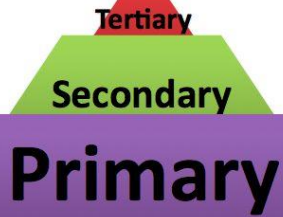




D Y PATIL DENTAL SCHOOL

DEPARTMENT OF
PUBLIC HEALTH DENTISTRY



Levels of Prevention

-Dr. Vardhaman M. Jain

-MDS (PUBLIC HEALTH DENTISTRY)

Health



- Health means “absence of disease”

- “A state of complete physical, mental and social well-being not merely an absence of disease or infirmity.”
After the alma ata declaration the WHO amplified the definition of health by adding “ability to lead socially and economically productive life” - WHO(1948)

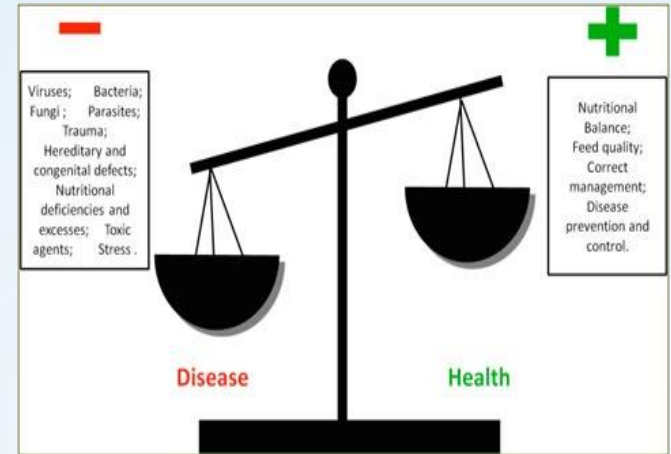
- “The condition of being sound in body, mind or spirit, especially freedom from physical disease or pain”
- Webster

Dimensions of Health

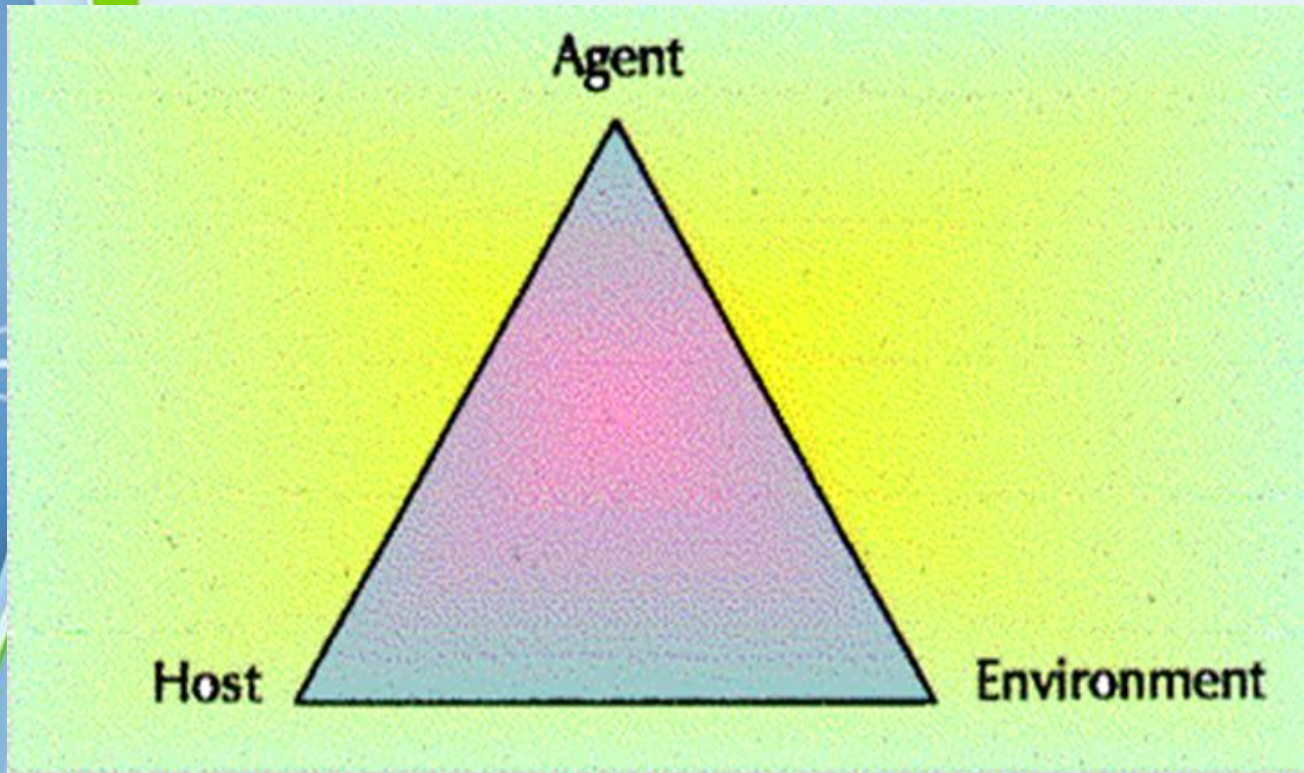
- Physical : ability of human body structure to function properly
- Social : ability to interact with other individuals
- Mental : ability to process information and act properly
- Emotional : ability to cope, adjust, and adapt; related to feelings
- Spiritual : belief in some force or dynamic other than humans
- Vocational : related to work, work satisfaction, etc.
- Others : philosophical, educational, environmental, etc.



Prepathogenesis phase of disease



- Period preliminary to the onset of disease in man
- Disease agent has not yet entered man, but the factors which favor its interaction with human host are already existing in the environment
- Potentially, we all are in the prepathogenesis phase of many diseases
- Causative factors of the diseases may be **AGENT**, **HOST** and **ENVIRONMENT**



- Mere presence of these factors is not sufficient to initiate a disease process, but actually an interaction of these three factors is needed to start the disease process.

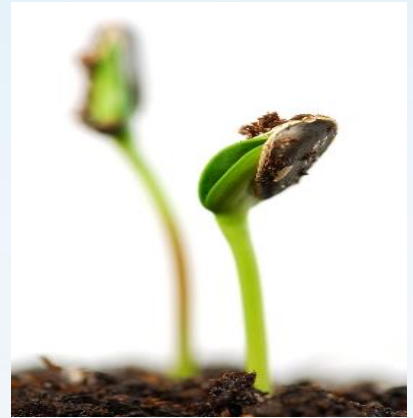
Agent factors



- It is a substance, living or non living, or a force, tangible or intangible, the excessive presence or relative lack of which may initiate or perpetuate a disease process
- A disease may have a single agent, a number of independent agents or a complex of two or more factors

- Agents may be classified into :
 1. Biological – viruses, bacteria, fungi, protozoa, metazoa, etc.
 2. Nutrient – proteins, carbohydrates, fats, water, minerals, etc.
 3. Physical – excessive heat, cold, humidity, radiation, pressure, sound, etc.
 4. Chemical – endogenous like urea, bilirubin and exogenous like metals, fumes, gases, dust etc.
 5. Mechanical – chronic friction, trauma resulting in crushing, tearing, sprains, death
 6. Absence or insufficiency or excess of factors necessary for health like hormones, thymus, chromosomes, etc.
 7. Social - poverty, smoking, drug abuse, alcohol, unhealthy lifestyle, etc.

Host factors



- In epidemiology, human host is referred to as “soil” and the disease agent as “seed”
- Host factors may be classified as :
 - a. demographic characteristics such as age, gender, ethnicity
 - b. biological factors like genetic factors, composition of blood, immunological factors
 - c. social & economic factors like socioeconomic status, education, occupation, stress, marital status, etc.
 - d. lifestyle factors such as personality traits, living habits, nutrition, exercise, etc.



Environmental factors

It is defined as all that which is external to the individual human host, living and non-living and with which he is in constant interaction

- It is further divided into physical, biological and psychosocial



Physical



Biological



Psychosocial

Risk factors

- For many diseases, the disease “agent” is still unidentified (e.g. coronary heart disease, cancer, mental illness)
- Where the disease agent is not firmly established, the etiology is generally discussed in terms of **“RISK FACTORS”**
- Effect between a risk factor and disease is usually lacking
- It may be causative, contributory or predictive
- Some risk factors can be modified (e.g. smoking, hypertension) while some cannot be modified (age, gender, family history, genetic factors)





good health:

how can we
make a difference?



Prevention



- Prevention has always been the bedrock of public health practice. Essence of the public health lies in the term : **Prevention rather than cure**
- The goals of medicine are to **promote health**, to **preserve health**, to **restore health** when it is impaired and to **minimize suffering and distress**
- These goals are embodied in the word "**prevention**"

Prevention; Definition and Concept

- Actions aimed at eradicating, eliminating or minimizing the impact of disease and disability, or if none of these are feasible, retarding the progress of the disease and disability
- The concept of prevention is best defined in the context of levels given by LEAVELL (1965), **primary**, **secondary** and **tertiary** prevention. A fourth level called primordial prevention, was added later

Levels of Prevention



Primordial prevention

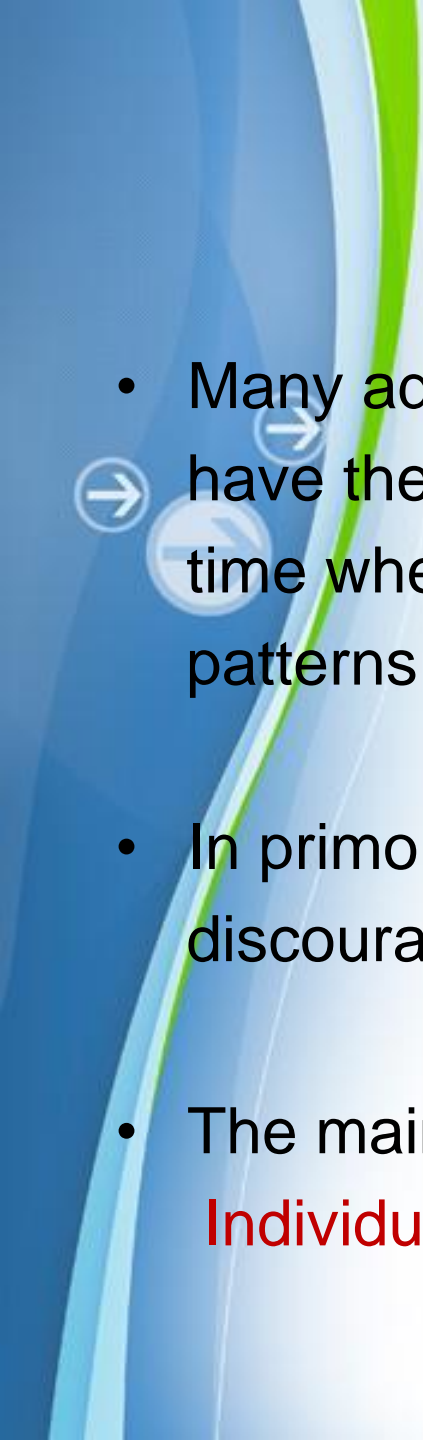
Primary prevention

Secondary prevention

Tertiary prevention

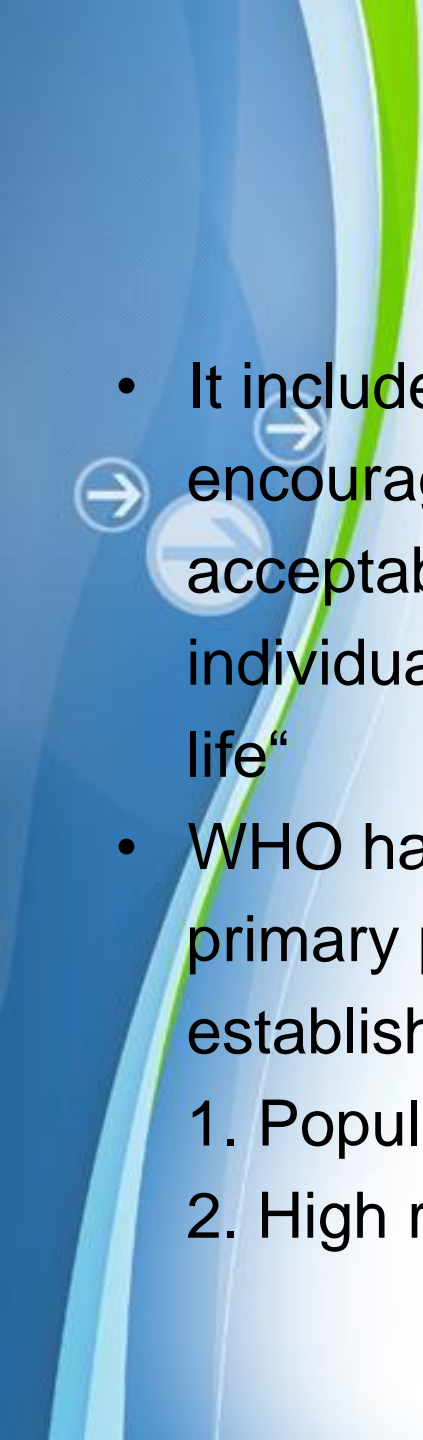
Primordial Prevention

- It is the primary prevention in its purest sense.
- Prevention of the emergence or development of risk factors in countries or population groups in which they have not yet appeared
- Primordial prevention consists of actions and measures that inhibit the emergence of risk factors in the form of environmental, economic, social and behavioral conditions and cultural patterns of living etc.

- 
- Many adult health problems (e.g. obesity, hypertension) have their early origins in childhood, because this is the time when lifestyles are formed (e.g. smoking, eating patterns, physical exercise)
 - In primordial prevention, efforts are directed towards discouraging children from adopting harmful lifestyles
 - The main intervention in primordial prevention is through **Individual and Mass Education**

Primary Prevention

- It is defined as “Action taken prior to onset of disease, which removes the possibility that the disease will ever occur”
- It signifies intervention in the prepathogenesis phase of a disease or health problem or departure from health
- Primary prevention may be accomplished by measures of “Health promotion” and “specific protection”

- 
- It includes the concept of **positive health**, a concept that encourages achievement and maintenance of "an acceptable level of health that will enable every individual to lead a socially and economically productive life"
 - WHO has recommended following approaches for the primary prevention of chronic diseases where risk factors established :
 1. Population (mass) strategy
 2. High risk strategy



1. Population (mass)

strategy :

- It is directed at the whole population irrespective of individual risk levels.
e.g. a small improvement in oral hygiene of a population would produce a large reduction in the incidence of dental caries
- It is directed towards socio-economic, behavioral and life style changes

2. High risk strategy :

- It aims at individuals at special risk
- This requires detection of individuals at high risk by the optimum use of clinical methods



PRIMARY PREVENTION

```
graph TD; A[PRIMARY PREVENTION] --> B[Health promotion]; A --> C[Specific protection];
```

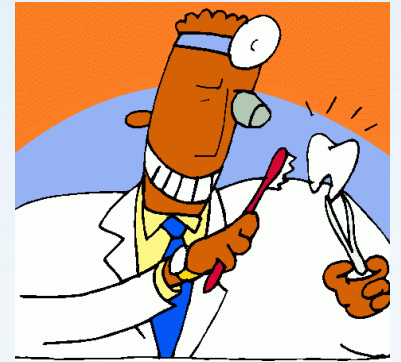
Health promotion

- Health education
- Environmental modifications
- Nutritional interventions
- Lifestyle and Behavioural changes

Specific protection

- Immunization
- use of specific nutrients
- chemoprophylaxis
- protection against occupational hazards
- protection from carcinogen
- protection against accident
- avoidance of allergens
- safety of foods & drugs

Principles of Prevention in Dentistry



- Control of disease
- Patient education and motivation
- Development of host resistance
- Restoration of function
- Maintenance of oral health



Primary prevention of dental disease

1. Health Promotion :

- Health education in oral hygiene
- Education for periodic dental examination
- Good standard of nutrition
- Diet planning
- Periodic screening or inspection

Statewide Health Promotion



eat smart



move more



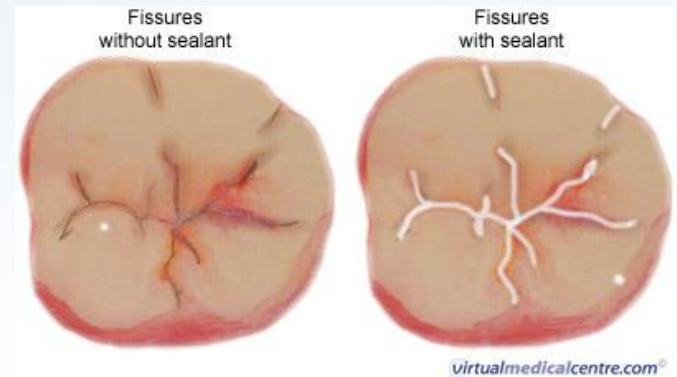
tobacco-free

2. Specific Protection :

- Attention to personal oral hygiene measures like Tooth brushing or rinsing after eating
- Oral prophylaxis
- Fluoridation of public water supplies
- Topical fluoride application and other preventive measures such as avoidance of sticky foods particularly between the meals



- Protection against occupational and recreational hazards e.g. use of mouth guards.
- Protection from carcinogens e.g. anti-tobacco measures
- Pit and fissure sealants
- Preventive orthodontics



Primary Prevention of dental caries

PREVENTIVE SERVICES	HEALTH PROMOTION	SPECIFIC PROTECTION
<p>Provided by the individual (self administered)</p>	<ul style="list-style-type: none"> - Diet planning - Demand for preventive services - Periodic visit to dental clinic 	<ul style="list-style-type: none"> - Use of fluoride - Ingestion of fluoridated water - Use of fluoridated dentifrices - Oral hygiene practices
<p>Provided by the dental professional</p>	<ul style="list-style-type: none"> - Patient education - Plaque control program - Diet counseling - Caries activity test 	<ul style="list-style-type: none"> - Topical fluoride application - Fluoride supplements/ rinses - Pit & fissure sealants
<p>Provided by the community</p>	<ul style="list-style-type: none"> - Dental health education programs - Promotion of research, policy 	<ul style="list-style-type: none"> - Community or school water fluoridation - School fluoride mouth rinse programs - School sealant program

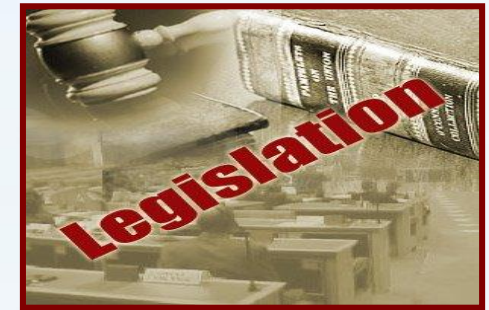
Primary prevention of periodontal diseases

PREVENTIVE SERVICES	HEALTH PROMOTION	SPECIFIC PROTECTION
Provided by the individual (self administered)	<ul style="list-style-type: none">- Periodic dental visit- Demand for preventive services	<ul style="list-style-type: none">- Oral hygiene practice
Provided by the dental professional	<ul style="list-style-type: none">- Patient education- Plaque control program- Recall reinforcement	<ul style="list-style-type: none">- Correction of malalignment- Oral prophylaxis
Provided by the community	<ul style="list-style-type: none">- Dental health education programs- Promotion of research efforts- Provision of oral hygiene aids	<ul style="list-style-type: none">- Supervised school brushing program

PRIMARY PREVENTION OF ORAL CANCER

- It involves :

→ Legislation



- Education approach :

- Formal assistance
- Assessment deleterious habits
- Advice
- Arrangement of follow-up



Conclusion

- Primary prevention is a 'Holistic concept'. It relies on measures designed to promote health or to protect against specific disease agents and hazards in the environment

RISK

FACTORS ???



already present in the environment and the patient is already exposed to it. The patients has already become susceptible

References

- Park K, Park's textbook of Preventive and Social Medicine, 21st edition, Bhanot publishers, India.
- Peter S, Essentials of Preventive and Community Dentistry, 2nd Edition, Arya Publishing House, New Delhi.
- Gluck G, Morganstein Warren, Jong's Community Oral Health, 5th Edition, Mosby, Harcourt Pvt Ltd, India



thank
you