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NOTES ON MEDICAL SUBJECTS

IMPORTANT SYNOPSIS, TABLES AND FLOW CHARTS

- Human Anatomy
- Biochemistry
- General Surgery
- General Pathology
- General Microbiology
- General Pharmacology
- Nervous System
- Endocrine System
- Cardiovascular System
- Respiratory System
- Hematology System
- Gastrointestinal System
- Renal System
- Immunology
- Infections
- Antibiotics
- PSM

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JAYPEE

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Contents

1. INTRODUCTION TO PUBLIC HEALTH

(Those who fail to read history are destined to suffer the repetitions of its mistakes)

INDIAN MEDICINE:

→ The ***"Tri-dosha Theory of Humors"*** given by the Ayurveda system of medicine are: Vata ***(Wind)***, Pitta ***(Gall)*** and Kapha ***(Mucus)***.

→ Diseases were explained as a disturbance in the equilibrium of the three humors; when these were in perfect balance of harmony, a person is said to be healthy.

→ **Susruta** is considered as the "Father of Indian Surgery". He compiled the surgical knowledge of his time in his classic "Susruta Samhita".

MESOPOTOMIAN MEDICINE:

→ Hammurabi, a great king of Babylon lived around 2000 BC, formulated a set of drastic laws known as the ***Code of Hammurabi*** that governed the conduct of physicians and provided for health practices. This is the very first codification of medical practice.

GREEK MEDICINE:

→ An early leader in Greek medicine was **Aesculapius** (1200 BC). Aesculapius bore two daughters – **Hygiea and Panacea**. The legend is that Hygiea was worshipped as the goddess of health and Panacea as the goddess of medicine.

→ By far the greatest physician in Greek medicine was **Hippocrates** (460 – 370 BC) who is often called the "Father of Medicine".

ROMAN MEDICINE:

→ Public health was born in Rome with the development of baths, sewers and aqueducts.

RISE OF PUBLIC HEALTH:

→ The great sanitary awakening took place in England in mid-19th century. Edwin Chadwick's report on "The Sanitary Conditions of the Laboring Population", in England, set London and other cities slowly on the way to improve housing and working conditions.

→ **Cholera** is often called as the "**father of public health**" that appeared time and again in the western world during the 19th century.

→ An English epidemiologist, **John Snow**, studied the epidemiology of cholera in London from 1848 to 1854 and established the role of polluted drinking water in the spread of cholera.

→ The evolution of **health centers** is an important development in the history of public health. The concept of the health center was first mooted in ***1920 by Lord Dawson*** in England.

→ The idea of Health Centers in India was first mooted by **Bhore Committee, 1946**.

CHANGING CONCEPTS IN PUBLIC HEALTH:

In the history of public health, four distinct phases may be demarcated:

1. Disease Control Phase (1880 -1920):

→ During the 19th century, public health was largely a matter of sanitary legislation and sanitary reforms aimed at the control of man's physical environment. For example: water supply, sewage disposal etc.

2. Health Promotional Phase (1920 – 1960): (COMED-04)

→ At the beginning of the 20th century, it was realized that public health had neglected the citizen as an individual and that the state had a direct responsibility for the health of the individual. Hence one more goal was added to public health, that is, health promotion of individuals.

→ Two great movements were initiated for human development during the first half of the present century, namely: a) Provision of ***"basic health services"*** through the medium of primary health centers and sub-centers for rural and urban areas. b) The second great movement was the ***Community Development Program*** to promote village development through the active participation of the whole community.

3. Social Engineering Phase (1960 – 1980):

→ In this phase, social and behavioral aspects of disease were given priority. Public health moved into the preventive and rehabilitative aspects of chronic diseases and behavioral problems.

4. Health for All Phase (1980 – 2000):

→ This phase emerged to address the gross inequality among the people's health throughout the world. Large numbers of the world's people, perhaps more than half, have no access to health care at all, and for many of the rest the care they receive does not answer the problems they have.

→ Against this background, the members of WHO pledged themselves to an ambitious target to provide **Health for All** by the year 2000, that is attainment of a level of health that'll permit all people to "***lead a socially and economically productive life***". It also symbolizes that health is to be brought within the reach of everyone in a given community.

IMPORTANT MILESTONES IN DENTAL PUBLIC HEALTH:

1840 – **Baltimore** College Of Dental Surgery, marked the official birth of formal dental education.

1884 – **ML Rhein** urged dentists to teach patients proper tooth brushing method and hence got the famous term "**ORAL HYGIENE**"

1896 – **Leon Williams** coined the slogan "A clean tooth never decays"

1901 – Investigation for **mottled** enamel by Dr. Fredrick McKay was initiated, which eventually culminated in 1931 with the discovery of excess fluoride as responsible for mottling.

1902 – **GM Wright** suggested a sub-specialty of dental profession called DENTAL HYGIENISTS. But the impetus to this specialty was given by **Dr. Alfred Fones** (Father of Dental Hygienists) in 1905, when he trained **Mrs. Irene Newman** (1st Dental Nurse) to undertake oral prophylaxis.

1913 – Dental hygienists course started by Dr. Fones in **Bridgeport**.

1921 – 1st training school for dental nurses came into existence in **Wellington**, New Zealand .

1926 – Dr. R. Ahmed Dental College, Calcutta was the 1st dental college in India. **(MAHE-99, COMED-06)**

1945 – 1st Artificial Water Fluoridation was started in the world at Grand Rapids with Muskegon as control city (USA).

The early 1960's witnessed the development of the Departments of Community or Social Dentistry or Ecological Dentistry. The first of these units were established at ***Michigan & Detroit in 1962*** and at ***Alabama and Kentucky in 1963***.

In India, the birth place of dental public health is **Bangalore** in early 1970's.

The Father of dentistry in India is considered to be Dr. R. Ahmed, Who later became the 1st president of Indian Dental Association (then known as All India Dental Association). He was born in 1889.

TOOLS OF DENTAL PUBLIC HEALTH are:

1. Epidemiology
2. Biostatistics
3. Social sciences
4. Principles of administration
5. Preventive dentistry

CHARACTERISTICS OF PUBLIC HEALTH TECHNIQUES are:

Health Centers:

→ Health centers are community buildings to house health administration and a number of out-patient or preventive services not easily housed in a hospital.

Case Finding (Screening):

→ It is important to search apparently healthy populations for cases of early disease.

→ The objective is to cover as large a population as possible with as simple a test will yield helpful results.

Community Health Council:

→ An essential feature of good public health practice is a broad desire on the part of people in all walks of life to see the health program as a good one to understand it.

→ Such aims are best attained through councils of various sorts representing key people in the community from both voluntary and government agencies and the community at large.

SIMILARITIES between private practitioner & Public health dentist:

Knutson has outlined the following different nomenclature between the procedures employed by a clinician in treating a patient and a public health worker providing community health care:

PATIENT	COMMUNITY
Examination	Survey
Diagnosis	Analysis
Treatment planning	Program planning
Treatment	Program operation
Payment for service	Finance
Evaluation	Approval

Difference between Personal and Community Health Worker:

Personal	Community Health Worker
1. Deal with one patient at a time. 2. Higher take home pay with less fringe benefits. 3. Goals are coincidentally related. 4. The patient comes to the dental practitioner. 5. Ones own decision. 6. Independent health care provider	Deals with groups of people. Salaried employee with fringe benefits like pension plan , sick leave, paid leave etc. Goals are socially determined. The public health worker goes to the community. Decision made over a considerable period of time and with several groups. Their work is visible and publicly accountable.

2. CONCEPT OF HEALTH AND DISEASE

CHANGING CONCEPTS OF HEALTH

1. **Biomedical concept**

   Health has been viewed as an "absence of disease" and if one was free from disease, then the person was considered healthy. This is known as the biomedical concept. This concept was however found inadequate to solve some of the major health problems like malnutrition, chronic diseases, accidents, etc.

2. **Ecological concept**

   The ecologist put forward a hypothesis, which viewed health as a dynamic equilibrium between man and his environment, and disease a maladjustment of the human organism to environment.

3. **Psychosocial concept**

   Health is influenced by social, psychological, cultural, economic and political factors. These factors need to be considered while defining and measuring health.

4. **Holistic concept**

   This concept implies that all sectors of society have an effect on health, in particular agriculture, food, industry, education and other sectors. This view corresponds to the view held by ancients that health implies a sound mind, in a sound body, in a sound family, in a sound environment.

CONCEPT OF WELLBEING:

Well-being of an individual has objective and subjective components. The objective components relate to such concerns as are generally known by the term "standard of living" or "level of living". The subjective component (As expressed by each individual) is referred to as "quality of life".

Standard of Living:

It refers to the usual scale of our expenditure, the goods we consume and the services we enjoy. Defined by WHO 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".

Level of Living:

Parallel term for standard of living used in United Nations and consists of: "health, food consumption, education, occupation and working conditions, housing, social security, clothing, recreation and leisure and human rights."

Quality of Life:

"A composite measure of physical, mental and social well-being as perceived by each individual or by group of individuals- that is to say, happiness, satisfaction and gratification as it is experienced in such life concerns as health, marriage, family work, financial situation, educational opportunities, self-esteem, creativity, belongingness and trust in others".

Governments are increasingly demanding a ***better quality of life*** and have conceded that a rise in the standard of living of the people is not enough to achieve satisfaction or happiness.

PHYSICAL QUALITY OF LIFE INDEX (PQLI):

→ It is used to measure Quality of Life and consolidates 3 indicators i.e. ***infant mortality, life expectancy at age one, and literacy***. The performance of individual countries is placed on a scale of 0 to 100, and 100 represents the best performance.

→ The composite index is calculated by averaging the 3 indicators. The composite index is calculated by averaging the 3 indicators, giving equal weight to each of them.

→ The oil rich countries of Middle-East have higher per-capita income but low PQLIs, on the other extreme, Sri Lanka and Kerala have low per-capita income but higher PQLIs.

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

HUMAN DEVELOPMENT INDEX (HDI):

→ It is defined as "a composite index combining indicators representing three dimensions – ***longevity*** (life expectancy at birth), ***knowledge*** (adult literacy and mean years of schooling) and ***income*** (real GDP per capita in purchasing power in US dollars). **(COMED-09)**

→ The HDI values range between 0 – 1. Of the 174 countries for which HDI has been constructed for the year 1999, 45 are in the high human development category with an HDI value equal to or more than 0.800; 94 are in the medium human development category (0.500-0.799), and 35 in the low human development category (less than 0.500).

→ India comes in the medium human development category, ***ranking at no. 132***.

SPECTRUM OF HEALTH:

The lowest point on the health-disease spectrum is death and the highest corresponds to the positive health. The spectral concept of health emphasizes that the health of an individual is not static; it is a dynamic phenomenon and a process of continuous change, subject to frequent subtle variations.

Positive Health
Better Health
Freedom of Sickness

Unrecognized Sickness
Mild Sickness
Severe Sickness
Death

- **HALE (Health-Adjusted Life Expectancy):**

  It is based on life expectancy at birth but includes an adjustment for time spent in poor health. It is mostly understood as the **equivalent number of years in full health** that a newborn can expect to live based on current rates of ill-health and mortality.

INDICATORS OF HEALTH:

I. **Mortality Indicators**:

a. Crude Death Rate:

→ It is defined as "The number of deaths per 1000 population per year in a given community".

→ The usefulness of crude death rate is limited because it is influenced by the age-sex composition of the population.

b. Expectation of Life:

→ It is defined as "The average number of years that will be lived by those born alive into a population if the current age-specific mortality rates persist".

→ It is a good indicator of socio-economic development in general and adopted as a global health indicator.

c. **Infant Mortality Rate (IMR):**

→ It is defined as "The ratio of deaths **under 1 year of age** in a given year to the total number of live births in the same year; usually expressed as a rate per 1000 live births". **(AIIMS-2006)**

→ **Most universally accepted and important indicator** not only for infants, but also of whole population and of the socio-economic conditions under which they live.

→ The world average of IMR is 56 per 1000 live births (2002) and of India is 67 per 1000 live births (2002).

→ Kerala is the least (14). Orissa (96), Madhya Pradesh (88), Uttar Pradesh (83) and Rajasthan (79) in descending order have higher average IMR than the country average.

d. Child Mortality Rate:

→ It is defined as "The number of deaths at ages **1 – 4 years** in a given year, per 1000 children in that age group at the mid-point of the year concerned". **(AIIMS-06)**

→ It is related to inadequate MCH services, insufficient nutrition, low coverage by immunization and adverse environmental exposure and other exogenous agents.

e. Under-5 Proportionate Mortality Rate:

→ It is defined as "The annual number of deaths of children age under 5 years, expressed as a rate per 1000 live births".

→ It reflects both infant and child mortality rate.

f**. Maternal (Puerperal) Mortality Rate (MMR):**

→ It is defined as "The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes".

→ Each year 1,00,000 women die due to pregnancy related cause. It is currently ***408 maternal deaths per 1,00,000 live births***.

→ There are wide variations between the states with UP (707), Rajasthan (677), Madhya Pradesh (498) and Bihar (451) have high MMR than the average of whole India. The least MMR is observed in Gujarat (29).

g. Proportional Mortality Rate:

→ The proportion of all deaths currently attributed to it.

II. **Morbidity Indicators**:

a. Incidence and prevalence
b. Notification rates
c. Attendance rates at out-patient health centers
d. Admission, re-admission and discharge rates
e. Duration of stay in hospital
f. Spells of sickness or absence from school or work

III. **Disability Rates**:

They are based on the premise that health implies a full range of daily activities. The commonly used disability rates fall into 2 groups:

a) Event type indicators:
i. Number of restricted activity
ii. Bed disability dates
iii. Work-loss days within a specified period
b) Person-type indicators:
i. Limitation of Mobility: confined to the bed, house, special aid in moving around
ii. Limitation of Activity: limitation in performing basic activities of daily living, limitation in major activity.

SULLIVAN's INDEX:

This index ***(Expectation of life free of disability***) is computed by subtracting from the life of expectancy the probable duration of bed disability and inability to perform major activities. It is considered one of the advanced indicators currently available.

HALE (Health-Adjusted Life Expectancy):

It is based on life expectancy at birth but includes an adjustment for time spent in poor health. It is mostly understood as the ***equivalent number of years in full health*** that a newborn can expect to live based on current rates of ill-health and mortality.

DALY (Disability-Adjusted Life Year):

It is a ***measure of the burden of disease*** in a defined population and the effectiveness of the interventions. It expresses ***years of life lost to premature death (YLL) and years lived with disability (YLD) adjusted for the severity of the disability***. One DALY is "one lost year of healthy life".

IV. **Nutritional Status Indicators**:

a. Anthropometric measurements of pre-school children

b. Height and weight

V. **Health Care Delivery Systems**:

a. Doctor – population ratio

b. Doctor – nurse ratio

c. Population – bed ratio

d. Population per health center

VI. **Utilization Rates**:

→ It is expressed as proportion of people in need of a service who actually received it in a given period. For example: Proportion of infants who are fully immunized, proportion of pregnant women who receive antenatal care etc.

VII. **Indicators of social and mental health**

VIII. **Environmental Indicators**

IX. **Socio – Economic Indicators**

X. **Health Policy Indicators**

XI. **Indicators of Quality of Life**

LEVELS OF HEALTH CARE:

Health services are usually organized at three levels, each level supported by a higher level to which the patient is referred. These levels are:

Primary Health Care:

→ This is the first level of contact between the individual and the health system where "essential" health care (primary health care) is provided.

→ This level is closest to the people. In the Indian context, this care is provided by the primary health centers and their sub-centers, with community participation.

Secondary Health Care:

→ At this level, more complex problems are dealt with.

→ This care comprises essentially curative services and is provided by the district hospitals and community health centers. This level serves as the ***first referral level*** in the health system.

Tertiary Health Care:

→ This level offers super-specialist care and is provided by the regional/central level institutions.

EPIDEMIOLOGICAL TRIAD: **(APPG-2004, PGI-2003)**

The epidemiological triad includes: **Agent, Host and Environmental** factors

AGENT Factors:

It is defined a substance, living or non-living, or a force, tangible or non-tangible, the excessive presence or relative lack of which may initiate or perpetuate a disease process. They are broadly classified into the following groups:

1. **Biological Agents**: These are living agents of disease like viruses, rickettsiae, fungi, bacteria, protozoa. These agents exhibit properties like:

→ ***Infectivity:*** This is the ability of an infectious agent to invade and multiply in a host

→ ***Pathogenicity:*** This is the ability to induce clinically apparent illness.

→ ***Virulence:*** This is defined as the proportion of clinical cases resulting in severe clinical manifestations including sequelae.

2. **Nutrient Agents**: These can be proteins, fats, carbohydrates, vitamins, minerals and water. Any excess or deficiency of the intake of nutritive elements may result in nutritional disorders.
3. **Physical Agents**: Exposure to excessive heat, cold, humidity, pressure, radiation, electricity etc. may result in illness
4. **Chemical Agents**: a) Endogenous: Some of the chemicals may be produced in the body as a result of derangement of function. Eg: urea, serum bilirubin, ketones, uric acid, calcium carbonate. b) Exogenous: Agents arising outside of human host, eg, allergens, metals, fumes, dust, gases, insecticides etc.
5. **Mechanical Agents:** Exposure to chronic friction and other mechanical forces may result in crushing, tearing, sprains, dislocations and even death.
6. **Absence or insufficiency or excess of a factor necessary to health**: i) Chemical Factors: hormones (Insulin, estrogens, enzymes) ii) Nutrient Factors iii) Lack of structure iv) Chromosomal factors v) Immunological Factors
7. **Social Agents**: These are poverty, smoking, abuse of drugs and alcohol.

HOST Factors (Intrinsic):

It is referred to as "soil" and the disease agent as "seed". They are classified as

i) Demographic characteristics such as age, sex, ethnicity

ii) Biological characteristics such as genetic factors, bio-chemical levels of the blood, blood groups and enzymes; cellular constituents of the blood etc.

iii) Social and economic characteristics such as socio-economic status, education, occupation, stress etc.

iv) Lifestyle factors such as personality traits, living habits, nutrition, physical exercise, use of alcohol, drugs and smoking.

ENVIRONMENT Factors (extrinsic):

The concept of environment is very complex as man's environment is not limited to plants, animals or a set of climatic changes. Man's social and economic conditions are more important. The environment factor is defined as "All that is external to the individual human host, living and non-living, and with which he is in constant interaction". For descriptive purposes, the environment has been divided into 3 components:

1. ***Physical Environment***: It is applied to non-living things and physical factors like air, water, soil, housing, climate, geography, heat, light noise, debris, radiation etc.
2. ***Biological Environment***: The biological environment is the universe of living things which surrounds man including man himself. The living things are the viruses and other microbial agents, insects, rodents, animals and plants.
3. ***Psychosocial Environment***: It includes a complex of psychosocial factors which are defined as "Those factors affecting personal health, health care and community well-being that stem from the psychosocial make up of individuals and the structure and functions of social groups". They include cultural values, customs, habit, beliefs, attitudes, morals, religion, lifestyle, education etc.

Iceberg of disease:

→ According to the iceberg phenomenon, disease in a community may be compared with an iceberg.

→ The floating tip of the iceberg represents what the physician sees in the community i.e. clinical cases.

→ The submerged portion of the iceberg represents the hidden part of the disease i.e. latent, in-apparent, pre-symptomatic and undiagnosed cases and carriers in the community.

→ One of the major deterrents in the study of chronic diseases is the absence of methods in sub-clinical stages.

→ In some diseases like hypertension, anemia, diabetes, mental illness etc, the unknown morbidity far exceeds the known morbidity.

CONCEPT OF CONTROL:

Monitoring: It is "the performance and analysis of routine measurements aimed at detecting changes in the environment or health status of population".

Surveillance: According to one interpretation, surveillance means to watch over with great attention, authority and often with suspicion. Another definition is ***"The continuous scrutiny of the factors that determine the occurrence and distribution of disease and other conditions of ill-health".***

Sentinel Surveillance: It is a method of identifying missing cases and thereby supplementing the notified cases. The sentinel data is extrapolated to the entire population to estimate the disease prevalence in the total population.

LEVELS OF PREVENTION:

1. ***Primordial Prevention***:

→ This is primary prevention in its purest sense, that is, ***prevention of the emergence or development of risk factors in countries or population groups.*** **(COMED-2006, AIPG-08)**

→ For example, many adult health problems like obesity, hypertension etc. have their origin in childhood, because this is the time when lifestyles are formed.

→ ***For example:*** Restricting the child from frequently consuming sugar or its products for the prevention of dental caries.

2. ***Primary Prevention:***

→ It is defined as ***"the action taken prior to the onset of disease, which removes the possibility that a disease will ever occur".***

→ It signifies intervention in the pre-pathogenesis phase of a disease. The modes of intervention are ***health promotion and specific protection***.

→ ***For example:*** Preventing the progression of caries from enamel to dentin by either use of sealants or fluoride therapy.

3. ***Secondary Prevention***:

→ It is defined as ***"action which halts the progress of a disease at it incipient stage and prevents complications"***.

→ It is ***largely the domain of clinical medicine and attempts to arrest the disease process***.

→ The ***drawbacks of secondary and tertiary prevention*** is that the patient has already been subjected to mental anguish, physical pain, costly, less effective than primary prevention and the community to loss of productivity.

→ The mode of intervention is early diagnosis and ***treatment***.

→ ***For example***: Preventing the progression of caries from dentin to pulp by restoration of the carious tooth.

4. ***Tertiary Prevention***:

→ It signifies intervention in the late pathogenesis phase. It is defined as ***"all measures available to reduce or limit impairments and disabilities, minimize suffering caused by existing departures from good health and to promote the patient's adjustment to irremediable conditions".***

→ The modes of intervention are ***disability limitation and rehabilitation***. **(KCET-07)**

→ ***For example***: Preventing the progression of caries from pulp to periapical tissues by performing Root Canal Treatment.

LEVELS OF PREVENTION IN PERIODONTIUM

LEVELS	PRIMARY		SECONDARY	TERTIARY	
Preventive Services	Health Promotion	Specific protection	Early diagnosis and prompt treatment	Disability limitation	Rehabilitation

Services provided by the individual	Periodic dental visit; demand for preventive services	Oral hygiene practices	Self examination and referral; use of dental services	Use of dental services	Use of dental services
Services provided by the community	Dental health education programs; promotion of research efforts; provision of oral hygiene aids; lobby efforts.	Supervised school brushing programs	Periodic screening and referral; provision of dental services	Provision of dental services	Provision of dental services
Services provided by the dental professional	Patient education; plaque control program; recall reinforcement	Correction of tooth malalignment; prophylaxis	Complete examination; scaling and curettage corrective, restorative, and occlusal services	Deep curettage; Root planning; splinting; periodontal surgery; Selective extractions	Removable fixed prosthodontics; minor tooth movement.

MODES OF INTERVENTION:

Intervention can be defined as any attempt to intervene or interrupt the usual sequence in the development of disease in man. There are 5 modes of intervention which form a continuum corresponding to the natural history of any disease.

1. ***Health Promotion:***

   It is ***"the process of enabling people to increase control over and to improve health"***. The well known interventions in this area are:

i. Health education
ii. Environmental modification
iii. Nutritional Interventions
iv. Lifestyle and behavioral changes

2. ***Specific Protection:***

   To avoid disease altogether should be the sole criteria, but it is possible in only limited number of cases. The following are some of the examples:

i. Immunization
ii. Use of fluorides and pit & fissure sealants
iii. Use of specific nutrients
iv. Chemoprophylaxis
v. Avoidance of allergens

3. ***Early Diagnosis and Prompt Treatment:***

→ It is defined as ***"the detection of disturbances of homeostatic and compensatory mechanism while biochemical, morphological and functional changes are still reversible"***.

→ In the strict sense early diagnosis and prompt treatment should not be called as prevention because the disease has already started. But since it intercepts the disease process, it has been included in the scheme of prevention.

4. ***Disability Limitation:***

The objective of this intervention is to prevent or halt the transition of the disease process from impairment to handicap. The sequence of events leading to disability and handicap are stated as follows:

Disease → Impairment → Disability → Handicap

Impairment:

→ It is defined as ***"any loss or abnormality of psychological, physiological or anatomical structure or function".*** **For ex**: Loss of anterior teeth of a singer due to accident.

Disability:

→ Defined as ***"any restriction or lack of ability to perform an activity in the manner or within the range considered normal for a human being".*** For ex: Because of loss of anterior teeth of a singer, he cannot sing.

Handicap:

→ It is defined as ***"a disadvantage for a given individual, resulting from impairment or a disability that limits or prevents the fulfillment of a role that is normal for that individual".***

Taking accident as example, the following terms can be explained:

Accident → Disease (Disorder)

Loss of Teeth → Impairment (Extrinsic or intrinsic)

Cannot sing → Disability (Objectified)

Unemployed → Handicap (Socialized)

5. ***Rehabilitation***:

→ It is defined as "the combined and coordinated use of medical, social, educational and vocational measures for training and retraining the individual to the highest possible level of functional ability".

→ The aim is to achieve social integration for the impaired and disabled individuals so that there is active participation of the disabled and handicapped people in the mainstream of community life.

LEVELS OF Prevention FOR ORAL DISEASES (IN GENERAL)

Primary Prevention		Secondary Prevention	Tertiary Prevention	
Health Promotion	Specific Protection	Early Diagnosis and Prompt treatment	Disability Limitation	Rehabilitation
Dental health education	Attention to personal oral hygiene	Case-finding measures such as radiographs	Treatment to control dental caries and periodontal diseases and to prevent further complications and sequelae	Education of individuals for appropriate use of dentures
Education for periodic dental examination	Use of environmental controls such as water fluoridation, topical fluorides application and sealants	Screening surveys such as oral cancer programs	Provision of appliances to restore function and appearance	Pre-surgery and post-surgery education for oral surgery patients
Good standards of nutrition, adjusted to developmental phases of life	Protection against occupational and recreational hazards	Dental recall systems	Treatment of other oral diseases and conditions	
Attention to personality development	Use of specific nutrients of which fluoride is one	Treatment of decayed teeth		
Genetic counseling	Protection form carcinogens eg, non-smoking measures	Provision of orthodontic appliances and space maintainers		
Provision for optimum living conditions				

LEVELS OF Prevention FOR dental caries:

	Primary Prevention (AIPG-08)		**Secondary Prevention**	**Tertiary Prevention**	
Preventive services	Health Promotion	Specific Protection	Early Diagnosis and Prompt Treatment	Disability Limitation	Rehabilitation
Services provided by the Individual	Diet planning; demand for preventive services; periodic visits to the dental office	Appropriate use of fluoride: fluoridated water, fluoride dentifrice and supplements. Oral hygiene practices	Self-examination and referrals; use of dental services	Use of dental services	Use of dental services
Services provided by the Community	Dental health education programs; promotion of research efforts; lobby efforts	Community or school water fluoridation; school mouth rinse programs; school fluoride tablet programs; school sealant programs	Periodic screening and referrals; provision of dental services	Provision of dental services	Provision of dental services
Services provided by the professional	Patient education; plaque control program; diet counseling; recall reinforcement; caries activity tests	Topical fluoride application; fluoride supplements/ rinse prescription; pit and fissure sealants; may be caries vaccine in future	Complete examination; prompt treatment of incipient lesions; preventive resin restorations; simple restorative dentistry; pulp capping	Complex restorative dentistry; pulpotomy; root canal therapy; extractions	Removable and fixed prosthodontics; minor tooth movement; implants.

LEVELS OF Prevention FOR Periodontal diseases:

Levels of Prevention	**Primary Prevention**		**Secondary Prevention**	**Tertiary Prevention**	
Preventive services	Health Promotion	Specific Protection	Early Diagnosis and Prompt Treatment	Disability Limitation	Rehabilitation
Services provided by the Individual	Demand for preventive services; periodic visits to the dental office	Oral hygiene practices	Self-examination and referrals; use of dental services	Use of dental services	Use of dental services

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ISBN 978-93-5152-847-0