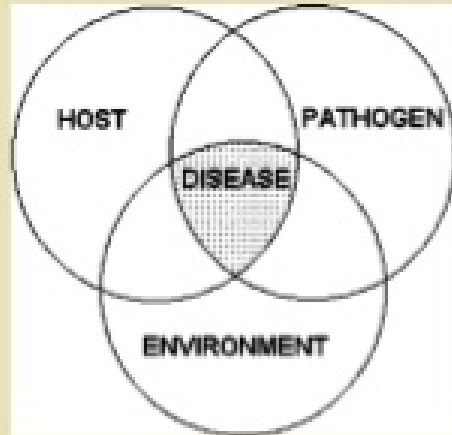
# Concept of Causation

- ◆ Up to the time Louis Pasteur (1822-1895),
- ◆ Super natural theory
- ◆ Theory of Humors
- ◆ Contagion
- ◆ Miasmatic
- ◆ Micro organisms.
- ◆ Germ Theory



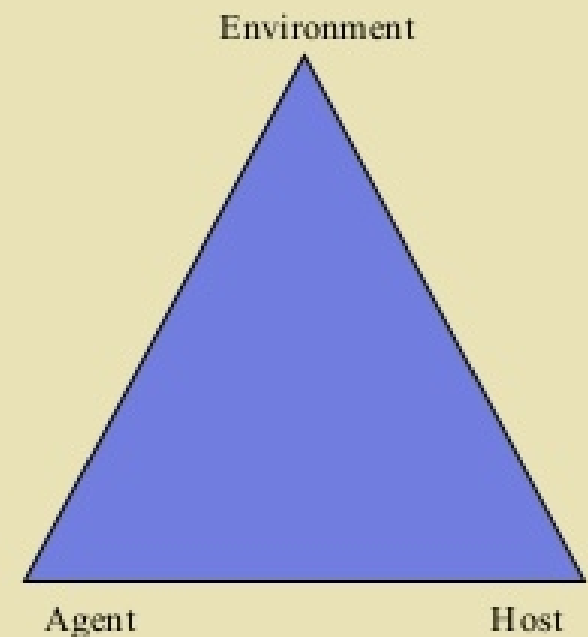
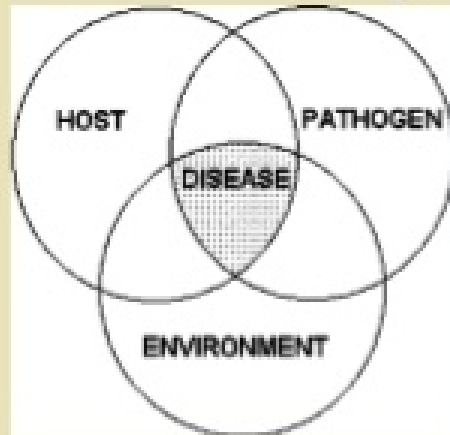
# Epidemiological Triad

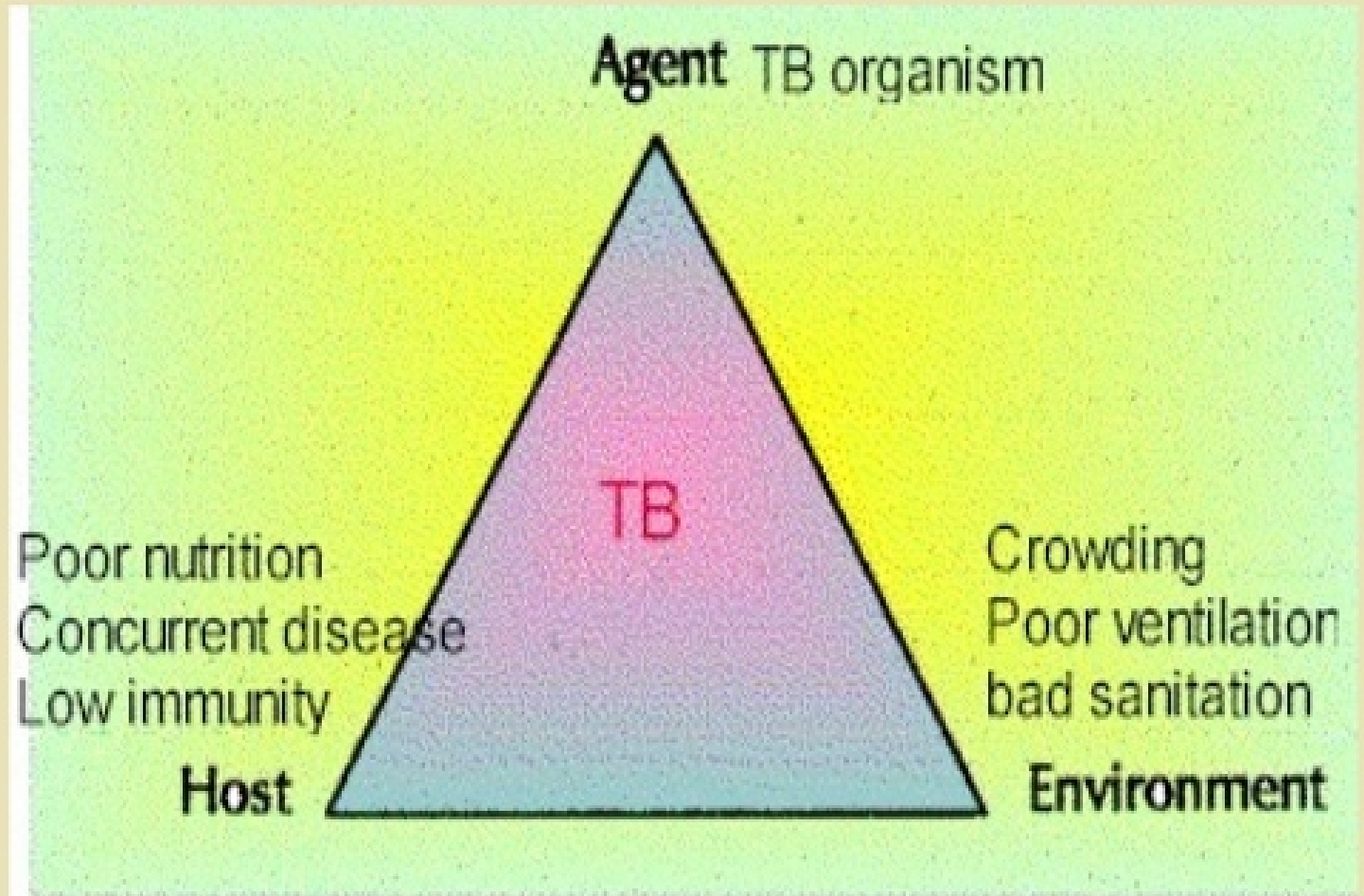
- ◆ Germ theory has limitation-
- ◆ Not everyone exposed to TB develops



# Epidemiological Triad

- ◆ Germ theory has limitation-
- ◆ Not everyone exposed to TB develops







# The Agent

- ◆ “an organism, a substance or a force, the presence or lack of which may initiate a disease process or may cause it to continue.”
- ◆ May be single or multiple.
- ◆ Living or biological agents
- ◆ Nonliving or inanimate, ( nutrients, chemical or physical agent)

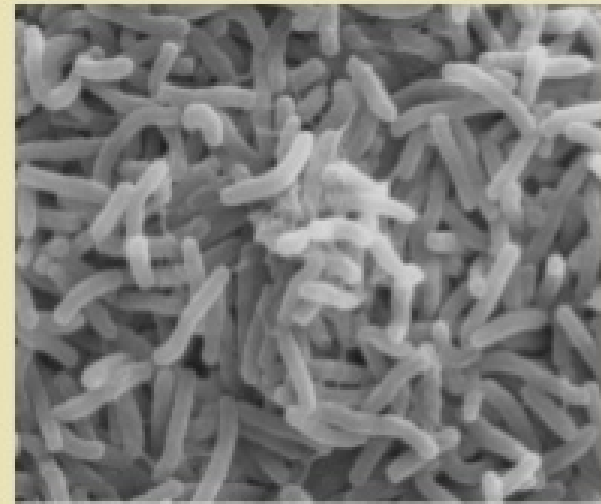


# Biological agents



<http://www.dermisil.com/images/scabies%20mite.jpg>

Arthropods- Scabies



[http://upload.wikimedia.org/wikipedia/commons/9/9d/Cholera\\_bacteria\\_SEM.jpg](http://upload.wikimedia.org/wikipedia/commons/9/9d/Cholera_bacteria_SEM.jpg)

Bacteria- Vibrio Cholerae

Fungi, Virus etc

# Chemical Agents

External

Arsenic

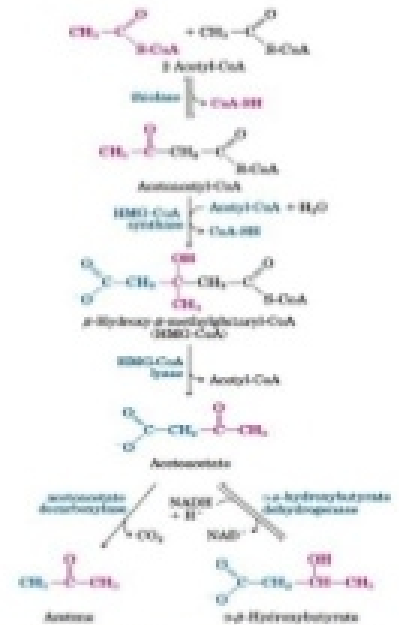


Alcohol



Internal

Synthesize ketone bodies

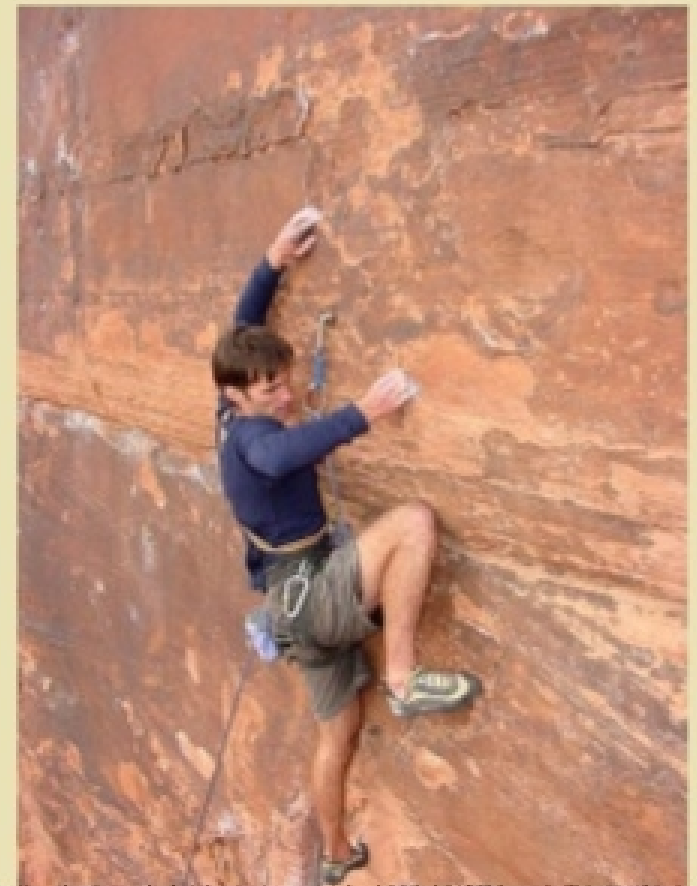


Endocrine glands

<http://www.bodyspec.com/Members/Spezices/Arsenic%20fact.htm>

# Physical Agents

- ◆ Atmospheric pressure,
- ◆ Temperature
- ◆ Humidity
- ◆ Friction
- ◆ Radiation
- ◆ Sound






# The Host

- ◆ Man him self
- ◆ Demographic characterisitics
- ◆ Genetic factors
- ◆ Socio economic factors
- ◆ Life style.

# Environment

- ◆ Internal
- ◆ External





# Multifactorial causation

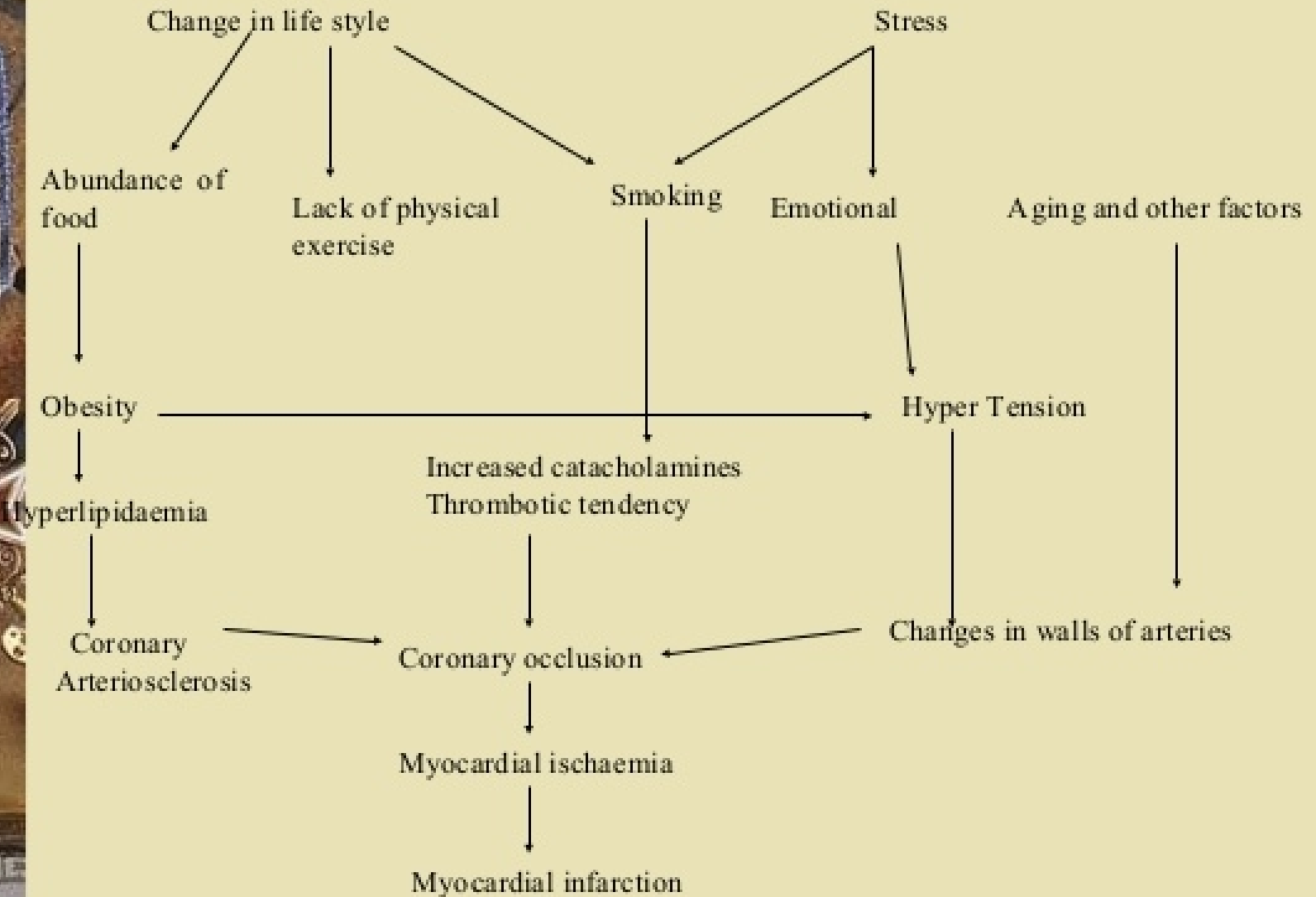
- ◆ Not a new concept
- ◆ Pettenkofer of Munich (1819-1901) was the early proponent of this concept.
- ◆ Germ theory overshadowed this concept
- ◆ Now back to multifactorial causation.  
( Aetiology- Social, economic, cultural, genetic and psychological ect.)



# Web of Causation

- ◆ Suggested by MacMahon and Pugh in their book “Epidemiologic Principles and Methods”
- ◆ Concept ideally suits in the study of chronic disease.
- ◆ Where the disease agent is not known.
- ◆ Web of Causation considers all the predisposing factors of any type and their complex interrelationship with each other.

# Web of Causation



Web of causation for myocardial infarction