**Lesson 01**

# BASIC DEFINITIONS AND TERMINOLOGIES OF SOCIOLOGY OF HEALTH TOPIC 001-006

## Topic 001-002: Basic Definitions and Terminologies in Sociology of Health and Illness

**What is health?**

**Classic definition:** Absence of disease

**World Health Organization definition: -**

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

Positive health-ability of man is to lead a socially and economically productive life.

**NEW PHILOSOPHY OF HEALTH: Dimensions OF HEALTH**

**Physical HEALTH**

- This is state in which every cell and organ functions at optimum capacity and perfect harmony with the rest of the body.
- Signs of positive physical health
- With a positive mental health state

**Social HEALTH**

- Ability to perform the expectations of our roles effectively, comfortably, with pleasure, and without harming other people.
- The ability to interact effectively with others and the social environment.
- Implies harmony & integration of individual: within and between other members of society.
- Quality and Quantity of an individual's interpersonal ties and the extent of involvement with the community

**Measurement of Social HEALTH**

**Indirect Measures**

**Illness**

Illness is defined as the ill health the person identifies themselves with, often based on self-reported mental or physical symptoms. Illness is the subjective experience of ill health.

**Disease**

**Disease:** a condition of the body, or of some part or organ of the body, in which its functions are disturbed or deranged; a morbid physical condition. Disease is the medically defined pathology. Disease, on the other hand, is defined as a condition that is diagnosed by a physician or other medical expert. Health is compromised due to diseases. Diseases lead to death and or disability. Quality and quantity of life is reduced due to disease.

**Disease & illness**

The terms disease and illness are conceptually distinct:

A. disease is something an organ has:
B. illness refers to the experience of disease and as such deals with the subjective experiences of bodily disorder and feelings of pain and discomfort (the human experience of sickness).
C. The terms disease and illness are conceptually distinct:
D. In contrast, the term disease suggests a biologically altered state, whereas illness relates to the diffuse consequences of the disease process.

**Morbidity and Mortality**

- Morbidity- amounts of certain types of illness, heart disease, cancer etc.
- Mortality – death.

**Healthcare**

- Health care involves appropriate technology and broad range of health personnel including doctors, nurses, community health workers.
- Characteristics of health care: an ideal health system relevant to the local needs of the population, comprehensive (preventive, promotive and curative), adequate, accessible and affordable to all sections of the community.
- For efficient delivery of health care, effort among workers both medical and non-medical is needed.
- The members of the team are physicians, nurses, social workers, community health workers etc.
- The leader of the team being the doctor evaluates the work of the team and is the decision maker and planner.
- The goal of the team while carrying out their assigned responsibilities is towards achieving health for all.

**Well-being**

- A conscious, self-directed and evolving process of achieving full potential by the individuals and communities.
- About how a person contributes to environment and community, and builds better living spaces and social networks.
- Multidimensional and holistic – lifestyle, mental wellbeing, and the environment.

**Clinical Perspective:**

Absence of negative conditions

**Psychological Perspective:**

Presence of positive attributes

**Disability**

**Impairment:**

Symptoms at organ level, e.g., broken leg

**Disability:**

Objective alteration of behavior or performance at the individual level, e.g., cannot walk

**Handicap:**

Changed interaction with others at the social/environmental level, e.g., cannot work.

**Schema for Assessing Non-fatal health Outcomes**

- Disease — Impairment— Disability— Handicap
- Polio — Paralyzed legs— Inability to walk — Unemployed
- Brain injury — Mild mental retardation— Difficulty learning— Social isolation

## Topic 003: Sociology of Health and Illness-I

The sociology of health and illness examines:

- The interaction between society and health to see how social life has an impact on morbidity and mortality rate and vice versa.
- Sociologists have demonstrated that the spread of disease is heavily influenced by the socioeconomic status of individuals, ethnic traditions and other cultural factors.

The relationship between sociology and questions of health and illness as a two-way road:

- The task is to fit health and illness as social phenomena into existing theoretical and explanatory frameworks of sociology.
- The task is to create apt sociological concepts and theories for grasping health and illness as social phenomena

**Social factors**

- The conditions in which people are born, grow, live, work and age. These conditions are shaped by the distribution of money, power and resources at the global, national and local levels.

- Are mostly responsible for health inequities-the unfair and avoidable differences in health status seen within and between regions and countries.

**Social environment**

- Social environment includes interactions with family, friends, coworkers, and others in the community. It also encompasses social institutions, such as law enforcement, the workplace, places of worship, and schools.
- Housing, public transportation, and the presence or absence of violence in the community are among other components of the social environment.

**Socioeconomic factors**

- Socioeconomic factors- that influence health include literacy, occupational health and economic status.
- Also, the existing political system of the country.
- Policy decisions on health, GNP directed towards health care, political commitment and effective leadership have far reaching positive effect on health.

## Topic 004: Sociology of Health and Illness-II

Sociologists study how social forces impact both health and illness.

- Different social groups experience health and illness differently

Social forces affect:

- Likelihood of health and illness.
- Patient's experiences of illness.
- Health care providers.
- The healthcare system as a whole.

## Topic 005: Sociological Perspective

- Social patterns over individual behavior.
- Public issues over personal troubles.
- Social groups and institutions over individuals.
- Prevention over treatment.

**Power:** The ability to get others to do what one wants.

- Who has power
- How groups get power
- The consequences of power differentials
  - i.e., when some groups have more power than others

## Topic 006: Critical Approach in Sociology of Health and Illness

Emphasize sources and consequences of power relationships. Explore how social institutions and beliefs support existing power relationships. Question the basic structure of society.

**Sociology in medicine:**

Research questions focus on what doctors' think is useful.

**Sociology of medicine:**

Research questions focus on what sociologists' think is useful.

**Lesson 02**

# SOCIOLOGICAL THEORIES AND HEALTH
# TOPIC 007-011

## Topic 007: Sociological Theories

Sociology is a scientific approach to understanding people in society. Sociological theories are a useful in moving away from commonsense understandings of society.

**Theory:** "Set of ideas supported by evidence used to explain the world in a specific way"

Popular theories used to explain aspects of the social world:

- Marxist Theory
- Feminism
- Functionalism
- Symbolic Interactionism
- Postmodernism

### Functionalism

Functionalist theory holds that society is like a biological organism. Like parts and organs of the body we all have a role and function to perform. Society is seen as consensual, with everyone 'doing their bit' to keep society running.

### Functionalism and health

Parsons' *Sick Role Theory* explores the rights and responsibilities of being sick so as to ensure the functioning of society:

- Rights.
- Time off to get better.
- Excused responsibility for being sick.
- Responsibilities.
- Must comply with doctor.
- Must do as much as possible to return to health.

### Symbolic interactionism

This explains social phenomena from the perspective of its participants. An essential element of this theoretical perspective is the unique nature of the social world as made up of the actions of participants motivated by human consciousness. The meaning of human action cannot, therefore, be observed or assumed, but must be 'interpreted' by studying the meanings that people attach to their behaviour.

### KEY TAKEAWAYS

- A sociological understanding emphasizes the influence of people's social backgrounds on the quality of their health and health care. A society's culture and social structure also affect health and health care.
- The functionalist approach emphasizes that good health and effective health care are essential for a society's ability to function, and it views the physician-patient relationship as hierarchical.
- The interactionist approach emphasizes that health and illness are social constructions; physical and mental conditions have little or no objective reality but instead are considered healthy or ill conditions only if they are defined as such by a society and its members.

## Topic 008: Conflict Theory and Labelling Approach

### Inequalities in Health

The conflict approach emphasizes inequality in the quality of health and of health-care delivery. The quality of health and health care differs greatly around the world-developed /developing/under-developed countries.

**The Conflict Theory**

Society's inequities along social class, race and ethnicity, and gender lines are reproduced in our health and health care. People from disadvantaged social backgrounds are more likely to become ill, and once they do become ill, inadequate health care makes it more difficult for them to become well. The evidence of disparities in health and health care is vast and dramatic. The conflict approach also critics efforts by physicians over the decades to control the practice of medicine and to define various social problems as medical ones. Physicians' motivation for doing so has been both good and bad. Once these problems become "medicalized," their possible social roots and thus potential solutions are neglected.

**Examples**

- Alternative medicine criticism
- Maternal care
- Attention deficit hyperactive disorder children diagnosed more after Ritalin (drug) was introduced.

**The Labeling Approach**

Mental illness as a result of societal influence. Closely related to social-construction and symbolic-interaction analysis. Deviance is not inherent to an act. Tendency of majorities to negatively label minorities. Concerned with the self-identity and behavior of individuals.

## Topic 009: Feminism and Postmodernism

**Feminism**

Feminism is a broad approach that explains social structures as being fundamentally based on inequalities between women and men. Men are seen to have greater power in both the public and the private spheres. Traditional sociology is criticized for being gender blind. Challenged earlier sociological theories and made the experiences of women relevant and recognized in regard to health, sociopolitical, economical, and familial practices. Proposed to shape effective action toward uplifting women in society.

**Three popular feminist theories:**

- Marxist feminism
- Radical feminism
- Liberal feminism

**Feminism-Marxist Feminism**

**Causes:** Women play a critical role in the producing of capital by reproducing a future workforce as mothers and reproducing goods in the economy.

Within this role, women are exploited for free labour and often undervalued in both private and public domains.

**Criticisms:** Marxist Feminism focuses too much on the capitalist features and not enough on the patriarchy that creates and supports the inequalities.

**Feminism-Radical Feminism**

**Causes:** Due to gender differences, men exploit women and not society. Patriarchy is a historical and cultural (across all nations) practiced by the domination of men and exploitation of women.

**Criticisms:** Radical Feminism focuses too much on the features of gender without regard to variations in biological and cultural differences. Further, radical feminism negates to recognize that not all male-female relationships are categorized by oppression and domination.

**Feminism-liberal Feminism**

**Causes:** Based on liberalism--the belief that all "individuals are equal regardless of birth or heredity," liberal feminists believe that men and women should have equal rights.

**Criticisms**: While the economic gap between men and women is decreasing in the public domain, it is still unequal in the private sector.

**Postmodernism**

- Individuals as "agents": Each individual makes choices to create their own reality and role in society.
- Social constructionism: Reality is constructed as a result of social interaction and not by biology.
- Impossible to uncover the truth because society is constructed and reconstructed daily through social interaction.

## Topic 010: Social Determinants of Occupational Health

**Determinants of Health**

Health is influenced by many factors. Health is the result of interaction of these factors which may be positive or negative. A constant harmonious interaction of these factors determines health.

**Definition**

Conditions in the social, physical and economic environment in which people are born, live, work and age, including the access to the health care.

**Determinants of Health**

- Individual biology
- Behavior (lifestyle)
- Physical and social environments
- Policies and interventions
- Access to quality health-care

**Occupational Health**

A multifaceted and multidisciplinary activity concerned with the prevention of ill-health in employed populations. A relationship between health and work.

**Aims & Objectives of Occupational Health**

The promotion and maintenance of the highest degree of physical mental and social wellbeing of workers of all occupations.

**Social Determinants of Occupational Health**

- Social determinants of health [SDH] are a range of social factors have a major influence on employees' health.
- They include individual-level factors such as education, income, and stress level.
- Work-related factors such as job type, wages and hours, and the physical and social work environment.
- Estimates suggest that social factors may contribute up to 40 percent of an individual's health status.
- Social determinants of health [SDH] appear to have a significant impact on employee health status, and consequently on employer healthcare costs as well as business performance.

**The world of people at work**

- More illness but less disease
- Musculoskeletal and stress-related complaints
- Working environment dominated by:
    - stress
    - post-traumatic stress disorder
    - chronic fatigue syndrome
    - multiple chemical sensitivity
    - diffuse pain syndromes

**From clinical care to health promotion**

Health promotion and activities aimed at strengthening the health status of workers

**Occupational Health Services**

- Clinical occupational health activities
- Workplace assessments
- General advice and support

## Topic 011: Social Determinants of Environmental Health

**Environment**

Refers to "the complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival."

**The Ecological Model**

Proposes that the determinants of health (environmental, biological, and behavioral) interact and are interlinked over the life course of individuals.

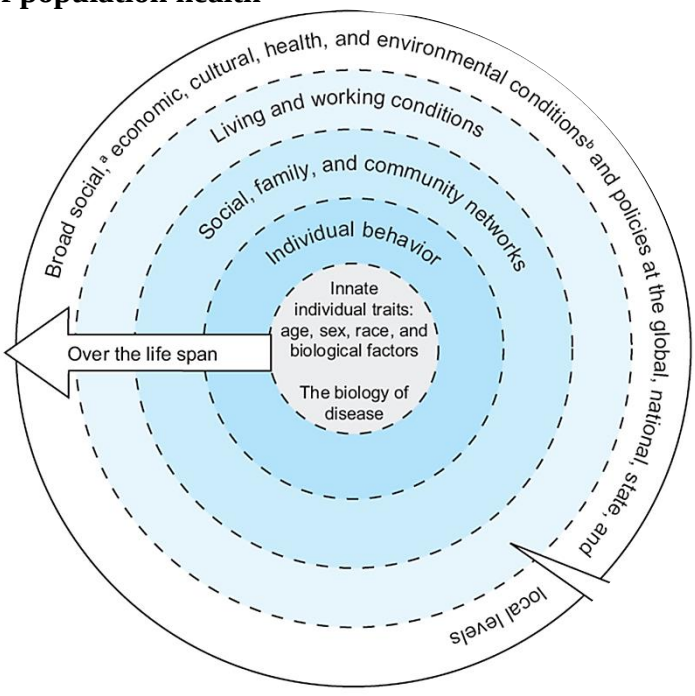
**Ecosystem**

"An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment interacting as a functional unit." - Millennium Ecosystem Assessment, 2003

**Environmental Health**

Addresses all the physical, chemical, and biological factors external to the person, and all the related factors impacting behaviours. Encompasses control of environmental factors. Aims to prevent disease. - Source: World Health Organization

**Ecological model of population health**




**Environmental Quality: Healthy People 2010 Goals**

**Sustainable Development Goals**

Goal Number

3. Good health and wellbeing
6. Clean water and Sanitation
11. Sustainable cities and communities
13. Climate action
14. Life below water
15. Life on Land

**Population and Environment: The Three P's**

- Pollution➔ Principal Determinants
- Population➔ of Health Worldwide
- Poverty➔

**Significance of the Environment**

Exposure to potentially unsafe agents accounts for many of the forms of environmentally associated morbidity and mortality.

Examples of hazardous agents are:

- Microbes
- Toxic chemicals and metals
- Pesticides
- Ionizing radiation

**Scope of Environmental Health Problems**

- Environmental factors are thought to contribute significantly to many forms of chronic disease such as cancer, including cervical cancer, prostate cancer, and breast cancer.
- Large proportion of the burden of disease associated with environmental sources
- Prevalence of and mortality from asthma.
- High percentage of children with elevated blood lead levels
- Degrading air quality worldwide

**Environmental Risk Transition**

Changes in environmental risks that happen as a consequence of economic development in the less developed regions of the world.

Before transition occurs, poor quality of:

- Food
- Air
- Water

After transition, a new set of environmental problems take hold. Examples include release of:

- Acid rain precursors
- Ozone-depleting chemicals
- Greenhouse gases

**Lesson 03**

# SOCIAL ASPECTS OF HEALTH-I
# TOPIC 012-016

## Topic 012: School Health Services

**Introduction**

School health refers to a state of complete, physical, mental, and social well-being and not merely the absence of disease or infirmity among pupils, teachers and other school personnel. School health service refers to need based comprehensive services rendered to pupils, teacher and other personnel in the school to promote, protect their health, prevent and control disease and maintain their health.

**Aim/Objective**

- The promotion of positive health.
- The prevention of disease.
- Early diagnosis, treatment and follow up of defects.
- Awakening health consciousness in children, parents and teacher.
- The provision of healthful and safe environment which is conducive to comprehensive development of children.

**NEED FOR SCHOOL HEALTH SERVICES**

**PRINCIPLE**

- School health service should focus on health needs of children.
- It should be planned in co-ordination with school, health personnel, parents and community people.
- School health service should be a part of community health service.

**SCHOOL HEALTH SERVICES – components**

**1. Health promotive and Protective services**

- Prevention of communicable diseases.
- Healthful school environment.
- Nutritional services.
- Promotion of Mental health.
- Health education
- Immunization
- Maintenance of personal hygiene
- Physical and recreational activities

**2. Therapeutic Services**

- First aid and emergency care
- Health appraisal of school children and school personnel
- Treatment and follow up
- Specialized health care services
- Dental health
- Eye health

**3. School Health Records**

Proper maintenance and use of school health records.

**4. Rehabilitative services**

Education and care of handicapped

## Topic 013: Personal Hygiene

Hygiene is the study and observance of health rules. Personal hygiene is concerned with the individual's assessments of psychological needs of the body and mind to attain maximum level of health.

**Personal hygiene**

- Personal hygiene may be described as the principle of maintaining cleanliness and grooming of the external body.
- Personal hygiene involves those practices that promote mental, emotional and physical health as well as social wellbeing of individual.
- Failure to keep up a standard of hygiene can have many implications.
- Not only is there an increased risk of getting an infection or illness, but there are many social and psychological aspects that can be affected.
- Personal hygiene is concerned with factors for which individual person is responsible.

**Habits:**

- Sleeping
- Eating
- Fasting
- Physical Activity

There are different aspects of personal hygiene including:

- Physical
- Mental
- Social

**Mental aspects of Personal hygiene**

Mental hygiene deals with ways and means of preserving integrity of human mind to obtain personal and environmental enrichment of life. Its deals with such psychologic concepts as desires, emotions, satisfaction and attitudes.

**Social aspects of Personal hygiene**

Society has its code of conduct, based upon the principle that no person who should be called healthy, has the right to do anything which would harm his fellows.

It includes;

- Reproductive organs' hygiene
- Drug Addiction
- Use of Tobacco

**Physical aspects of Personal hygiene**

Regular Routine of Personal Care Washing and Grooming of:

- Clothing
- Bathing
- Oral hygiene
- Hair
- Face and Skin
- Ears
- Hands
- Nails
- Feet

**The Benefits of Good Hygiene**

- According to the Centers for Disease Control and Prevention, addressing the spread of germs in schools is essential to the health of our youth, our schools, and our nation.
- Good hygiene prevents the spread of germs.
- It also helps to give a good first impression to others.

## Topic 014: Hand Hygiene

**Introduction**

- Hand hygiene;

Most effective prevention method for transmission of disease

- Recommendations
    - Centers for Disease Control (CDC)
    - World Health Organization (WHO)

**Hand Hygiene Agents**

- Regulated by Over-the-Counter (OTC) Division of the United States Food and Drug Administration (FDA)
- Benefits and disadvantages to each

**Agents Plain (Non-Antimicrobial Soap)**

**Advantages;**

- Detergent-based
- Removes dirt, soil, organic substances
- Little/no antimicrobial activity
- Can remove transient flora from hands

**Disadvantages;**

- Failure to remove pathogens
- Paradoxical increases in bacterial counts on skin
- Skin irritation and dryness

**Agents Alcohol**

**Examples;**

- Isopropanol Ethanol
- Denature proteins in pathogens
- Mixed with water – 65-95% alcohol
- Concentration > 95% is ineffective
- Used to make alcohol-based hand rubs;
    - More effective for routine handwashing or hand antisepsis for healthcare personnel

**Advantages;**

- More effective than other agents
- More effective in killing multi-drug resistant organisms
- Effective vs. gram positive and negative pathogens, fungi, TB

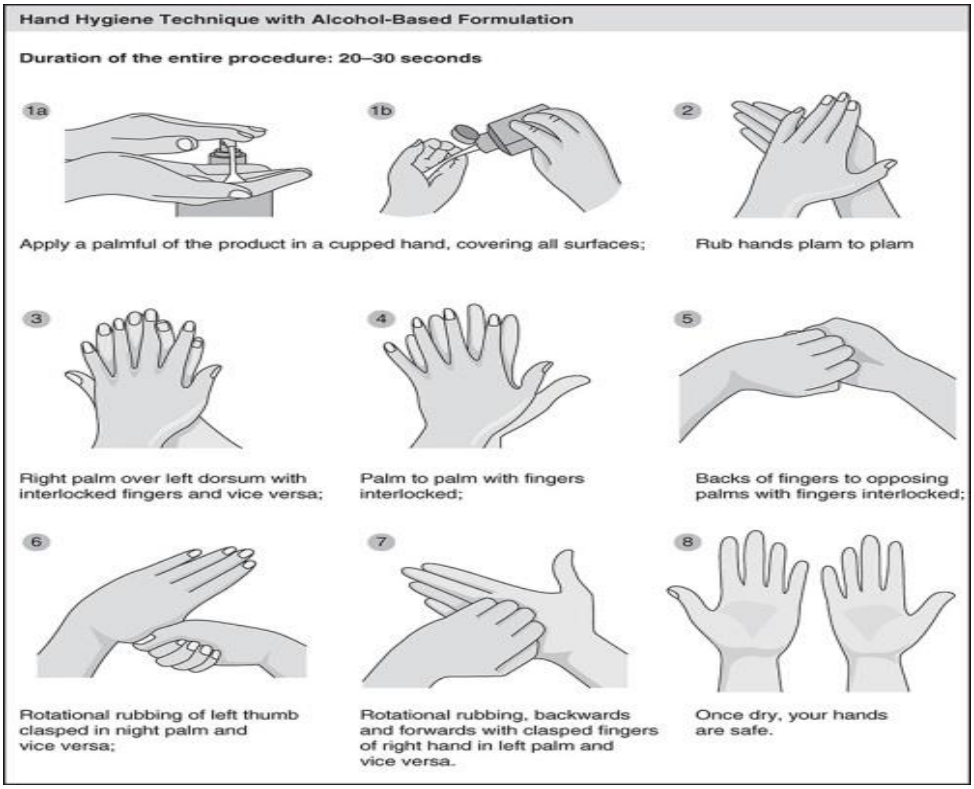
**Disadvantages**

- Poor efficacy against bacterial spores, protozoan cysts, and non-enveloped viruses
- No persistent or residual activity
- Decreased effectiveness if blood is present
- Flammable

**Hand Hygiene Technique**

**Alcohol-based hand rub**

- Apply the product to the palm of one hand and rub palms together, covering all surfaces of hands and fingers, until hands are dry." (CDC & WHO IB)



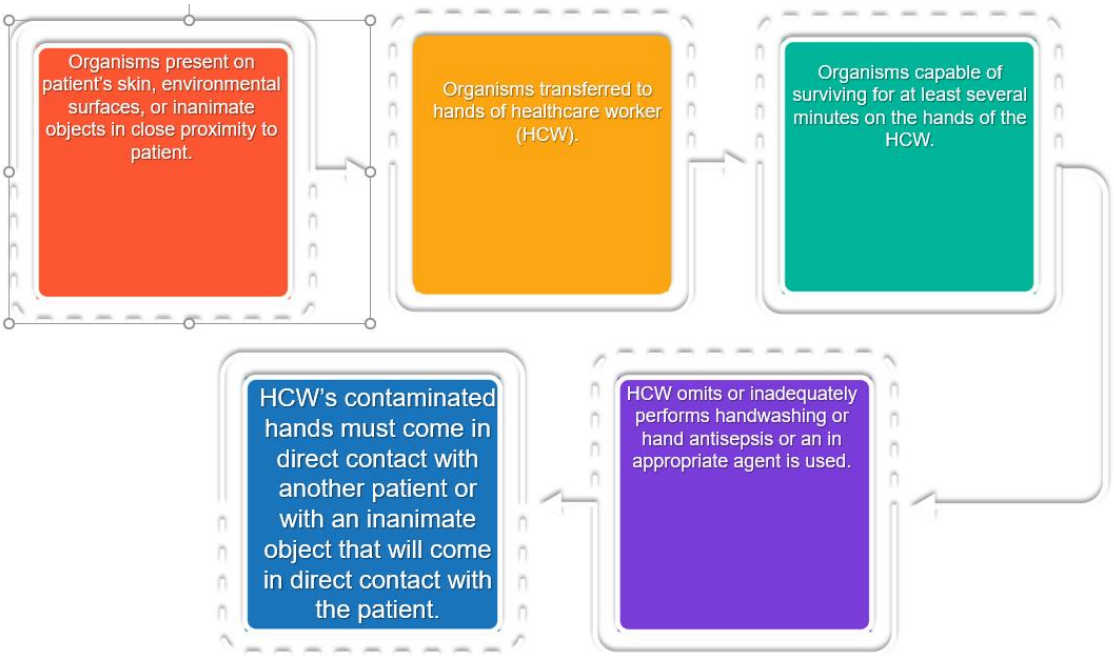

**Soap and water;**

1. Wet hands first with water
2. Apply recommended amount of soap to hands
3. Rub hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers
4. Rinse hands with water
5. Dry hands thoroughly with disposable paper towel
6. Turn faucet off using dry paper towel (CDC & WHO, IB)

**Choosing a Hand Hygiene Agent**

- Low potential for irritation, even when used multiple times/shift (CDC & WHO IB)
- Facilities should obtain input from HCPs re: feel, fragrance, & skin tolerance. (CDC & WHO IB)
- Cost of product should not be primary deciding factor (CDC IB & WHO II)
- Pre-filled bags optimal
    - Soaps should not be added to a partially filled soap dispenser due to risk of contamination. (CDC & WHO IA)
- Facilities should solicit manufacturer info re: risk of contamination (WHO IB)
- HCP should have access to hand lotions or creams. (CDC & WHO IA)
- HCP educational programs should include info re: how to reduce risk of skin irritation/damage. (CDC & WHO IB)
- Collect info from manufacturer re: concurrent use with hand lotions, creams, or alcohol-based antiseptics. (CDC IB & WHO II)

**Transmission of Pathogens on Hands**




**Selected Factors Influencing Noncompliance with Hand Hygiene Recommendations**

**Observed Factors**

- Physician status (rather than nurse or technical staff)
- Support staff (rather than nurse or technical staff)
- Male gender
- Working during the week (rather than the daytime)
- Working at night (rather than the daytime)
- Presence of automatic sink
- High number of opportunities or task requiring hand hygiene per hour of patient care
- When entering patient room versus leaving patient room
- Completing a clean versus dirty task

**Self-Reported Factors**

- Hand-washing agents that cause irritation and dryness
- Inconveniently located sinks or shortage of sinks
- Lack of soap and paper towels
- Lack of time
- Conditions that are understaffed or wards that are overcrowded
- Patients classified as high-priority or urgent

**Box 2.2 Selected Factors Influencing Noncompliance With Hand Hygiene Recommendations (Continued)**

Patients with a low-risk of acquiring infections from other patients or HCP
Belief that gloves negate the need for hand hygiene
Lack of knowledge/awareness of guidelines and protocols
Forgetfulness
Lack of a role model from peers or supervisors
Skepticism regarding the value of hand hygiene
Disagreement with established recommendations/policies

**Perceived Barriers**

Lack of active participation in hand hygiene promotion at the individual or institutional level
Lack of role models for hand hygieneLack of institutional priority for hand hygiene
Lack of positive feedback for compliance or negative feedback for noncompliance
Lack of institutional safety climate

***Compiled from:***

1. Centers for Disease Control and Prevention (CDC). Guideline for hand hygiene in health-care settings. *MMWR Morb Mortal Wkly Rep*. 2002;51(RR-16):1–47.
2. Erasmus V, Daha TJ, Brug H, et al. A systematic review of studies on compliance with hand hygiene guidelines in hospital care. *Infect Control Hosp Epidemiol*. 2010;31(3):283–294.
3. Kewitt B, Jefferson J, Mermel LA. Factors associated with hand hygiene compliance at a tertiary care teaching hospital. *Infect Control Hosp Epidemiol*. 2013;34(11):1146–1152.
4. Lebovic G, Siddiqui N, Muller MP. Predictors of hand hygiene compliance in the era of alcohol-based hand rinse. *J Hosp Infect*. 2013;83(4):276–2783.
5. Pittet D. Improving compliance with hand hygiene in hospitals. *Infect Control Hosp Epidemiol*. 2000;21:381–386.

Data from Centers for Disease Control. Guideline for hand hygiene in health-care settings. MMWR Morb Mortal Wkly Rep. 2002;51(No. RR-16):1–47; Pittet D. Improving compliance with hand hygiene in hospitals. Infect Control Hosp Epidemiolog 2000;21:381–6; Kewitt B, Jefferson J, Mermel LA Factors associated with hand hygiene compliance at a tertiary care teaching hospital. Infection Control Hosp Epidemiology 2013;34(11):1146–52; Lebovic G, Siddiqui N, Muller MP. Predictors of hand hygiene compliance in the era of alcohol-based hand rinse. Journal of Hospital Infection 2013;83(4):276–83; Erasmus V, Daha TJ, Brug H, et al. A systematic review of studies on compliance with hand hygiene guidelines in hospital care. Infection Control Hosp Epidemiology 2010;31(3):283–94.

**Recommendations Regarding Compliance**

- Facilities should monitor compliance with hand hygiene practices & policies and provide feedback (CDC & WHO IA)
- Make hand hygiene compliance an institutional priority with admin. support and funding (CDC & WHO IB)
- Education/promotion programs should focus on factors found to influence compliance, not just hand hygiene products (WHO IA)
- Hand hygiene programs should be multi-faceted & multi-modal and include support from senior executives (WHO IA)
- Multi-disciplinary programs to improve hand hygiene should be implemented and include easy access to alcohol-based hand-rub (CDC IA)
- Areas of high workload/intensity should have alcohol-based hand-rub available at;
    - Entrance to patient room
    - At the bedside
    - In other convenient locations
    - Individual pocket-sized containers (CDC IA)
- Dispensers of hand hygiene products should be available at the point of care (WHO IB)
- Alcohol-based hand-rub should be easily accessible at the point of care (WHO IA)

## Topic 015: Community Hygiene

- Some health measures can be undertaken only by the community as a whole like;
  - Water source protection
  - Proper disposal of solid waste & excreta
  - Wastewater drainage
  - Controlling animal rearing and
  - Market hygiene
- Individual community members have a responsibility to their neighbors and to the community to promote good health and a clean environment
- Community leaders can promote cleanliness by regularly checking on village households and by using by-laws.

**Markets**

- Markets often represent a health hazard because;
  - Foodstuffs may not be stored properly
  - The markets may lack basic services, such as water supply, sanitation, solid waste disposal and drainage
- Appropriate sanitation facilities in market according to the number of people who visit
- Fee for service facilities
- Daily inspection of foodstuff in market
- Solid waste disposal of market places
- Proper layout of market
- Markets functions well when they have
  - Legal status
  - Market fees and supervision by health officials
  - Strong traders' associations and good links between market associations and local service providers

**Animal Rearing**

- Animal rearing is a mean of generating;
  - Additional income
  - Food high in protein
  - Leather and fuel
  - Unsafe animal rearing has negative impact on the health of community
- For safe animal rearing;
  - Animals should be kept away from household- at least 100 meters away from water sources and 10 meters from house
  - Animal waste should be disposed properly
  - Animals should be slaughter by experts away from households and water sources

## Topic 016: Food Hygiene

**Defining Food**

All substances are foods which, after undergoing preparatory changes in the digestive organs serve to renew the organs of the body, and maintain their functions.

**Classification of Food**

- Tissue Producers;
  renews the composition of the organs of the body
- Energy Producers;
  supplies the combustible material, the oxidation of which is the source of the energy manifested in the body
- For proper growth of human body, our food must contain some proportion of;
  a. Nitrogenous Foods

b. Hydrocarbons or Fats
c. Carbohydrates or Amyloids
d. Salts
e. Water

**Nitrogenous Food**

**Nitrogenous foods;**

- Include albumin, casein, gluten, fibrin, and gelatin
- Contain carbon, hydrogen, oxygen, and nitrogen, with the addition of smaller quantities of Sulphur, and phosphorus
- Divided in two groups i.e., gelatin & proteins
- Protein foods repair the tissues of the body
- A large share of the energy of the body is derived from the metabolism of proteins
- Protein food determines the metabolism of non-nitrogenous food
- Deficiency of protein food leads to ill health

**Hydrocarbons**

- Hydrocarbons, or fats, consist of three elements, carbon, hydrogen, and oxygen
- Fats compare favorably with starch & sugar
- Fats of the body result from the incomplete metabolism of nitrogenous foods

**Carbohydrates**

- Carbohydrates or amyloids;
  - Include various starchy & saccharine foods
  - Are inferior to fats in nutritive power but very digestible
- In absence of carbohydrates from food, they may be produced in the organism by the breaking up of nitrogenous matter

**Salts**

- Salt and especially common salt is essential to health
- Chloride of sodium is necessary for the production of the acid (hydrochloric) of gastric juice, and of the salts of bile
- An adult requires 150 to 200 grains of salt per day
- Potassium salts form an important part of milk, muscle juice & the blood corpuscles
- Calcium phosphate (bone earth) is essential for the growth of bones
- Oxide of iron is always present in the ash of blood and muscles
- Phosphorus is an essential building material for the body

**Water**

- Water forms an important article of diet
- 80 percent of the blood and 75 percent of the solid tissues consists of water
- Daily loss of water from the system averages 50 ounces by the kidneys, and about 40 ounces by the skin and lungs
- Water is not simply received into the system as a liquid

**Food Hygiene**

- Food that is kept too long can go bad and contain toxic chemicals or pathogens
- Foodstuffs that are eaten raw can become contaminated by dirty hands, unclean water or flies.
- Improperly prepared food can also cause chemical poisoning
- Contaminated food represents one of the greatest health risks to a population and is a leading cause of disease outbreaks and transmission
- To promote good health, therefore, food should be properly stored and prepared.

**Food Preparation in Homes**

- Ways of healthy preparation of food in home;
  - Before preparing food, hands should be washed with soap

- Raw fruit and vegetables should not be eaten without peeling and cleaning
- It is also important to cook food properly, particularly meat
- Cooking places should be kept clean with proper disposal of waste
- Food that is ready to eat should be covered and eaten within 12-16 hours.
- Proper storage of food in refrigerator, ice blocks or by using preservatives
- Proper handling of different types of food

**Eating Houses**

- Eating-houses should have clean water for washing and drinking, and separate sanitation facilities, away from the kitchen area, for customers, cooks and food-handlers
- The staff should have clean uniforms each day and have regular medical check-ups
- Food should be freshly prepared and any spilled or not used food should be disposed of
- The kitchens and eating areas must be kept clean & free of vermin & insects
- Eating-houses should be well-ventilated, with adequate lighting & procedures for dealing with fires & accidents
- Eating-houses require official approval before they can operate and are subject to regular checks
- These checks are likely to be increased in times of epidemic
- Eating-houses must be properly run and maintained to ensure that they do not become a source of disease.

**Street Food Vendors**

- The poor quality of food preparation, food handling and food storage of street vendors represents a serious health risk
- An African study found that 98% of the street vendors had fecal contamination on their hands and food.
- Ways of minimizing health risks of street food vendors
- Street food vendors should be regulated/ supervised by health authorities
- Street vendors should be located close to water points and sanitation facilities
- Community members can help to ensure healthy food preparation and handling

**Promoting Nutrition**

- Lack of food or unbalanced diet causes illness and malnourishment
- Children are vulnerable to poor nutrition
- Food should include a well-balanced diet
- Nutrition can be improved by changing agricultural or gardening practices

**Lesson 04**

# SOCIAL ASPECTS OF HEALTH-II
# TOPIC 017-020

## Topic 017: Cleanliness

### Skin

- The skin consists;
  - Superficial part or epidermis
  - Deeper part called the dermis or cutis
  - Tubes of two kinds viz
  - Sweat or sudoriparous glands and sebaceous glands.
- The sudoriparous glands are simple tubes
- Each tube is quarter of an inch long.
- In the palm of the hand there are 3,528 orifices of sudoriparous and sebaceous glands on a square inch of surface
- There are 2,800 tubes to every square inch
- There are seven million pores in a man
- The perspiration secreted by the sudoriparous glands is constantly evaporating
- The sebaceous and sudoriparous glands secrete an oily material which serves the purpose of a natural pomade and keeps the general surface of the skin unctuous and supple.

### Conditions Due to Uncleanliness

- The Conditions Due to Uncleanliness are;
  - Due to obstruction of the excretory ducts to accumulation of debris on the general surface of the skin
  - And to the consequent interference with the circulation

1. Obstruction of sudoriparous pores causes inflammation and damages skin
2. Accumulation of effete matter on the skin occurs
3. Sensibility of skin is dulled
4. The tendency to chills is increased
5. Cutaneous diseases are caused

### Uses of Soap

- Soap is produced by an action of an alkali on an oil
- Soft soap is chiefly stearate of potassium; hard soap is stearate of sodium
- Coconut oil is used in making marine soaps, it is not rendered insoluble by brine
- Soap contains 15-35 percent water
- The alkali in soap removes the dirt

### Use of Baths

- Baths are especially necessary for those persons who lead sedentary lives.
- Below 70° Fahr. are cold baths; tepid up to 85°; warm up to 97°; and hot over this temperature.
- For purposes of cleanliness the warm bath is the most efficient
- Drying is essential after bath as it minimize the danger of chills
- A daily morning cold bath is important in the maintenance of robust health.
- Cold bath ought to be taken rapidly
- Feeling of cold and chillness after cold bath causes more harm than good

### Swimming

- Swimming is a valuable combination of bathing and exercise
- A sudden plunge into cold water for swimming purposes is dangerous

- Many of the cases of death from "cramp" are really due to the benumbing and depressing influence of continued cold on the vital organs

**Personal Cleanliness**

- The hair ought to be carefully brushed and combed
- The nails should be cut square, and not down at the sides.
- The mouth and all mucous orifices should be kept scrupulously clean
- All carious teeth should be "stopped" at an early period

**General Cleanliness**

- Cleanliness of apparel
- Cleanliness of bedclothes
- Superfluous bedroom furniture should be avoided
- Bed hangings should be minimum
- Dust should be cleaned as it forms soil in which germs may grow

## Topic 018: Factors Influencing Meeting Hygiene Needs

**Influence Of Lifespan On Bathing & Showering**

**Infancy (0-23 Months)**

- Babies may not require to be bathed daily
- Separate water should be used for both face and nappy area

**Childhood (2-4 years)**

- Bathing and playing is a normal part of a child' s development
- It is important to assess a child' s understanding of any restrictions while bathing

**Adolescence (13–19 years)**

- Teenagers are more likely to have been brought up having daily showers rather than baths
- Assessment for safety is required and in clinical areas adolescents

**Adulthood (20– 64 years)**

- Adults as well as ensuring safety is to raise awareness of the potential for cross - infection
- Most adults are used to daily bathing and/or showering and this has become the norm in our society

**Old Age (65+ Years)**

- Older people should ideally not be bathed on a daily basis
- Older people who happen to have a problem with incontinence will require hygiene measures to prevent urine from causing excoriation of the skin

**Patients With Cognitive Problems**

- Patients who have cognitive problems may have trouble understanding the intentions of healthcare professionals when undergoing bathing or showering procedures
- Up to 90% of older people with dementia will exhibit agitation on becoming aware that they will be bathed and disturbed behaviors can extend

**Factors Influencing Meeting Hygiene Needs**

**Physical Factor**

- The patients who are physically frail, aids are available to ensure that any risks to the patient can be managed
- Consideration and assessments should be given to patients

**Psychological Factor**

- Assessment of the patient with cognitive problems is vital to ensure minimum distress for people with difficulty of understanding
- Knowing the patient' s normal use of language to describe bathing can help them

- Ready - prepared, no - rinse - formulae bag baths are also useful for people with cognitive problems

**Sociocultural Factor**

- Cultural beliefs and customs may demand or prevent specific interventions
- Patients' reluctance to bath or shower should be explored for underpinning reasons
- Belief system is also important in bathing

**Environmental Influences On Bathing & Showering**

- The risk of falls and injury can increase through hard surfaces becoming slippery if allowed to remain wet
- Shower rooms must be equipped with grab rails and handles which have been placed strategically where the patient can use them.

**Politico Economic Influences On Meeting Hygiene Needs**

- Almost one in 10 patients will develop a hospital - acquired infection
- e. Poor infection control measures can increase the risk of infection during and after bathing
- Healthcare staff should use personal protective equipment (PPE) as directed by local policies

**Bathing Aids**

- Grab nails
- Bath boards
- Bath seats
- Lifting aids/bath hoists
- Bath cushion

**Bath Types**

- Adjustable - height baths
- Walk - in baths
- Baths with integral seats
- Tilting baths
- Baths with side access

## Topic 019: Diseases Due to Food

- Diseases may arise from the;
  - noxious character/ foodborne diseases
  - deficiency
  - excess of some particular food
  - or of the food as a whole

**Foodborne diseases**

- Over 200 diseases are caused by eating food contaminated with bacteria, viruses, parasites or chemical substances such as heavy metals
- This growing public health problem causes considerable socioeconomic impact though strains on health-care systems lost productivity, and harming tourism and trade
- These diseases contribute significantly to the global burden of disease and mortality.
- Foodborne diseases are caused by contamination of food and occur at any stage of the food production, delivery and consumption chain
- They can result from several forms of environmental contamination including pollution in water, soil or air, as well as unsafe food storage and processing
- Foodborne diseases encompass a wide range of illnesses from diarrhea to cancers
- Most present as gastrointestinal issues, though they can also produce neurological, gynecological and immunological symptoms

- Diseases causing diarrhea are a major problem in all countries of the world, though the burden is carried disproportionately by low- and middle-income countries and by children under 5 years of age
- Common symptoms of foodborne diseases are nausea, vomiting, stomach cramps, and diarrhea. However, symptoms may differ among the different types of foodborne diseases
- Symptoms can sometimes be severe, and some foodborne illnesses can even be life-threatening.
- Although anyone can get a foodborne illness, some people are more likely to develop one.
    - Older adults
    - Young children
- People with immune systems weakened from medical conditions e.g., diabetes, liver disease, kidney disease, organ transplants, or HIV/AIDS, or from receiving chemotherapy or radiation treatment.
- Pregnant women

**Foods Associated with Foodborne Illness**

- Raw foods of animal origin, that is, raw meat and poultry, raw eggs, unpasteurized milk, and raw shellfish are the most likely to be contaminated
- Fruits and vegetables can also be contaminated with animal waste when manure is used to fertilize produce in the field, or unclean water is used for washing the produce
- Raw sprouts are particularly concerning because the conditions under which they are sprouted are ideal for growing microbes
- Unpasteurized fruit juices or cider can also be contaminated if there are pathogens on the fruit that is used to make it
- Any food item that is touched by a person who is ill with vomiting or diarrhea, or who has recently had such an illness, can become contaminated
- When these food items are not subsequently cooked (e.g., salads, cut fruit) they can pass the illness to other people

**Diseases from Unwholesome Food**

**1. The Meat of Deceased Animal**

- The meat from diseased animals is dangerous due to the
    - Drugs which the animals have been dosed before death e.g., tartar, emetic or opium
    - Presence of parasites

**Common Parasites**

- Cysticercus cellulose- undeveloped embryo of the tape-worm. When cysticercus meat is swallowed, it develops into the tape-worm
- Trichina spiralis- not a solid worm but possesses an intestine. When trichinous meat is swallowed great irritation and inflammation is produced in body
- Tuberculosis Meat- from animals suffering from tuberculosis, has been found to cause tuberculosis in small animals experimentally fed on it
- Other infective diseases- cattle-plague, pig typhoid (pneumo-enteritis), anthrax, and quarter ill, as well as in sheep-pox

**2. Decomposed Meat**

- Putrid meat has often produced diarrhea and other severe symptoms
- Tinned Meats occasionally produce severe illness, which has been in several cases fatal

**3. Meat injuries from the food eaten before killing**

- Dangerous symptoms observed in

- animals fed on the lotus, wild cucumber, and wild melon

**4. Fish**

- Some kinds, occasionally produce nettle rash and other disorders, especially in warm weather
- Shell-fish and crustaceans (as lobster, crab) are very prone to produce evil results

**5. Milk**

- Milk of animals fed on toxic and wild herbs produces gastric irritation and disorders
- Milk of animals suffering from foot-and-mouth disease produces mouth ulcers.
- Mixing with contaminated water
- Diarrhea due to fermented milk

**6. Vegetable Food**

- Is indigestible if stale
- Mouldy vegetables are dangerous
- Over-ripe and rotten fruit is liable to produce diarrhea
- Eating of damaged maize in Italy is the cause of an endemic skin disease, called pellagra

**Starvation Diseases**

- Simple Starvation causes death in a period varying with the previous state of nutrition
- Usually, death occurs when the body has lost two-fifths of its weight
- A supply of water prolongs the duration of life by three times
- Good nourishment doubles the power of resisting disease
- Scurvy- caused by the absence of fresh vegetables
- Rickets- due to improper feeding in childhood
- Relapsing fever- follows epidemics of typhus fever and is greatly favored by starvation
- Ophthalmia- prevalent in charity schools where children are underfed

**Diseases Connected with Over Feeding**

- Gout- Excess of nitrogenous food—especially if combined with the use of sweet, or strong, or very acid wines, and beer
- Obesity- favored by excess of starchy food and sugar
- Gall-stones- favored by rich foods and excess of sugar; also, by alcoholic indulgence
- Dyspepsia- due to loading the stomach at too frequent intervals

## Topic 020: Modes of Transmission, Personal Protection Equipment and Isolation Precautions

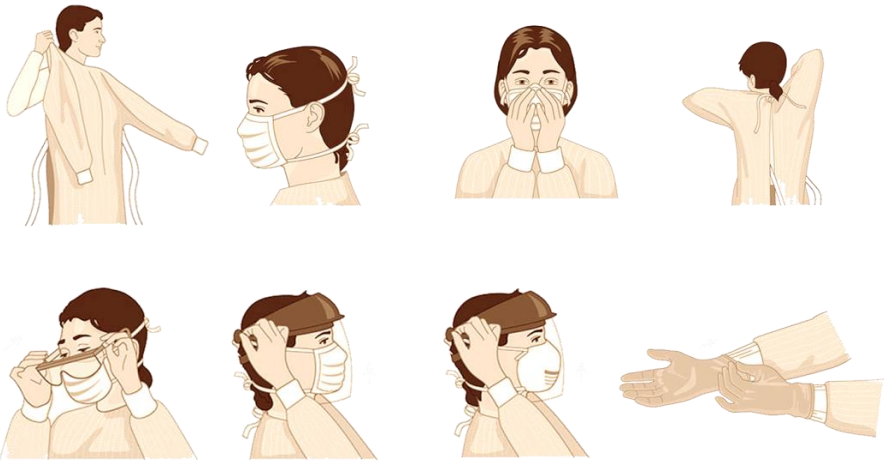
**Modes Of Transmission**

- **Contact;**
  - Direct
  - Indirect
- **Droplet;**
  - 3–6-foot radius from patient
- **Airborne;**
  - Droplet nuclei

**Personal Protective Equipment (PPE)**

- Protects HCP by providing barrier between infectious agent and the mucous membranes, airways, skin, and clothing of HCP
- Recommendations from the Healthcare Infection Control Practices Advisory Committee (HICPAC)
- PPE should be;
  - Worn when there is a potential for blood/body fluid exposure

- Removed & discarded before leaving pt's room



**PPE Gloves**

- Latex or nitrile
- Vinyl not recommended – high rates of failure
- Gloves should be worn when there is a possibility of direct contact with blood/body fluids, mucous membranes, no intact skin, or other potentially infectious material
- HCP should wear gloves that fit and are durable enough for task at hand
- Remove gloves using proper technique to avoid hand contamination
- Do not use the same pair of gloves for care of more than one patient
- Do not wash and reuse gloves

**PPE – Isolation Gowns**

- NOT clinical or laboratory coats or jackets
- Isolation gowns always used with gloves + other PPE
- Ideal gown – full coverage of arms and front of body from neck to mid-thigh

**PPE – Mouth, Nose, & Eye Protection**

- Select masks, goggles, face shields, and combinations of each according to the task and risk at hand
- PPE should be used to protect mucous membranes of the eyes, nose, and mouth during procedures & pt. care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions

**PPE Masks**

- Surgical masks
- Cleared by FDA and meet specs for fluid-resistant properties
- Procedure/Isolation masks
- Not cleared by FDA
- Particulate respirators, "TB masks"
- After use, the front of mask, goggles, and face shield are considered contaminated.
- The ties, ear pieces, of headband are considered "clean" and can be removed with ungloved hands

**Precautions**

- Two-tiered approach
- Standard Precautions – used with every patient

- Transmission-based Precautions – based around a suspicion or identification of a specific infectious agent

**Standard Precautions**

- Assumption that all blood, body fluids, secretions, excretions except sweat, non-intact skin, and mucous membranes may be infectious
- Used with all patient, tailored to patient care task and extent of anticipated exposure

**Transmission based Precautions**

- Contact
- Droplet
- Airborne
- For use with patients with documented or suspected infection or colonization with highly transmissible or epidemiologically-important pathogens for which additional precautions are needed to prevent transmission

**Contact Precautions**

- Used when there is an ↑ likelihood of infection being spread by direct contact with patient or patient's environment;
    - Excessive wound drainage
    - Fecal incontinence
    - Other discharges with potential for excessive environmental contamination
- Preferred single patient room
- HCP entering room should don a gown and gloves for any interactions that involve contact with patient or potentially contaminated environment
- Contain infectious material within room

**Droplet Precautions**

- For infectious agents that are spread through droplets;
    - Requires close respiratory or mucous membrane contact with respiratory secretions
    - Secretions do not remain infectious over long distances in the air
    - Do not require special air handling precautions
    - Examples:
      Bordetella pertussis, influenza virus, Nerisseria meningitidis, group A streptococcus
- Private room preferred
- HCP entering room should don a mask
- Particulate respirator (TB mask/N95 mask) not necessary
- If the patient has to leave the room, they should wear a mask and follow respiratory hygiene/cough etiquette

**Airborne Precautions**

For infectious agents that remain airborne and infectious over long distacnces;

- **Examples:**
    - Rubeola virus
    - Varicella virus
    - Mycobacterium tuberculosis
- Require Airborne Infection Isolation Room (AIIR)
- Guidelines from American Institute of Architects/Facility Guidelines Institute (AIA/FGI)

**Airborne Precautions AIIR**

- Intended to ↓ the # of infectious particles in the air inside the room, but keep existing particles in the room
    - Monitored negative pressure relative to the surrounding area

    - Air from inside the room must be exhausted directly outside or through HEPA filters
- Mask or particulate respirator depends on pathogen
- Mask or respirator should be donned before entering room
- For vaccine preventable diseases, non-immune HCP should not provide care unless it is unavoidable

**Isolation**

- Public health practice to limit the spread of disease by limiting the contact that ill and infectious persons have with susceptible hosts
- Usually occurs in hospital while patient is receiving treatment
- Individual is already ill or diagnosed
- Typically lasts for as long as the patient is infectious

**Quarantine**

- Applies to individuals who have been exposed to a contagious disease and may become ill
- Used when person(s) exposed is well defined and the involved disease is dangerous and highly contagious
- High level of threat
- Exposed persons have limited or controlled contact with potential new hosts until it is determined that they have not acquired the disease

**Administration and Education**

- Administrators should;
    - Incorporate the prevention of transmission of infectious agents into the organization's patients and occupational safety program objectives
    - Prioritize prevention of transmission of infectious agents and maintenance of infection control programs (fiscal and human resources support)
- Supplies and equip needed for Standard Precautions (including hand hygiene supplies and PPE) should be available in all areas where healthcare is delivered
- Policies/procedures should be developed and implemented to ensure that reusable patient care equipment is cleaned and reprocessed appropriately before use on another patient
- Efficient and effective education/training for HCP regarding PPE and precautions;
    - Job or task specific
    - Presented during initial orientation
    - Updated periodically during ongoing education programs
    - All HCP targeted
    - Based on principles of adult learning
    - Appropriate reading level and language

**Lesson 05**

## SOCIAL ASPECTS OF HEALTH-III
## TOPIC 021-024

### Topic 021: Position of the House

- The first considerations, therefore, in choosing a house are those of aspect, surrounding objects, and soil
- A workroom should point north or some point between north-east & north-west
- Breakfast room should face north-east to south
- Drawing-room should be southeast to north-east
- Store-rooms, dairies, larders, should have a northerly aspect

**Surrounding Objects**

- Surrounding Objects of an objectionable character are to be avoided as;
  - Factories, noisy or offensive trades
  - Neighboring cesspools contaminating the water supply
  - Trees and water banks close to house rendering it damp, & preventing the free access of sun and air

**Light and Ventilation**

- In houses the angular aperture through which light enters is greatest in the upper stories which may be increased;
  - By increasing the height of rooms
  - By carrying the window heads nearly to the level of the ceiling
  - By avoiding the proximity of other buildings

**Light and Street**

- The amount of light received in a dwelling-house is largely determined by;
  - The width of the street
  - The distance between the backs of the houses in adjacent streets
- Streets should never be less in width than the height of the houses in them
- A house must have in the rear an open space;
  - Exclusively belonging to the house
  - At least 150 square feet in area
  - Extend along the entire width of the house
  - Must never measure less than 10 feet from every part of the back wall of the house

**Soil**

- The Soil has an important influence on the healthiness of a site
- Undrained soils of whatever kind are bad
- Made-soils are always to be regarded with profound distrust

**Planning of a House**

- Sun should enter every living room at some time of the day
- With the sole window of a room in the same wall as the fireplace the area ventilated is the least, with it situated on the opposite wall the area ventilated is the greatest
- The door should be as remote from the window as possible, in order to secure occasional perflation of air
- Staircase windows are indispensable to secure through ventilation of a dwelling
- Houses constructed “back-to-back” cannot be properly ventilated

### Topic 022: Improving and Maintain Oral Health

**Oral Health And Oral Hygiene**

- **Oral hygiene;**
  Often incorporates much more than merely the absence of disease
- **Oral health;**
  A clean, functional and comfortable oral cavity; free from infection' and oral hygiene

**The Role Of Oral Care In Maintaining General Health**

- Oral problems affect socially and psychologically
- Oral discomfort causes loss of sleep, general irritation, increase sickness
- Cause bacterial infection, candidiasis
- Plaque causes cavities, inflammation of gums
- Dentures stem chest infection

**The Influence Of Age On Oral Health**

**Infancy (0-23 Months)**

- Baby teeth develop before birth and appear at 6 months
- Several discomforts during teething
- 20 milk teeth by age 2

**Childhood (2-12 Years)**

- Molars grow till 21 years
- Young Children require mouth care supervision until 7 years
- Mouthwash solution should be used with care

**Adolescence (13–19 Years)**

- Gum disease may occur during eruption of permanent teeth.
- Tooth jewelry or piercing is important
- Education for oral health

**Adulthood (20-64 Years)**

- Adults have access to improved cosmetic dentistry
- Psychological distress of losing teeth
- Oro - facial pain

**Older Age (65+years)**

- Physical conditions affecting mobility and dexterity increase the incidence of oral and tooth disease
- Cognitively disabled a person, the higher the risk of poor oral hygiene
- Wearing dentures reduces chewing ability

**The Effect Of Dependence In Achieving Oral Health & Hygiene**

- Intubated patients should have their tubes repositioned and secured to avoid lip abrasions
- Oral mucosa and tongue should be brushed or swabbed gently
- Consider a saliva substitute to compensate for the drying effect of toothpaste

**Physical Factors Influencing Oral Health**

- Patients with disease will have difficulty in achieving oral health
- Fatigue and/or pain due to ill health, acute or chronic, can reduce a person' s ability and motivation to maintain their oral hygiene

**Psychological Factors Influencing Oral Health**

- Fear of the dentist
- Mental health problems
- Medications prescribed for people with mental health problems can affect oral health

**Sociocultural Factors Influencing Oral Health**

- Cost and fear are the most cited reasons for not accessing dental services
- Poor accessibility to dental care
- Those who smoke and drink alcohol increase their risk of developing gum disease
- People also link diet and hereditary factors to the disease either

**Factors Influencing Oral Health**

**Environmental Factors**

- Physical dependence is less able to attend oral health
- Inaccessibility of services

**Politico - Economic Factors**

- Poverty and living in deprived areas are an indicator of poor oral health risk
- Poor health education and lack of money

**Assessing Oral Health And Hygiene**

- Oral assessment is inspection of the mouth
- Oral health assessment involves both verbal and physical assessment
- Aspect of poor oral health are modifiable

**Oral Hygiene**

**Oral Hygiene Equipment;**

- Toothbrushes
- Soft brushes
- Power brushes
- Foam sticks
- Glycerin swabs
- Interdental cleaners

**Cleaning Equipment;**

- Toothpaste
- Water - soluble v, paraffin, or glycerol - based products for lip care

**Aids For Oral Hygiene**

- Mouth props
- Modified toothbrushes
- Floss brushes

## Topic 023: Climate and Weather

- The character of a climate depends on four main conditions;
    1. The distance from the equator
    2. The height above the sea
    3. The distance from the sea
    4. The prevailing winds
- There are other conditions which are of subsidiary importance;
    - The nature of a surface
    - The cultivation of the soil
    - The drainage of marshes and damp soils
    - The planting and clearing away of forests

**Distance from Equator**

- The Distance from the Equator is the most important factor in relation to climate
- The sun's rays become less powerful as they fall more obliquely, in travelling from the equator

**Elevation**

- The Elevation of a locality affects the temperature and the barometric pressure, both falling as the height is increased
- Hills, Plain and Valley;
  The law of decrease of temperature with increase of altitude, is liable to great modifications, and even subversions, from various causes

**Air of Mountains**

- The air of mountains is;

- Cooler than that of lower districts
- Less dense in proportion to the altitude
- Its absolute humidity is diminished
- The air is as a rule purer.
- The amount of ozone is greater
- Light is intense with greater heat of the sun

- Owing to these peculiarities of mountain air, it is of great value as a restorative;
  - The circulation of blood is increased
  - Nutrition is improved
  - The chest expands, and the increase in its size may be permanent

**Forests and Sheets of Water**

- The presence of forests and sheets of water counteracts the effects of radiation from the earth
- Forests tend to modify a climate, and mitigate its extremes, whether situated on the slopes of mountains or on plains

**Vegetation**

- Ground covered with Vegetation has a more uniform temperature than bare soil
- All growing vegetation evaporates a large quantity of water
- The absence of vegetation leads to extreme fluctuations of temperature

Relation of Sea to Climate

- An oceanic climate is least liable to violent changes of temperature
- An insular climate presents smaller differences between the temperature of summer and winter
- A continental climate is drier and more subject to extreme alternations of temperature

## Topic 024: Purification of Air

- Various natural agencies are constantly at work for the removal of the impurities;
  - The action of plants
  - The fall of rain
  - Natural methods of ventilation, and
  - Certain natural constituents of the atmosphere

**Plants**

- Green plants absorb carbonic acid and liberates oxygen
- Ammonia and nitrous and nitric acids are dissolved from the air by rain-water, and assimilated by plants
- During the night plants only give off carbonic acid

**The Fall of Rain**

- Fall of rain as the natural Scavenger
- The fall of rain;
  - Clears solid impurities of atmosphere
  - Washes the ground, diminishes dust and prevents its escape into the air

**Ventilation**

- Ventilation- the interchange of pure and impure air
- Physical causes that tend to purify air
- Diffusion
- Winds
- Differences of masses of air

**Ventilation Diffusion**

- Diffusion causes the rapid mixture of gases placed together
- Every gas diffuses at a certain rate -inversely as the square root of its density

- Diffusion is constantly occurring
- Diffusion sometimes produces evil results such as foul smell of gasses

**Ventilation – Winds**

- Valuable of getting rid of organic matters which are unaffected by diffusion
- Winds act as a ventilating agent in two ways;
    - Directly by perflation, driving impure air before them, or freely mixing with it; and
    - Indirectly by aspiration, drawing the impure air along with them

**Ventilation Difference of Temperature**

- Differences of Temperature cause active movements of air
- The lighter gases carry with them solid particles in suspension and thus tend to remove the most important impurities
- Movements of air are constantly occurring, so long as the temperature of the air is subject to changes

Certain Constituents of Atmosphere

- Oxygen is most important as it oxidize the impurities
- Much of the oxidation is affected by means of ozone - a peculiarly active and concentrated form of oxygen
- Ammonia and organic impurities in air changed into nitrites and nitrates and washed down by rain, form part of the food of plants

**Lesson 06**

# SOCIAL ASPECTS OF HEALTH-IV
# TOPIC 025-028

## Topic 025: Construction of the House

- In preparing to build a house following requisites should receive careful attention;
    - The site of the house should be healthy, and its relation to surrounding objects in accordance with the laws of health
    - The house should be warm in winter, and cool in summer
    - It should be always dry
    - There should be an abundant and uninterrupted supply of air
    - The water supply should be abundant, conveniently arranged, and pure
    - The excreta and waste - water should be immediately removed from the house and its adjacent surroundings

**Dryness of House**

- A damp house is certain to be an unhealthy for;
    - Damp walls, like damp clothes, conduct the heat of the body away much more rapidly than dry walls
    - if the pores of the bricks are occupied by water, air cannot pass through, greatly impending the ventilation & purification of house

**Foundation and Walls**

- The Foundation requires to be solid and substantial, otherwise sinking occurs, with cracking of the walls, resulting in an unsafe condition, and an exposure to rain and wind
- The Walls of the house must be provided with a "damp-proof course"

**Material used in the Construction of House**

- Bricks- very porous, has power to absorb moisture and allow the passage of a considerable amount of air
- Mortar- have adhesive quality
- Portland cement- artificial cement used for extra strength in Mortar
- Compo- used for covering walls and keeping out rain
- Concrete- has no strength and used for covering pipes
- Lead- most suitable metallic covering for roofs, as it is durable and easily worked
- Thatch- protects the interior of a house well from extremes of heat and cold
- Iron and Wood have occasionally been employed alone in building houses
- Iron owing to its good conducting powers
- Wood becomes rotten from exposure to wet, and is also very combustible
- Corrugated iron buildings lined with wood are also employed, but are not very satisfactory

## Topic 026: Substance Abuse

**Terminologies**

- **Drug:** The WHO defines a drug as "any substance, taken by a human being which modifies one or more of the body functions."
- **Substance:** refers to any drugs, medications or toxins that share the potential of abuse.
- **Abuse:** refers to Maladaptive pattern of substance use that impairs health in a board sense.
- **Addiction:** is a Physiological or Psychological dependence on alcohol or other drugs of abuse that affect the Central Nervous System in such a way that withdrawal symptoms are experienced when the substance is discontinued.

- **Dependence:** refers to certain Physiological and Psychological phenomenon induce by repeated intake of substance.
- **Tolerance:** is a state in which after repeated administration, a drug produces a decrease effect, or increasing doses are required to produce same effect.
- **Withdrawal State:** is a group of signs and symptoms recurring when the drug is reduced in amount or withdrawn, which last for a limited time.

**Substance Abuse**

**Drug Abuse:**

Self-administration of a drug for non-medical reasons, resulting in functional impairment, and/or social, physical or emotional harm.

**Substance Abuse:**

Disorders due to psychomotor substance use refer to conditions arising from abuse of Alcohol, Psychoactive drugs and other chemicals such as Volatile solvents.

**Psychotropic Substances**

- Alcohol
- Opioids
- Cannabis
- Cocaine
- Sedatives and Hypnotics (e.g., Barbiturates)
- Inhalants (e.g., Volatiles)
- Nicotine
- Other stimulants (e.g., Caffeine)

**Etiology**

- Biological Factors
- Social Factors
- Psychological Factors
- Psychiatric Factors
- Environmental Factors

**Consequences of Substance Abuse**

- This commonly leads to physical dependence, psychological dependence, or both.
- It may cause unhealthy lifestyles and behavior such as poor diet.
- Chronic Substance abuse impairs social and occupational functioning, creating personal, professional, financial and legal problems.
- Drug abuse in early adolescence may lead to emotional & behavioral problems.
- In pregnant women, substance abuse threatens fetal wellbeing and fetal loss.
- IV drug abuse may lead to different life-threatening complications.
- Banned street drugs pose added dangers; materials used to dilute them can cause toxic or allergic reactions.

**Treatment**

- Behavioral intervention
- Motivation change
- Group therapy/ Individual therapy
- Self-help recovery groups
- Therapeutic communities
- Family involvement/therapy
- Relapse prevention

## Topic 027: Sociology of Dental Health

**Dental Health**

Dental Health is an integral part of general health. A healthy and efficient dentition contributes substantially to the general wellbeing.

**Oral Health – Definition**

Oral health is such a standard of health of teeth, their supporting structures and other tissues of the mouth and of dental efficiency as in case of any patient is reasonable having regard to the need to safeguard his general health.

**Social factors affecting oral health**

- According to Petersen, socio-cultural and environmental factors play an important role in oral disease and health, and this has been demonstrated in several reports.
- The social, economic, political and cultural determinants of health are considered to be significant, and better health can be achieved by reducing poverty.
- Socioeconomic status & Oral health (Dental caries periodontal diseases)
- Race / Ethnic
- Education, Income and Occupation (Social barriers)
- Age/ Gender knowledge variations
- Multicultural Issues

**Religion and Dental Health**

**Sociological factors in dental health**

- Affordability of dental health services
- Accessibility to dental health care services
- Acceptability of dental health care services
- Community participation
- Sustainability of programme

## Topic 028: Social Aspects of Suicide

**Suicide**

Suicide implies intentionally killing oneself. The basic definitions of suicide given from different theoretical prospective. Suicide is now understood as a multidimensional disorder which results from a complex interaction of biological, genetic, psychological, sociological and environmental factors.

**Suicide in social issue**

- Suicide is social issue
- Suicide is a form of deviance.
- The study of suicide is about the essence of sociological theories and methods.

**Types of Suicide**

- Egoistic
- Altruistic
- Anomic
- Fatalistic suicide

**Egoistic Suicide**

This type of suicide occurs when the degree of social integration is low. When a person commits suicide, they are not well supported in a social group.

**Example:** People deep in a depression with no future goals, having no feelings of worth.

**Altruistic Suicide**

This type of suicide occurs when the degree of social integration too high when a person commits this type of suicide. They are greatly involved in a group. They take their lives for a cause.

**Example:** A military service, when a soldier expected to die for his or her own country

**Anomic Suicide**

It occurs due to an individual not feeling as if he or she fits into the society anymore. This feeling is due to society changing drastically due to economic boom or industrialization.
**Example:** Investors often commit suicide when they see that they have lost all of the money they invested.

**Fatalistic Suicide**

People commit this suicide when their lives are kept under tight regulation. They often live their lives under extreme rules and high expectations.
**Example:** A man who kills himself before the police take him to jail.

**Factors of increased risk of suicide**

- Demographic
- Social factors
- Familial and Biological factors
- Physical illness
- Mental Illness & Psychological factors

**Social factors**

- Social deprivation & social fragmentation
- Poor economic conditions – unemployment
- Childhood adversity
- Interpersonal loss & conflict
- Recent migration
- Financial difficulties

**CONTROLLING SUICIDE IN PAKISTAN**

- Mental health professionals and government should cooperate.
- Suicide prevention programs should be integrated.
- Review the law regarding suicide in Pakistan.
- Suicide prevention telephone hotlines.
- Increase spending on mental health.
- Initiating school-based interventions
- Implementing strategies that restrict the act to lethal ways of suicide.
- Media can educate public about suicide prevention.
- Suicide stories can inform readers about symptoms, warnings and treatments for suicide.

**Lesson 07**

# SOCIAL ETIOLOGY AND ILLNESS-I
# TOPIC 029-032

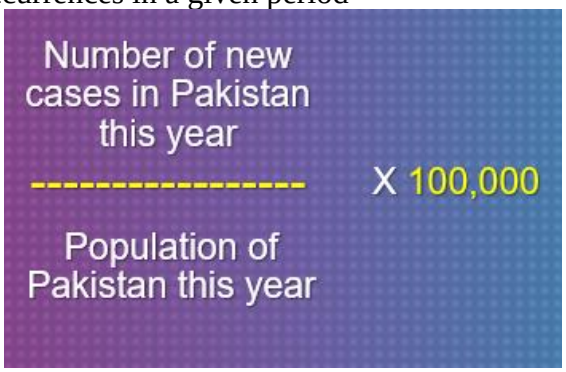
## Topic 029: The Social Etiology and Illness Overview

**Introduction to Epidemiology**

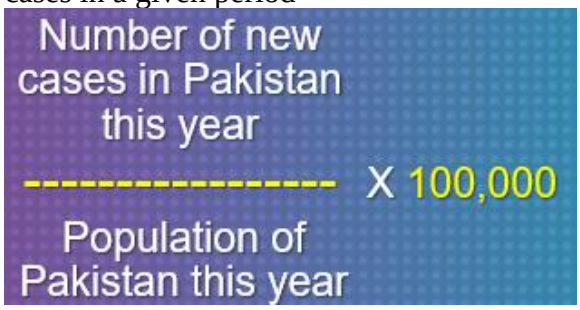
- Disease vs. illness
- **Epidemiology:** Distribution of disease
- **Social epidemiology:** Distribution based on social rather than biological factors
- **Rate:** Proportion of population that experiences a circumstance

**Types of Rates**

**Incidence Rate:** New occurrences in a given period




**Prevalence Rate:** Total cases in a given period




## Topic 030: A Brief History of Disease

**The Modern Disease Profile**

**New Rise in Infectious Disease**

- Antibiotics and drug-resistant diseases
- Growth of cities

**Globalization**

- Increased business and travel
- Erosion of cultural traditions
- Environmental Changes

## Topic 031: The Social Sources of Premature Death

**Preventing Premature Deaths**

- Identify the Manufacturers of Illness
- Focus efforts "Upstream"

**Who are the manufacturers of illness?**

**How could we focus upstream?**

- Tobacco
- Diet, exercise, and obesity

- Medical errors
- Alcohol
- Bacteria and viruses
- Toxic agents, which result in a Risk Society

**Topic 032: Tobacco**

Smoking remains one of the leading causes of preventable illness, disability and premature death in World. Secondhand and third hand smoke affects others who are exposed to tobacco smoke including children and pets.

**Facts about smoking**

1/3rd of world population-Smoker

- Males > 1 billion
- Females > 250 million

**Industrialized Countries**

- % of Male smokers 50%
- % of Female smokers 22%

**Developing countries**

- Males 35%
- Females 9%

(Source: World Health Report)

- Three million deaths annually because of smoking – means one death after every 8 seconds.
- Ten million deaths annually expected by 2020 - means one death after every three seconds.
- Developed countries have reduced smoking by 10% while developing countries have increased by 60% after 1970.

**Pakistan Picture**

- Current Smokers – Approximately 15%
- Pakistan is among 8 countries in which smoking trend will rise in next 20 years.
- Pakistan will be leading in the race of tobacco sale in EMRO region in next 20 years.

**Types of tobacco smoking**

- Cigarette - Most common and most harmful
- Sheesha
- Bidi
- Tobacco chewing
- Hookah (Hubble bubble)
- Cigar & E-cigarette
- Kreteks (clove cigarettes)
- Snuff – Moist & Dry

**Causes of smoking**

Usually the adolescents (mostly of 10-15 yrs.) indulge in smoking as a result of

- curiosity, adventurism,
- Rebelliousness and adulthood,
- A manly and masculine act that will lead them to happiness, fitness, wealth, power and sexual success.
- Attractive advertisements influence the immature and unstable minds.

**Consequences of smoking**

- Economic loss
- Health loss
- Socio-cultural loss

- Psychological loss

**Effects of Tobacco Use**

What are some health effects of tobacco use?

An important causative/risk factor for various diseases.

- Trouble breathing
- Over 13 different types of cancer
- Coughing and bad breath
- Stained teeth and fingers
- More wrinkles and early aging

**Smoking and Diseases**

**Cancer**

- Lung cancer: 80-90% deaths due to smoking. Incidence 10 times more than non-smokers.
- Cancer of tongue, esophagus, larynx & pancreas, Gastro-duodenal ulcers
- Cancer of the cervix and endometrium
- Cancer of the urinary bladder

**Heart diseases**

- Ischaemic heart disease: 20-30% deaths
- Risk is twice than non-smokers
- Obstructive peripheral vascular disease
- Cerebrovascular disease

**Child health**

- Still births, abortions
- Neonatal deaths
- Smoking during pregnancy causes, foetal retardation and growth retardation in the children

**Impact on Mental Health**

- 50-90% of mental health patient's smoke
- 50% of all cigarettes smoked are by mental health patients
- 50% of smoking related deaths are mental health patients
- Tobacco smoke affects absorption and metabolism of some medications

**Effects of Second Hand (Passive) Smoking**

**Children**

- Sudden infant death
- Respiratory distress and Otitis media

**Adults**

- Leads to discomfort, distress to asthmatics
- Nicotine is detected in blood and urine of passive smokers.
- Passive smoking by adults may lead to Ca-cervix, Ca-lung, and coronary heart disease.

**Lesson 08**

## SOCIAL ETIOLOGY AND ILLNESS-II
## TOPIC 033-036

### Topic 033: Diet

**Introduction**

**Diet:**

- Kinds of food
- Food consumed by a person or other organism.
- Specific intake of nutrition for health or weight-management

**Balanced Diet**

- Getting the right types and amounts of foods/drinks
- Possessing of nutrients to meet the bodily requirement
- Macronutrients
- Micronutrients

**Why Balanced Diet?**

- Highly variable as it differs from country to country
- Social & cultural habits, economic status, age, gender & physical activity
- Body's organs and tissues need proper nutrition to work effectively
- Poor diet run the risk of growth and developmental problems

**Functions**

- Nourishes our body and keeps it healthy
- Essential for survival and existence
- Physiological function
- Social function

**Physiological functions of food**

- Body building
- Repair and Maintenance of body cells
- Energy giving
- Protective function
- Regulatory function

**Social Functions**

- An instrument for developing social relationship
- Sharing of food implies social acceptance
- An integral part and center of attraction of any celebration/festival and even tourism
- Tourism, joyous occasion
- Brings the people together and nourishes a feeling of brotherhood
- Different culture has different food habits
- Acceptance of food from other regions

**Society and Eating**

- Eating disorders and obesity
- More than means of survival
- Unhealthy in many ways

**Eating Disorders**

- A mental disorder
- Abnormal eating habits and thoughts
- Anorexia nervosa, bulimia nervosa, and binge-eating
- Affect people of every gender, age, status, and size

**Dietary Choices**

- Cultural and religious restrictions

- Eating practices varies depending on the sects

Although humans are omnivores, each culture and each person holds some food preferences or some food taboos. This may be due to personal tastes or ethical reasons. Individual dietary choices may be more or less healthy.

## Topic 034: Exercise

Exercise is any bodily activity which enhances or maintains physical fitness and overall health.

**How much exercise?**

- Children and adolescents - 60 minutes
- Normal adults - 30 minutes
- Woman - 150 minutes

**Benefits of Exercise**

- Physical
- Psychological

**Physical Benefits**

- Decrease obesity
- Increases HDL cholesterol
- Decreases risk of cardiovascular diseases
- Decreases risk of some cancers
- Promotes the growth of new neurons
- Decreases blood pressure
- Immune system functioning
- Increases the lifespan

**Psychological Benefits**

- Positive coping mechanism in dealing with stress
- Boost happy chemicals
- Alleviate symptoms of depression
- Improve self-confidence and self esteem
- Improve positive self-image
- Prevent cognitive decline e.g., aging
- Self-worth
- Improves creativity
- Alleviate anxiety
- Help control addiction
- Improves sleep
- Improves efficacy

**Barriers**

- Fear of failure
- Initial tiredness
- Responsibilities
- Money
- Lack of self-motivation
- Injury or illness
- Social anxiety

**Key Messages**

- Reduces risk factors
- Gives healthy and long life
- Reduces economic burden and risk of lifestyle disorders.
- Positive attitude is strength of the society

## Topic 035: Obesity

### Introduction

WHO Definition: Obesity and overweight are defined as an accumulation of excess body fat, to an extent that may impair health. Expressed in terms of body mass index (BMI).

### Body Mass Index (BMI)

$$BMI = \frac{Weight\ (kg)}{Height\ (m \times m)}$$

| Weight Categories | BMI (kg/m×m) |
|---|---|
| Underweight | < 18.5 |
| Heavy weight | 18.5 – 24.9 |
| Overweight | 25 – 29.3 |
| Obese | 30 – 34.9 |
| Severely Obese | 35 – 39.9 |
| Morbidly Obese | >40 |

### Body Fat

- Storing energy, heat insulation, shock absorption, and other functions.
- The normal amount of body fat
    - Women 25-30% & Men 18-23%
- **Obese**
    - Women with over 30% body fat
    - Men with over 25% body fat

### Complications of obesity

- Burden of chronic diseases
- Metabolic complications
- Worsening of quality of life
- Body shaming
- Depression
- Social isolation
- Sexual problems
- Physical disability

### Causes of obesity

- Age
- Sex
- Genetic Factor
- Physical Inactivity
- Socio-economic Status
- Eating Habits
- Psychological Factors
- Familial Tendency
- Endocrine Factors
- Alcohol & Smoking
- Education
- Ethnicity
- Drugs
- Lack of sleep

- Pregnancy

**Prevention and Control**

- Dietary Changes
- Increased Physical Activity
- Surgical treatment
- Prescription medication
- Behavior change
- Health education

## Topic 036: Medical Errors

The failure of a planned action to be completed as intended, or as the use of a wrong plan to achieve an aim. A preventable adverse effect of care, whether or not it is evident or harmful to the patient.

**Types of Medical Errors**

- Medication
- Surgical
- Diagnostic
- Equipment Failure
- Infections
- Blood Transfusion
- Orders Misinterpretation

**Common Causes**

- Ignorance & Inexperience
- Faulty judgment
- Fatigue / Job overload
- Breaks in concentration
- Faulty communication
- Failure to monitor closely
- System flaws

**Burden**

- Health Grades report stated that annual deaths attributable to medical errors may be as high as 195,000 deaths. (2004)
- This number compared to other causes of death is exceeded only by heart disease (700,142) and cancer (553,768).
- 440,000 patients die every year from preventable medical errors. [Journal of Patient Safety]
- One in three patients who are admitted to the hospital will experience a medical error [Health Affairs].

**Prevention**

- Increase supervision and communication
- Educate patients and caregivers about patient conditions and treatment plans
- Respond to complaints. Admit responsibility when appropriate & discuss with the family and staff.
- Investigate errors and take preventive action.

**Lesson 09**

## SOCIAL ETIOLOGY AND ILLNESS-III
## TOPIC 037-040

### Topic 037: Bacteria and Viruses

- Bacteriology is the study of bacteria
- Virology is the study of viruses

**Virus**

Viruses can cause a variety of diseases:

- Common cold
- Polio
- Hepatitis A, B & C
- Influenza
- Mumps / Measles
- Chickenpox
- AIDS

**Bacteria**

Bacteria can cause a variety of diseases:

- Food Poisoning
- Tuberculosis
- Cholera
- Pneumonia
- Leprosy
- Tetanus

**Under what conditions do these deaths occur?**

**Protection**

- Antibiotics (drugs to kill bacteria)
- Antivirals (drugs to treat viruses)
- Vaccination (using your body's own immune system to guard against attack)

### Topic 038: Toxic Agent & Motor Vehicle

**Toxic Agent**

- Toxic agent is anything that can produce an adverse biological effect.
    - Chemical
    - Physical
    - Biological
- Toxic substance is simply a material which has toxic properties.

These agents can be divided into

- Occupational hazards
- Environmental pollutants.
    - Water
    - Soil
    - Air

**Exposure of Toxic agent**

- Dermal exposure
- Inhalation
- Oral exposure

**Other Categories**

- Neurotoxicity
- Carcinogens

- Reproductively toxic substances
- Specific-target organ toxins damage only specific organs.
- A substance which is a skin sensitizer causes an allergic response from a dermal application.

**Motor Vehicles**

These deaths are not a necessary by-product of modern life. Rather, they reflect in part a series of decisions regarding the design of automobiles and transportation systems.

## Topic 039: Health Behavior, Social Stress, and Illness

**Health Lifestyle Theory**

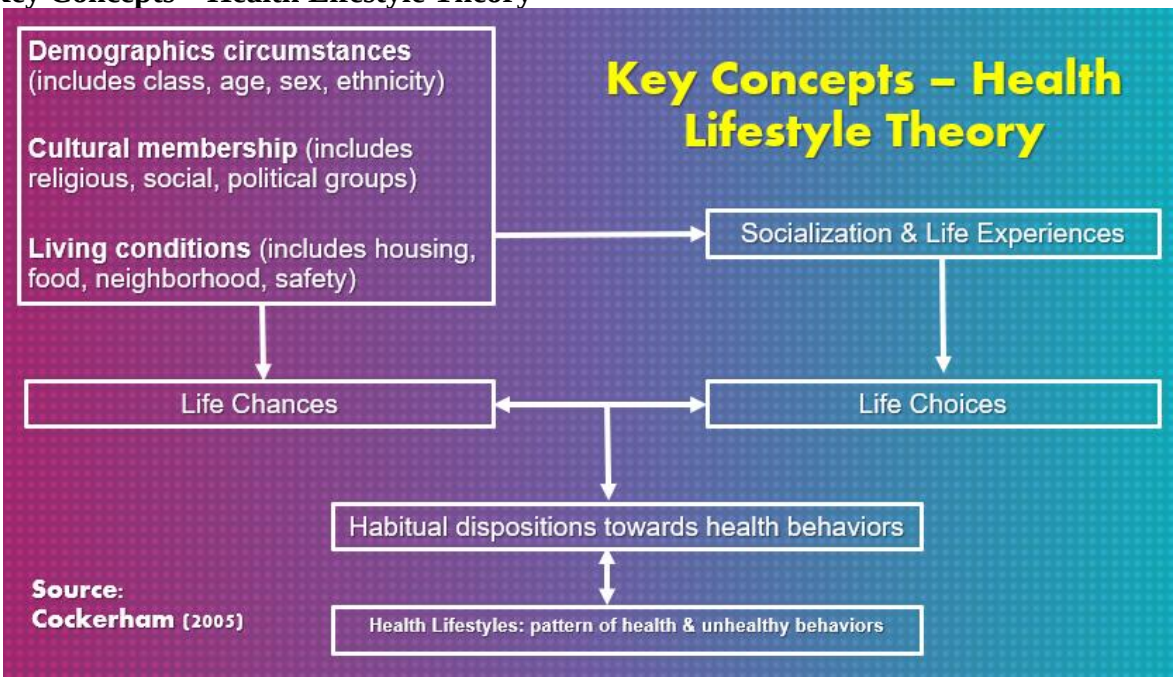
Emphasizes group rather than individual behaviors

- Structure over agency

**Health behaviors affected by:**

- Living conditions
- Demographic circumstances
- Cultural memberships

**Key Concepts – Health Lifestyle Theory**




**Social Stress as Cause of Illness**

- **Stress:** Situations, emotions, and physical reactions
- Chronic vs. acute
- Responding to stress
- Gender, race, class, and social stress

Each of these combine to produce an individual's cumulative stress burden

## Topic 040: Age, Sex and Gender

**Social Factors that Affect Illness**

- Age
- Sex and Gender
- Social Class
- Race and Ethnicity

**The Concept of Age**

Age varies across time and cultures. Terms used to define age: 'childhood', 'adolescence', 'middle age', and 'old age'. In some cultures, there is no difference between children and adults with regards to working hours and wages.

**Life Course Perspective**

- Variations in life experiences
- Age (life stages) is not biologically fixed
- Age is 'socially and culturally determined'
- No concept of old age in Pre-industrialization

Industrialization created the concept of 'old age. Due to the societal changes of industrialization 'old age' became associated with:

- Negative ideological stereotypes related to these groups of people.
- Scholarly knowledge on gerontology regarding the decreased physical and psychological functions.
- Mandatory retirement leading to social security dependence
- Health, is the only certain significant aspect of the life course that is affected by age.
- Mortality rates drop after infancy and rise again after age 40. After age 65, chronic illnesses predominate.

**Life Course and Health**

- 65 and older likely to have 'poor physical and mental health
- Regarding acute illness the highest number have restricted activity
- Increasing age shows higher incidence of chronic illnesses whether longstanding or limited to disabled.

**Age and Health**

- Linear correlation between age and health" starting at age 40 and worsening as age increases.
- The 'most ill' age group is 65 and over with the worst health being experienced by those over 75.

**Sex and Gender**

- **Sex:** biological categories of male and female
  Not a binary category (intersex)
- **Gender:** social categories of masculine and feminine
- **Gender convergence:** the effect of gender on health may lessen

**Sex, Gender, and Health**

- **Women get sick, men die sooner**
  - Biological reasons
  - Social reasons
- **Intersex**
  - Having characteristics of both sexes
  - Gender ideologies and medical interventions
- Intimate partner violence as a health problem

**Lesson 10**

# EPIDEMIOLOGY AND ITS SOCIAL FACTORS
# TOPIC 041-043

## Topic 041: Epidemiology Transition

**Definition of Epidemiology**

Epidemiology is defined as "the study of the distribution and determinants of disease frequency in human populations."

**Endemic:** a disease that exists permanently in a particular region or population.

**Epidemic:** An outbreak of disease that attacks many peoples at about the same time and may spread through one or several communities.

**Pandemic:** When an epidemic spreads throughout the world.

**Distribution of Disease**

- **Who:** Sex, age, occupation, race, and economic status
- **When:** Season, year (long-term trends), elapsed time since an exposure.
- **Where:** Urban vs. rural, national variations. Looks at comparisons of disease frequency in different countries, states, counties, or other geographical divisions.

**More Epidemiological Terms**

- **Incidence Rate:** New occurrences in a given period
- **Prevalence Rate:** Total cases in a given period
- Age-adjusted Rate
- Morbidity
- Mortality
- Life expectancy
- Acute disease vs. chronic disease

**Epidemiological Transition**

- The general shift from acute infectious and deficiency diseases characteristic of underdevelopment to chronic non- communicable diseases characteristic of modernization and advanced levels of development is usually referred to as the "epidemiological transition".
- The epidemiologic transition describes changing patterns of population distributions in relation to changing patterns of mortality, fertility, life expectancy, and leading causes of death.

**Changes in Risk Factors**

- Biological factors
- Environmental factors
- Social, cultural and behavioral factors
- Practices of modern medicine

**Key Messages**

The changing pattern of diseases observed over recent years, from acute infectious and deficiency diseases to the chronic non- communicable diseases, is a continuous process of transformation with some diseases disappearing and others appearing or reappearing.

## Topic 042: Social Class, Race and Ethnicity

**Social Factors that Affect Illness**

- Age
- Sex and Gender
- Social Class
- Race and Ethnicity

**Social Class**

**Fundamental Cause Theory**

Those with greater access to resources and power are better able to protect their health.
True across time and across societies.

- **Definition:** A person's position in society's economic/social hierarchy
- **Determined by:** Education, income, occupational status

**The Social Class/Health Link**

Higher social class = lower morbidity and mortality

- Morbidity: Symptoms, illnesses, injuries, impairments
- Mortality: Deaths

Income itself has a greater effect on health than does income inequality

**Social Class Affecting Health**

1. illness causes poverty (social drift theory)
2. Poverty causes illness (cumulative inequality theory)

**Poverty Causing illness**

- Greater stress and less control over that stress
- Environmental pollution
- Unsafe housing
- Lack of food and poor nutrition
- Lack of access to healthcare

**Race and Ethnicity**

- **Race**: A social construction with almost no biological basis
- **Ethnicity**: A label for cultural and familial identity

Social class explains many health differences among ethnic groups, but ethnicity also independently affects health.

**Ethnicity and Health**

- Discrimination is an underlying cause of health inequalities regarding ethnic minorities.
- Discrimination and racist judgments are fueled by the belief that "biological and racial traits make people less acceptable."
- "Discrimination is a dimension of racism which manifests itself when those groups who believe themselves to be inherently 'superior' discriminate in terms of their attitudes and behavior against those who belong to ethnic groups because they are deemed 'inferior'.
- Due to the adverse effects of racist acts, racism affects the mental and physical health of ethnic minorities considering the factors of depression, anxiety levels, hypertension, and social isolation.
- Genetic and Cultural Explanations

## Topic 043: Disease Patterns around the World

**Disease Patterns**

- More developed nations
- Less developed nations
- Least developed nations (among less developed)
- Development is a scale, not a dichotomy
- Chronic disease as growing problem

**TABLE 4.1 Life Expectancy and Infant Mortality by Development Level**

| Country | Life Expectancy at Birth | Infant Mortality per 1,000 Births |
|---|---|---|
| *Most Developed* | | |
| Japan | 83 | 1.9 |
| Italy | 82 | 3.2 |
| France | 82 | 3.6 |
| Germany | 80 | 3.3 |
| Denmark | 80 | 3.0 |
| United States | 79 | 5.4 |
| *Less Developed* | | |
| Mexico | 74 | 13 |
| China* | 75 | 15 |
| Philippines | 69 | 23 |
| Thailand | 75 | 11 |
| Bolivia | 67 | 39 |
| India | 66 | 44 |
| *Least Developed* | | |
| Haiti | 63 | 59 |
| Ethiopia | 63 | 50 |
| Somalia | 55 | 80 |
| Sierra Leone | 45 | 92 |
| Afghanistan | 61 | 74 |

*Does not include Hong Kong, which only became part of China in 1997 and operates under a separate political structure.
SOURCE: Population Reference Bureau (2014).

**TABLE 4.2 Leading Causes of Death around the World**

| Least Developed Nations | Less Developed Nations* | | More Developed Nations |
|---|---|---|---|
| | Lower Income | Higher Income | |
| Lower respiratory infections | Coronary heart disease | Stroke and other cerebrovascular diseases | Coronary heart disease |
| HIV/AIDS | Stroke and other cerebrovascular disease | Coronary heart disease | Stroke and other cerebrovascular diseases |
| Diarrheal diseases | Lower respiratory infection | Chronic obstructive pulmonary disease | Trachea, bronchus, lung cancers |
| Stroke and other cerebrovascular diseases | Chronic obstructive pulmonary disease | Trachea, bronchus, lung cancers | Alzheimer's disease and other dementias |
| Coronary heart disease | Diarrheal diseases | Diabetes | Chronic obstructive pulmonary disease |
| Malaria | Maternal mortality | Lower respiratory infections | Lower respiratory infections |
| Maternal mortality | HIV/AIDS | Road traffic accidents | Colon and rectum cancers |
| Tuberculosis | Diabetes | Hypertensive heart disease | Diabetes mellitus |
| Infant mortality | Tuberculosis | Liver cancer | Hypertensive heart disease |
| Malnutrition | Cirrhosis of the liver | Stomach cancer | Breast cancer |

*For these data, the World Health Organization divides the less developed nations into two groups, based on gross national incomes.
SOURCE: World Health Organization (2014b).

**Lesson 11**

# THE SOCIAL DISTRIBUTION OF ILLNESS-I
# TOPIC 044-047

## Topic 044: Sources of Disease in the Developing Nations

**Less Developed Nations**

***Poverty and malnutrition***

- Primary underlying cause of disease
- Powerlessness and unequal access to resources
- Role of international aid

**Infectious and Parasitic Diseases**

An indirect result of malnutrition, and therefore poverty, is high rates of:

- HIV/AIDS
- Tuberculosis
- Diarrheal diseases
- Malaria

**Deaths from Infectious Diseases**

- Poor nutrition
- Unsafe water
- Sexual behavior patterns
- Unequal economic structures
- Misguided health campaigns
- Women's low social status

## Topic 045: Poverty

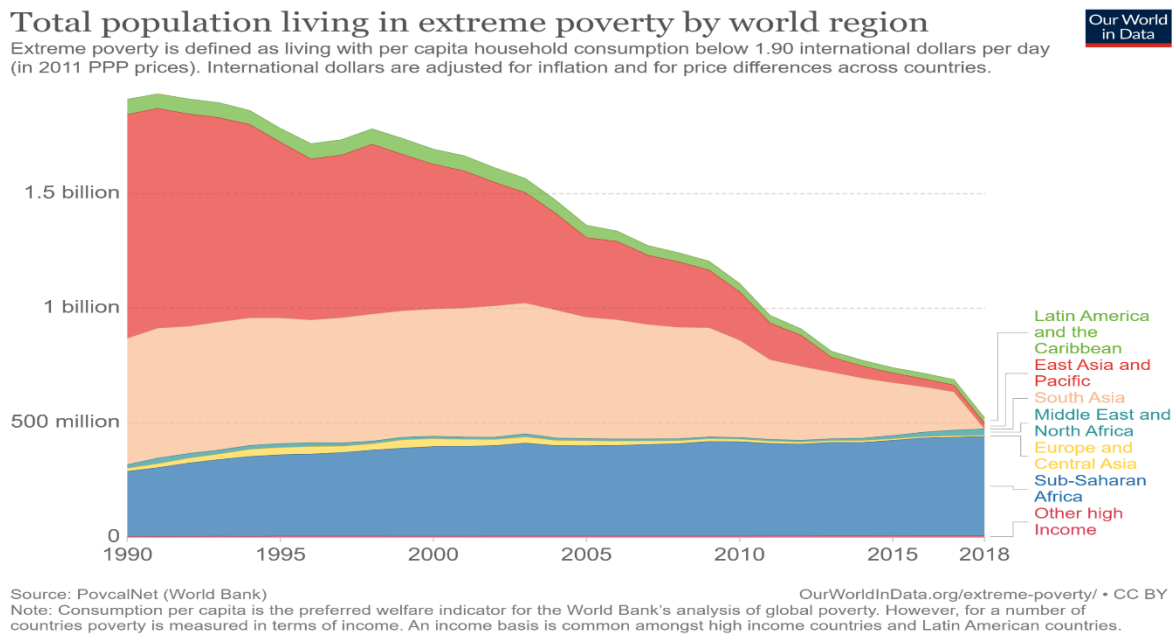
**What is Poverty?**

"Poverty is the world at its worst when people are deprived of basic everyday things that we take for granted like food, water, shelter, money and clothes."

**Who Are The Poor?**

- Who lack Shelter
- Who lack Food
- Who lack Education
- Who lack Basic Transportation
- Who lack ability to pay off Debts
- Who lack Good Health and Medical Infrastructure

**Glance at the World's Poverty:**




**Facts About Pakistan:**

- About 24.3% of Pakistanis live a life below the national poverty line **(ADB: Asian Development Bank)**
- About 2.9% of GDP is spent on health and about 2.3% of GDP is spent on the education sector
- Pakistan is ranked 51st in the world's poorest countries whereas India is on 67th

**What is Poverty Line?**

**Concept of poverty line;**

"The poverty threshold or poverty line is the minimum level of income deemed adequate in a given country."

| Absolutely Poor | Very Poor | Poor | Not So Poor | Middle Class | Upper Middle Class | Rich | Very Rich | Millionaires | Billionaires |
|---|---|---|---|---|---|---|---|---|---|

- Determining the poverty line is usually done by finding the total cost of all the essential resources that an average human adult consumes in one year
- The largest of these expenses is typically the rent required to live in an apartment, so historically, economists have paid particular attention to the real estate market and housing prices as a strong poverty line affect.

**Two types of Poverty Lines in Pakistan**

Calorie-based;

- ❑ looking at food expenditures only

Consumption-based;

- ❑ Cost of basic needs approach incorporating food and non-food expenditures, e.g., Fuel, education, health, transport and traveling etc.

**Variants of Poverty**

- Absolute Poverty
- Relative Poverty
- Transitional Poverty
- Generational Poverty

**Absolute Poverty**

"A condition characterized by severe deprivation of basic human needs, including;

- Food
- Safe Drinking Water
- Sanitation Facilities
- Health
- Shelter
- Education and Information

**Relative Poverty**

"The condition in which people lack the minimum amount of income needed in order to maintain the average standard of living in the society in which they live."

- Differs across countries
- Relative income poverty
- Median income

**Situational Poverty**

A period of being poor that's caused by situational factors. These include;

- Natural Disasters
- Divorce
- Job Loss
- Illness

**Generational Poverty**

A family having lived in poverty for at least two generations;

- Passed from one generation to the next generation
- People suffering with generational poverty lack the resources to escape it
- **Hopelessness:** individuals are hopeless that they will not be able to escape so they do not try to escape it

**Cycle of Poverty:**

Today the poor is facing the same challenges as he was facing a decade before. It is need of the hour that we amend these sectors of our society to vanish poverty from our homeland

**Trends of Poverty in Pakistan**

- The percentage of people under poverty in Pakistan in 2018 is 31.3%. According to the Business Recorder, the percentage of people under poverty in Pakistan is predicted to jump to 40%
- By numerical standards, the poverty population will increase from 69 million to 87 million by the end of 2020
- A value of 87 million is quite high in proportion to the country's population of 212.2 million

**Causes Of Poverty:**

- Over Population
- Shortage of Capital
- Low Literacy Rate
- Unemployment
- Inequality of Wealth

**Effects of Poverty:**

- Bad health
- Hunger and Pain
- Crime
- Murder
- Theft
- Violence
- Drug Abuse
- Illiteracy

**Bad Health**

- High Mortality Rates
- Poor Growth of Children
- Hunger & Pain
- Crime
- Murder
- Theft
- Violence
- Drug Abuse
- Illiteracy

**What Government has Done to Eradicate Poverty:**

- Zakat
- Ehsaas programs/Benazir Income Support Program (BISP)
- Pakistan Bait-ul-Mal (PBM)
- Employees Old Age Benefits Institution (EOBI)
- Health Insurance
- Emergency Relief Packages

**How to Solve this Problem**

By providing these people with;

- ❑ Food and clothing
- ❑ Water and sanitation
- ❑ Energy and cooking
- ❑ Health and Medical care
- ❑ Education and connectivity
- ❑ Housing and transport
- ❑ Creating Good Jobs
- ❑ Raising Minimum Wages
- ❑ Micro financing
- ❑ Transparency in Government Spending
- ❑ Cancelling National Debts

**Conclusion:**

There is nothing inevitable about poverty. We just need to build political will to enact policies that will increase economy, expand opportunities, enhance justice and equality.

## Topic 046: Malnutrition

Deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. A pathological state resulting from absolute deficiency of one or more essential nutrients.

- Primary when there is deficiency of available food
- Secondary when food is available, but the body cannot assimilate it for some reason.

**Classification of Malnutrition**

- **Undernutrition:**
  - wasting (low weight-for-height),
  - stunting (low height-for-age)
  - underweight (low weight-for-age)
- **Micronutrient-related malnutrition**
  - micronutrient deficiencies (a lack of important vitamins and minerals)
  - micronutrient excess
- **Overweight**
  - obesity and diet-related non-communicable diseases (such as heart disease, stroke, diabetes and some cancers).

**Most Common Indicators**

- Weight for Height (W/H) - "wasting"
- Height for Age (H/A) - "stunting"
- Weight for Age (W/A) – “growth faltering”
- Median Upper Arm Circumference (MUAC)

**Risk Factors**

**Medical & Nutritional**

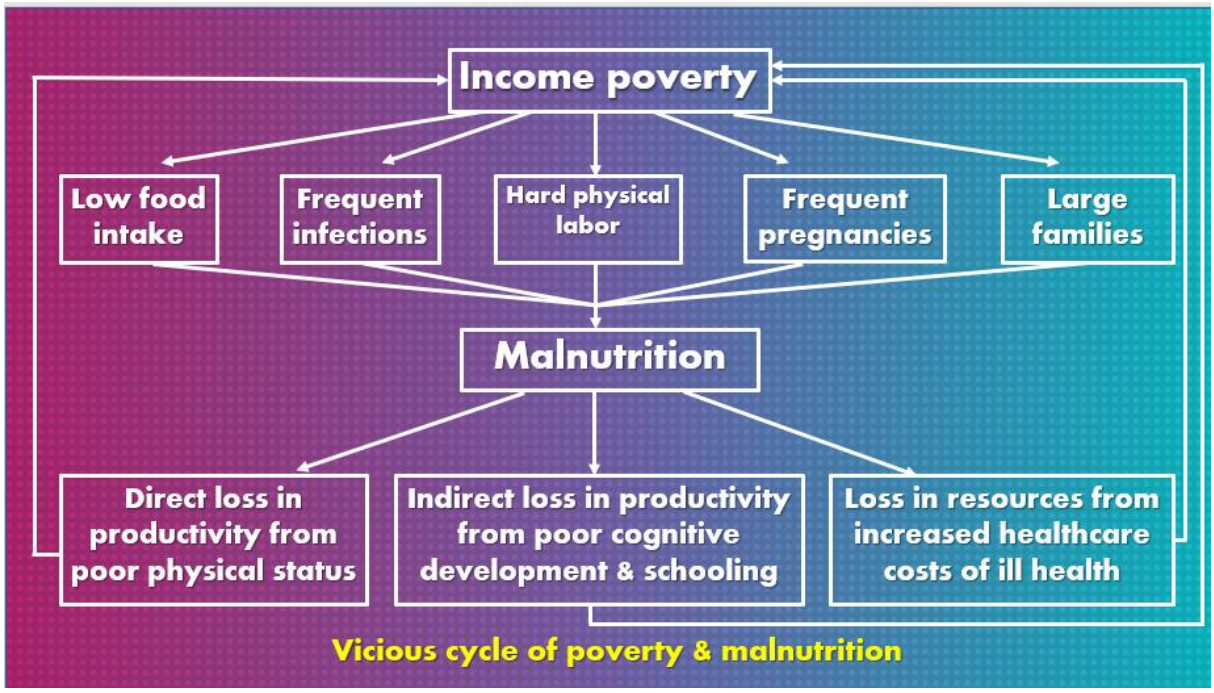
- Low birth weight, Twins
- Lactation failure, Bottle feeding, over diluted milk
- Delayed weaning, Food fads
- Inappropriate eating habits
- Lack of immunization
- Recurrent infections
- Measles
- Chronic diseases

**Social Risk Factors**

- **Maternal:** ill, working, incompetent
- **Father:** ill, unemployed
- **Parental loss:** Death, divorce, separation
- Drug addiction
- More than 2 children under 5 years of age
- Previous infant/ child death
- Large family size
- Poverty and in availability of food
- Girl child

**Who is at risk?**

- Every country in the world is affected by one or more forms of malnutrition. Combating malnutrition in all its forms is one of the greatest global health challenges.
- Women, infants, children, and adolescents are at particular risk of malnutrition.
- Optimizing nutrition early in life—including the 1000 days from conception to a child’s second birthday—ensures the best possible start in life, with long-term benefits.
- Poverty amplifies the risk of, and risks from, malnutrition.
- People who are poor are more likely to be affected by different forms of malnutrition.
- Also, malnutrition increases health care costs, reduces productivity, and slows economic growth, which can perpetuate a cycle of poverty and ill-health.




The vicious cycle of poverty and malnutrition (Source: The World Bank, 2006a)

**Key Facts**

- 1.9 billion adults are overweight or obese, while 462 million are underweight.
- 47 million children under 5 years of age are wasted, 14.3 million are severely wasted and 144 million are stunted, while 38.3 million are overweight or obese.
- Around 45% of deaths among children under 5 years of age are linked to undernutrition.

**Current Situation in Pakistan**

- 40.2% stunting
- 17.7% wasting
- 28.9% underweight

Below the age of 5 years (NNS 2018).

**Prevention of Malnutrition**

**Primary Prevention**

- Health Education
- Immunization of children.
- Growth monitoring of children

**Secondary Prevention**

- Mass Screening of high-risk populations, using simple tools like Weight for age or MUAC.

**Tertiary Prevention**

- Good Nutritional Care, supplementary feedings and rehabilitation, counselling of mothers.
- Nutritional rehabilitation/ intervention programs
- Good Nutritional supplementation strategy.
- Rural development & Stabilization of population.
- Increase agricultural/ food production & appropriate fortification & formulations.
- Nutritional surveillance to detect the cause, character & magnitude of nutritional problems.

**Prevention at International level**

- Food & nutrition are global problems. International cooperation in solving problems of malnutrition.

- Plays important role in mitigating the effect of acute emergencies caused by floods & droughts.
- Multilateral coordination with organizations such as: WHO, NT FAO, UNICEF, WORLD BANK, UNDP etc.

## Topic 047: Disease

A disease is an abnormal condition that affects the body of an organism. Any condition which interferes with normal functioning of the body and impairs the health. It is often construed as a medical condition associated with specific symptoms and signs.

**Types of Diseases**

- **Congenital Disease:** inborn disease & genetically inherited
- **Acquired Disease:** after birth & non- inheritable

**Congenital Disease:**

- Disease due to gene mutation. e.g., Hemophilia, Color blindness
- Disease due to chromosomal mutation e.g., Down's syndrome

**Acquired Disease**

- Communicable or infectious diseases- air, water, food, physical contact or vectors (Bacteria, Virus, Protozoa, Helminth, Fungus etc.)
- Non- communicable or non- infectious diseases- Diabetes, Degenerative (Arthritis), Cancerous & Allergic diseases (Asthma)

**Infectious Diseases**

Any disease caused by the presence of pathogens in the body /resulting from the infections called an infectious disease. The main sources of pathogens are soil, contaminated water, and infected animals, including other people. Comprise clinically evident illness (medical signs and/or symptoms).

**Prevention of Infectious Diseases**

- Vaccines
- Antimicrobial drugs
- Good personal hygiene and sanitation
- Protection against mosquitoes
- Quarantine

**Water-borne Diseases**

Any disease which is transported and supported by water is called water borne diseases e.g., cholera, typhoid, diarrhea. Diseases caused by ingestion of water contaminated by human or animal excrement, which contain pathogenic microorganisms. In addition, water-borne disease can be caused by the pollution of water with chemicals that have an adverse effect on health e.g., Arsenic, Fluoride, Lead (from pipes) Heavy Metals.

**Control & Prevention**

**Education:** Hygiene education, good nutrition, Improvements in habitation and general sanitation, Higher education training.

**Global Surveillance:** Public health infrastructure

- Standardized surveillance of water-borne disease outbreaks
- Guidelines must be established for investigating and reporting water-borne diseases

**Communication and the Media:** Impacts at all levels

**General Guidelines:**

- Avoid contacting soil that may be contaminated with human feces
- Wash hands with soap and water before handling food
- Wash, peel or cook all raw vegetables and fruits before eating

**Non-communicable Diseases**

Also known as noninfectious or chronic diseases. Tend to be of long duration and are the result of a combination of genetic, physiological, environmental and behavior's factors. Children, adults and the elderly are all vulnerable to the risk factors contributing to NCDs.
These diseases are driven by forces that include

- Rapid unplanned urbanization
- Globalization of unhealthy lifestyles and population ageing.
- Unhealthy diets and a lack of physical activity exposure to tobacco smoke or the harmful use of alcohol.

**Control & Prevention**

A comprehensive approach is needed requiring all sectors, to focus on reducing the risk factors associated with these diseases including

- Health, Finance, Transport
- Education, Agriculture, Planning and others, to collaborate to reduce the risks associated with NCDs, and promote interventions to prevent and control them
- High impact essential NCD interventions can be delivered through a primary health care approach to strengthen early detection and timely treatment.

**Lesson 12**

# THE SOCIAL DISTRIBUTION OF ILLNESS-II
# TOPIC 048-050

## Topic 048: Infant Mortality

Infant mortality (IM) is the death of young children under the age of one year. This death toll is measured by the infant mortality rate (IMR).

## Infant Mortality Rate-Definition

The probability that a child born in a specific year or period will die before reaching the age of 1 year, if subject to age-specific mortality rates of that. period, expressed as a rate per 1000 live births.

**Infant Mortality Rate- Formula**


**IMR-Industrialized & Developing Countries**

| Country | IMR |
|---|---|
| Somalia | 207 |
| Afghanistan | 165 |
| Ethiopia | 105 |
| Haiti | 80 |
| India | 70 |
| Zimbabwe | 65 |
| Bolivia | 54 |
| Egypt | 38 |
| Brazil | 33 |
| China | 32 |
| Philippines | 29 |
| Mexico | 25 |
| Thailand | 20 |
| Costa Rica | 10 |
| United States | 7 |
| Cuba | 7 |
| France | 4 |
| Japan | 3 |
| Singapore | 2 |

**Infant Mortality Rate- Pakistan**

- In Pakistan, the IMR was 88.2 in 2000.
- The current IMR (2020) is 57.9
- -1.90 percent annual change in IMR

**Forms of Infant Mortality**

- Neo-Natal Infant Mortality that is the death of newborn within the first 28 days of life.
- Post-Natal Infant Mortality that is the death of young children within the period of 29 to 364 days of life.

**Causes of Infant Mortality**

- Infant mortality occurs most often among babies with low birth weights. The major determinants of low weight in infants are
- Malnutrition
- Infectious Diseases

**Role of Women's Status in IM**

- The probability of IM increases when babies are born to females who are infected with malaria, are under nutrition, underfed, anemic, indulge in heavy labor, have low level of immunization or when babies are to born to females who are very young or old of age.
- Research suggests that if women's social status were higher, they would enter their childbearing years with healthier bodies, wait longer before having babies, wait longer between babies, and have fewer babies in total, with each of these factors lowering the infant mortality rate.

**Role of Formula Manufacturers in IM**

- Breastfeeding (BF) serve as the natural contraceptive.
- Use of infant formula exposes the children to various risks
- Infant Formula make the children starve to death while filling their stomachs.
- Babies who are fed alternatives to breast milk are more prone to infections
- The World Health Organization (1993) estimates that about 1.5 million babies die unnecessarily each year because they are not breast-fed.

## Topic 049: Maternal Mortality

The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management.

**Maternal Mortality Rate**

- This death toll is measured by the maternal mortality rate (MMR).
- The number of registered maternal deaths due to birth- or pregnancy-related complications per 100,000 registered live births.

**Maternal Mortality Trend**

- MM is now rare in the industrialized nation however; in developing nations it is the primary cause of death among women of reproductive age.
- Probability of MM is one in 1,400 in Europe, one in 65 in Asia, and one in 16 in Africa.

**MMR Trend in Pakistan**

| Year | IMR | Year | IMR |
|---|---|---|---|
| 2006 | 222 | 2012 | 173 |
| 2007 | 214 | 2013 | 163 |
| 2008 | 205 | 2014 | 161 |
| 2009 | 199 | 2015 | 154 |
| 2010 | 191 | 2016 | 143 |
| 2011 | 180 | 2017 | 140 |

**Causes of Maternal Mortality**

Like infant mortality, maternal mortality occurs most often among women who suffer from malnutrition or infectious disease, most commonly malaria.
The other factors that contribute in MM includes

1. Age of the mother at the time of the birth of child
2. Number of children born to a female
3. Unsanitary conditions during birth
4. Female Circumcision
5. Unsafe abortion

## Topic 050: Respiratory Diseases

Diseases that affect the lungs and other parts of the respiratory system are respiratory diseases (RD).

- Asthma
- Chronic Obstructive Pulmonary Disease (COPD)
- Chronic Bronchitis
- Emphysema
- Lung Cancer
- Cystic Fibrosis/Bronchiectasis
- Pneumonia
- Pleural Effusion

**Trend of Respiratory Diseases**

- Respiratory diseases, such as emphysema, are also major killers in the developing nations, as in the industrialized nations.
- Respiratory diseases are leading causes of death and disability in the world.
- About 65 million people suffer from chronic obstructive pulmonary disease and 3 million dies from it each year, making it the third leading cause of death worldwide.

| PAKISTAN | |
|---|---|
| **Disease** | **Death Rate** |
| Influenza & Pneumonia | 14.60% |
| Tuberculosis | 5.56% |
| Lung Diseases | 4.75% |
| Asthma | 0.51 |

**Respiratory Diseases – Causes**

- Respiratory diseases may be caused by infection, by smoking tobacco or breathing in secondhand tobacco smoke, radon, asbestos, or other forms of air pollution.
- Tobacco not only serves as the cause of respiratory diseases but also serves as a catalyst that increases the risks of other diseases.
- In addition, tobacco use promotes disease by taking a large bite out of small incomes.
- One main cause of respiratory diseases is indoor and outdoor pollutants.
- Outdoor pollutants, majorly contributes as a cause of respiratory diseases in industrialized World while indoor pollutants in developing nations.

- The World Bank estimates that Pakistan's annual burden of disease due to outdoor air pollution accounts for 22000 premature adult deaths while that for indoor pollution accounts for 40 million cases of acute respiratory infections and 28 000 deaths/year.
- Lastly, working condition may also contribute in exposing individuals to various health risks related to respiratory diseases.

**Lesson 13**

# MODEL OF ILLNESS
# TOPIC 051-054

## Topic 051: Model of Illness: Medical and Sociological Model of Illness

Different models of illness give different ways of looking and thinking about what illness means.

**Models of illness**

1. Medical model
2. Sociological model

**Medical Model of Illness**

The medical model of illness begins with the assumption that illness is an objective label given to anything that deviates from normal biological functioning (Mishler, 1981). The dominant conception of illness in the medical world.

**Sociological Model of illness**

Begins with the statement that illness is a subjective label, which reflects personal and social ideas about what is normal as much as scientific reasoning (Weitz, 1991). Used by critical sociologists and others who are interested in how social forces affect health and healthcare.

**Medical & Sociological Model of illness**

| Medical Model | Sociological Model |
|---|---|
| Objective label | Subjective category |
| Non moral | Moral category |
| Apolitical label | Political label |
| Concrete, unchanging reality | Social construction |
| Diagnosis is objective and consistent across doctors and populations. | Diagnosis is subjective and culturally bound. |
| Each illness is caused by unique biological forces. | Illness is caused by a combination of social, psychological, and biological causes. |

## Topic 052: Model of Illness: Popular Explanations of Illness

**Explanations of Illness**

Medicine as an institution affects how people think about illness but it does not fully control popular beliefs about illness. There are various popular explanations of how and why illness is caused, categorized into two branches: prescientific and scientific theories.

**Prescientific Theories**

All prescientific theories of illness causation around the world divide into only two, somewhat overlapping, categories:

1. **Personalistic**
2. **Naturalistic**

**Personalistic Theories**

Personalistic theories state that illness occurs when a god or any supernatural power lashes out at an individual, either deservedly or maliciously.

**Naturalistic Theories**

Naturalistic theories assert that illness occurs when heat, cold, winds, damp, or other natural forces upset the body's equilibrium.

**Personalistic & Naturalistic Theories**

Both personalistic and naturalistic theories

- blame ill persons for causing their illness
- define ill persons as less morally worthy than others
- equate illness with punishment

**Scientific Theories**

According to the scientific thinking, illness occurred when biological forces combined with personal susceptibility.

**Main Postulates of Scientific Beliefs**

- Individuals became ill because of unhealthy rather than immoral behavior.
- illness occurred when persons whose constitutions were naturally weak or had been weakened by unhealthy behaviors, contacted with dangerous miasma.
- These new ideas still allowed the healthy to blame the ill for their illnesses.
- Immorality does not directly cause illness but rather make one susceptible to it.

**Current Beliefs**

In modern days people believe in various theories including connecting illness to sin continue to appear, as do theories that conceptualize illness as a direct consequence of poorly chosen and hence irresponsible behavior. Mass media, public health authorities, and the general public now often blame illness on individual lifestyles. One ideology ties illness to individual personalities.

**Explanation of illness: Siegel**

Siegel (1990) postulates that people become ill because they "need" their illness to escape a stressful situation, receive sympathy from their spouses, punish themselves for misdeeds, and because they do not love themselves enough to take care of their emotional needs.

**Explanation of Illness: Conclusion**

Emphasizing how individuals cause their own illnesses, these theories ignore how social and environmental factors can foster illness. In sum, theories of illness that focus on individual responsibility reinforce existing social arrangements and help us justify our tendency to reject, mistreat, or simply ignore those who suffer illness.

## Topic 053: Creating Illness: Medicalization

**Medicalization**

The process through which a condition or behavior becomes defined as a medical problem requiring a medical solution is known as medicalization. The term medicalization also refers to the process through which the definition of an illness is broadened. For medicalization to occur, one or more organized social groups must have both a vested interest in it and sufficient power to convince others to accept their new definition of the situation.

**Medicalization – Forces**

- Doctors
- Consumers/ Consumer groups
- Pharmaceuticals
- Managed Care Organizations (MCO)
- The forces behind medicalization not only support the process but, in some cases, also oppose medicalization, depending on which will best protect their interests.

**Medicalization – Consequences**

**Possible helpful impact:**

- Promotes social awareness of a problem
- Can lead to better treatment
- Can validate individuals' sense that they are ill

**Possible harm:**

- Increases power of doctors
- Decreases power of other social authorities
- Medical treatment deemed only logical solution
- Depoliticization
- Used to justify voluntary and involuntary treatment

- Medicalization can be a boon, leading to social awareness of a problem, sympathy toward its sufferers, and development of beneficial therapies.
- However, medicalization also can lead to new problems, known by sociologists as unintended negative consequences.
- Once a situation becomes medicalized, doctors become the only experts considered appropriate for diagnosing the problem and for defining appropriate responses to it. As a result, the power of doctors increases while the power of other social authorities diminishes.
- Medicalization makes medical treatment the only logical response to the situation.
- Medicalization allows governments to depoliticize the situation—to define it as a medical rather than a political problem.
- Medicalization can justify not only voluntary but also involuntary treatment. Yet treatment does not always help and sometimes can harm.

**Demedicalization**

The dangers of medicalization have fostered a countermovement of demedicalization. Like medicalization, demedicalization often begins with lobbying by consumer groups.

## Topic 054: Social Control and the Sick Role

Medicine not only functions as an institution of social control by defining individuals either as sick or as biologically defective but also by pressuring individuals to abandon sickness, a process first recognized by Talcott Parsons (1951).

**Talcott Parson**

Parsons was one of the first sociologists to recognize that illness is deviance. From his perspective, when people are ill, they cannot perform the social tasks normally. Parson's emphasis on social stability reflected his belief in the social perspective, functionalism which led him to develop the concept of the sick role.

**Sick Role**

Parson's emphasis on social stability reflected his belief in the social perspective, functionalism which led him to develop the concept of the sick role.

**Sick Role**

**Talcott Parsons:**

**Functionalist analysis:** illness as deviance that threatens social stability

**The sick role summarizes social expectations regarding:**

- How society should view the sick
- How the sick should behave

**Sick Role Definition**

The sick role refers to social expectations regarding how society should view sick people and how sick people should behave.

**Sick Role: Four Postulates**

- The sick person is considered to have a legitimate reason for not fulfilling his or her normal social role.
- Sickness is considered beyond individual control, something for which the individual is not held responsible.
- The sick person must recognize that sickness is undesirable and work to get well.
- The sick person should seek and follow medical advice.

**Sick Role: Criticism**

**According to conflict theorists:**

- Deviance is necessary for social change
- Studying social control agents is important

**Sick role model**

- Doesn't fit chronic or stigmatized conditions
- Ignores class, age, gender, race
- Confuses illness with patient hood
- Individuals responsible for their illnesses
- Legitimate reason for abstaining from the normal social tasks
- Socially perceived seriousness of the illness
- Individuals responsible for their illnesses
- Legitimate reason for abstaining from the normal social tasks
- Socially perceived seriousness of the illness

**Sick Role: Conclusion**

The sick role model focuses on the interaction between ill person and the mainstream health care system. Yet interactions with the medical world form only a small part of the experience of living with illness or disability.

**Lesson 14**

# UNDERSTANDING DISABILITY
# TOPIC 055-057

## Topic 055: Understanding Disability

### Disability

WHO defined disability as "disturbances in body structures or processes which are present at birth or result from later injury or disease . . . [and which cause] loss or abnormality of psychological, physiological, or anatomical structure or function."

### Medical Model of Disability

**Medical Model:** A deficit within an individual's mind or body, which should be cured if possible. As many disability activists and social scientists have noted, this definition reflects a medical model, which locates impairments and thus disabilities solely within the individual mind or body.

### Sociological Model of Disability

**Sociological Model:** Disability results from responses to bodies that fail to meet social expectations or from limitations in the built environment. their disabilities primarily stem not from their physical differences but from the way others respond to those differences and from the choices others have made in constructing the social and physical environment. This approach reflects a sociological model of disability in its emphasis on social forces and public issues rather than on individual physical variations and troubles. The term *disability* refers to restrictions or lack of ability to perform activities resulting largely or solely from either social response to bodies that fail to meet social expectations or assumptions about the body reflected in the social or physical environment.

### Disables as Minority Groups

- **Minority group**: Any group considered inferior, subjected to unequal treatment, and having a collective identity. Because of its cultural or physical characteristics, is considered inferior and subjected to differential and unequal treatment and that therefore develops a sense of itself as the object of collective discrimination.
- **Prejudice:** Unwarranted suspicion, dislike, or disdain due to group membership. whether defined by ethnicity, religion, or some other characteristic. Prejudice toward disabled persons is obvious in the fact that, throughout history, most societies have defined those who are disabled as somehow physically or even morally inferior and have considered disabilities a sign that either the individual or his or her parents behaved sinfully or foolishly.
- **Stereotypes:** Prejudice typically expresses itself through stereotypes, or oversimplistic ideas about members of a given group. Nondisabled people typically stereotype those who are disabled as either menacing and untrustworthy or as childlike—asexual, dependent, mentally incompetent, the passive "victims" of their fate, and suitable objects for pity (Zola, 1985). These attitudes permeate the health care world as well as the general public.
- **Discrimination:** Discrimination refers to the unequal treatment of people. All too often, these prejudices against persons with disabilities result in discrimination, or unequal treatment grounded in prejudice. As recently as the first decades of the twentieth century, American laws forbade those with epilepsy, leprosy, Down syndrome, and other conditions from marrying and mandated their institutionalization or sterilization.

### Trend of Disability

- Considering the World Health Organization (WHO) estimate of 15 percent prevalence of global disability.

- Around 31 million people in Pakistan are expected to be living with some form of disability.

## Topic 056: Understanding Chronic Pain

### Chronic Pain

Chronic pain, falls on the border between disability and chronic illness. Chronic pain is a symptom, not an illness in itself. Chronic pain is defined as pain that lasts at least 12 weeks. The pain may feel sharp or dull, causing a burning or aching sensation in the affected areas.

### Causes of Chronic Pain

- Chronic pain is itself a symptom, therefore difficult to know the actual cause.
- Chronic pain may be attributed to conditions whose existence and diagnosis remains contested within the medical world.

### Consequences of Chronic Pain

Chronic pain is the most common underlying reason for disability among working-age adults. Chronic pain damages social relationships; increases depression, anxiety, and the risk of suicide.

### Treating Chronic Pain

- There is no medical consensus on how to treat chronic pain.
- Most medications for treating chronic pain derive from either morphine or aspirin
- Only few doctors are specially trained in pain management.
- Treatment of chronic pain is affected by patient's age, ethnicity, gender, income.

## Topic 057: Living with Disability and Chronic Pain

Living with disability or chronic illness is a long-term process that includes responding to initial symptoms, injuries, or diagnoses; making sense of one's situation; and continually re-conceptualizing one's future.

### Initial Symptoms and Diagnosis

Becoming a chronically ill or disabled person begins with recognizing that something about the body is troubling. The signs of illness and disability often do not differ greatly from normal bodily variations which makes diagnosis more difficult.

### Illness Behavior

The process of defining, interpreting, and otherwise responding to symptoms and deciding what actions to take is illness behavior.

### Illness Behavior: Influential Factors

Some of the factors that affect how people define and seek treatment are:

- ✓ Gender
- ✓ Age
- ✓ Class
- ✓ Ethnicity

### Factors Predicting Illness Behavior

| People are likely to define themselves ill and seek medical care | People are unlikely to define themselves ill and seek medical care |
|---|---|
| Symptoms appear frequently and are visible and severe | Symptoms appear infrequently, are not visible and are mild. |
| Illness is the only likely explanation | Alternative explanations are available |
| Ready access to healthcare | Poor access to healthcare |
| High trust in doctors and social network encourage seeking medical care. | Low trust in doctors and social network discourage seeking medical care. |

**Lesson 15**

# THE RESPONSE TO ILLNESS OR INJURY
# TOPIC 058-060

## Topic 058: Responding to Illness or Injury

### Living with Disability and Chronic Pain

Once newly diagnosed or newly disabled individuals learn the nature of their conditions, responses vary widely. Some individuals find it easy to cope up with their disability while others find it difficult. Individuals use two basic strategies to confront uncertainty and loss of control accompanied by chronic illness and disability that are:

- Avoidance
- Vigilance

### Disability as Interruptions, intrusions and Immersions

According to sociologist Kathy Charmaz, illness can be experienced as an interruption, an intrusion, or something in which an individual is immersed.

### Disability as Interruptions

Viewing disability as an interruption means regarding it essentially as an acute problem—something to be dealt with at the moment, but not something that will have a significant long-term impact.

### Disability as Intrusions

If the illness or disability progresses, however, it can become an intrusion, demanding time, accommodation, and attention and requiring that a person "live day to day"

### Disability as Immersions

If the illness or disability progresses, people can find themselves immersed in their bodily problems. Upon this stage, people structure their lives around the demands of their bodies rather than structuring the demands of their bodies around their lives.

## Topic 059: Managing Healthcare and Treatment Regimes

### Defining Treatment Regimen

A medical Regimen is a plan or course of action that intends to maintain or improve the health of the patients. Living with chronic illness or disability often means living a life bound by health care regimens.

### Managing Healthcare

For managing healthcare, people with chronic illness and disability can turn to two varying healthcare delivery system

- Conventional health care
- Alternative health care

### Conventional Healthcare

Conventional medicine is a system in which medical doctors and other healthcare professionals treat symptoms and diseases using drugs, radiation or surgery.

### Alternative Healthcare

Alternative medicine is the term for medical products and practices that are not part of standard or conventional healthcare.

### Using Conventional Healthcare

Using conventional healthcare largely focuses on medical compliance-whether individuals do as instruct by health care workers. Health Belief Model is used to study compliance.

### Using Alternative Healthcare

- Alternative Medical Practices are increasingly being used all over the World.
- Most common alternative healthcare therapies include herbal and dietary supplements, deep breathing, relaxation, chiropractic and yoga.

- In USA, 35% people reported using at least one alternative therapy in 2002
- More than 40% of individuals reported using more than one therapy.
- In Pakistan, 51.7% people use one or more type of alternative healthcare.
- Users of alternative therapies are likely to be
    - females
    - upper income
    - below age 65
    - college educated and
    - suffering from chronic health problems
- Most who use alternative therapies because
    - Conventional treatments have not helped them.
    - They feel that modern medicine focuses too much on treatment, not enough on prevention
    - They believe on the efficacy of alternative healthcare
    - Believe that alternative medicines do not cause any harm

**Seeking Information on Internet**

- People use Internet to help them making healthcare decisions.
- Despite of no controls on quality of information on internet, it has proven beneficial to those with chronic illness
- Those who use the Internet are better able to negotiate with health care providers regarding appropriate treatment

## Topic 060: The Health Belief Model and Medical Compliance

**Understanding Medical Compliance**

Following injury or diagnosis with a chronic illness, some individuals seek and some avoid knowledge and medical care. Researchers traditionally have framed this issue as a matter of compliance. Medical Compliance is the extent of degree to which individuals do as instruct by health care workers. The most commonly used framework for studying compliance is the health belief model.

**Health Belief Model**

The Health Belief Model (HBM) is a theoretical model that can be used to guide health promotion and disease prevention programs. It is used to explain and predict individual changes in health behaviors. According to HBM, people are most likely to comply with medical advice when they believe:

1. They are at risk
2. The risk is serious
3. Compliance will help
4. They have no barriers in compliance

**Health Belief Model: Limitations**

The HBM is a limited one for understanding compliance because

- It largely reflects the medical model of illness and disability
- It assumes that noncompliance stems primarily from psychological processes internal to the patient
- The HBM indirectly assumes that compliance is always good.
- However, for numerous chronic conditions, the only available treatments are disruptive to normal routines, experimental, only marginally effective, unpleasant, or potentially dangerous.

**Lesson 16**

# ILLNESS, DISABILITIES AND SOCIAL RELATIONSHIPS
# TOPIC 061-063

## Topic 061: Illness, Disabilities and Social Relationships

Chronic illness and disability have the tendency to affect the relationships both positively and negatively. It can strengthen or strain relationships with friends, relatives, and colleagues
Chronic illness and disability possess three types of challenges due to which the social relations are altered that are

- Social Challenges
- Physical Challenges
- Financial Challenges

**Social Challenges**

- During illness and disability, families pull together and individuals realize how much they mean to each other.
- Friends and family might help each other willingly during the first few months of a chronic illness but they might become more reluctant to do so over time.

**Physical Challenges**

- During illness and disability, the physical activity of individuals is restricted.
- Restricted physical activities obstruct the individuals to participate in previous activities that affects social relation.

**Financial Challenges**

- Illness and disability cause a strain on the pocket of the individuals.
- Declines in financial standing also strain relationships

**Mental Stress and Social Relationship**

- Poor social relations, physical restrictions and financial pressure causes stress.
- Stress also damages social relationships.

## Topic 062: Managing Stigma

**Understanding Stigma**

- Living with illness or disability means living with stigma
- Stigma refers to the social disgrace of having a deeply discrediting attribute
- Degree of Stigma varies from disease to disease.
- Acute illnesses have relatively low stigma than chronic illnesses and disabilities.

**Ways of Managing Stigma**

- Individuals can attempt to pass, or to hide their illnesses or disabilities from others
- Individuals can adopt a strategy of covering to deflect attention from illnesses or disabilities.
- Individuals sometimes find advantages in disclosing their disability to obtain sympathy or aid
- Individuals use the process of deviance disavowal-convincing others that they are the same as “normal” people

**Challenging Stigma**

- Some people take the radical step of rejecting the social norms and challenging the stigma of illness and disability.
- They disclose their illness or disability, not to gain sympathy but to affirm their dignity and pride.

## Topic 063: Health Social Movements

**Defining Health Social Movements**

Health social movements are collective (rather than individual) efforts to change something about the world that movement members believe is wrong.

**Health Social Movements: Goals**

- Having equal access to healthcare
- Meeting the needs of a particular group
- challenging medical understandings of diseases

**Health Social Movements: Factors**

The rise of health social movements reflects a variety of factors

- Political factors
- Cultural factors
- Structural Failures

**Health Social Movements: Political Factors**

The rise of various movements

- Civil Rights
- Women's Rights
- LGBTQ Rights

**Health Social Movements: Cultural Factors**

- Cultural forces and beliefs that fosters the usage of alternative medical practices
- Advancement in technological usage

**Health Social Movements: Structural Failures**

Health social movements are likely to emerge when people believe that medical authorities have failed to

- protect them from diseases
- identify their diseases
- treat their diseases appropriately.

**Lesson 17**

# THE SOCIOLOGICAL MODEL OF MENTAL ILLNESS
# TOPIC 064-066

## Topic 064: The Epidemiology of Mental Illness

### Understanding Mental Health

Mental health is a state of well-being in which individuals realizes their potential, can cope with the normal stresses of life, can work productively and fruitfully, and are able to make a contribution to their community.

Mental health is not only a matter of relation between persons but rather a matter of relation of individual towards:

- Community
- Society
- Social institutions

Mental health is not only a matter of relation between persons but rather a matter of relation of individual towards

- Society
- Social institutions

### Understanding Mental illness

- A mental illness is a health problem that significantly affects how a person feels, thinks, behaves, and interacts with other people.

### Mental illness Classification:

- Organic Disorder
- Mental & Behavioral Disorder
- Delusional Disorder
- Mood Disorder
- Behavioral Syndrome
- Unspecified Disorder
- Neurotic and Somatoform Disorder
- Disorder of adult personality
- Mental retardation
- Psychological Development Disorder

### Mental illness: Causes

Different causes of mental illnesses are:

- Organic conditions
- Heredity factors
- Social pathological causes

### Common Mental illness

- Bipolar Disorder
- Persistent Depressive Disorder
- Generalized Anxiety Disorder
- Obsessive-compulsive Disorder
- Post-Traumatic stress Disorder
- Schizophrenia

### Trend of Mental illness: Pakistan

| Disease | Prevalence Rate |
|---|---|
| Depression | 6.0% |
| Schizophrenia | 1.5% |
| Epilepsy | 1.0-2.0% |

## Topic 065: The Extent of Mental illness

Doctors and other clinicians focus on the medical model of mental illness. Social scientists focus on the social model of mental illness.

**Medical Model:** mental disorders are believed to be the product of physiological and biological factors.

**Social Model:** Mental disorders are the product of social context within which people exists

Two consistent assumptions regarding the extent of mental illness

1. All societies include some individuals who behave in ways considered unacceptable and incomprehensible
2. Symptoms of mental disorder are fairly common.

**Global Burden of Mental illness**

In 2017, 792 million people lived with a mental health disorder globally. Mental illness contributes in 10.7% global burden of disease.

**Prevalence Rate of Mental illness**

Countries with Higher Prevalence Rate

- Colombia
- Nigeria
- Netherlands
- China
- Ukraine
- Italy

**Trend of Mental illness**

**USA**

| Variable | Prevalence Rate |
|---|---|
| Male | 3.9% |
| Female | 6.5% |

| Variable | Prevalence Rate |
|---|---|
| **Age** | |
| 18-25 Years | 8.6% |
| 26-49 Years | 6.8% |
| 50 and above Years | 2.9% |

**Trend of Mental illness: Pakistan**

24 million people in Pakistan are in need of psychiatric assistance. Mental disorders account for more than 4% of the total disease burden with higher burden among women.

## Topic 066: Social Stress and the Distribution of Mental illness

Different groups experience different levels of mental illness because of varying levels of exposure to social stress. Both acute and chronic stress contributes in mental illness. Chronic stress is more important for predicting poor physical health.

**Distribution of Mental illness**

Variables that affect the distribution of mental illness are

1. Ethnicity
2. Gender
3. Social Class

**Impact of Ethnicity**

- Few differences in rates of mental illness between ethnic groups.
- Measurable differences in psychological distress:
- Chronic stress in African Americans from racism

- Extended families help to reduce stress in Hispanic Americans

**Impact of Gender**

- **Men:** Higher rates of paranoid schizophrenia, substance use, and impulse control disorders.
- **Women:** Higher rates of mood disorders (depression) and anxiety disorders.
- These differences in mental illness parallel differences in gender roles.

**Impact of Social Class**

- Strong and consistent link
- **Social stress theory:** Class-based stress leads to mental disorder.
- **Social drift theory:** Mental problems lead to lower social class.

**Lesson 18**

# THE MEDICAL MODEL OF ILLNESS
# TOPIC 067-068

## Topic 067: Defining Mental Illness: The Medical Model of Illness

**Defining Mental illness**

To doctors and most other clinicians, mental illness is an illness essentially like any other as they believe on the medical definitions of mental illness.

As with disability and physical illness, doctors and sociologists typically have very different ways of thinking about mental illness. The contrasts between the medical model of mental illness and the sociological model. Neither of these models is absolute, however, for both sociologists and doctors often blend elements from each in their work. Nevertheless, the contrast between these two "ideal types" provides a useful framework for understanding the broad differences between the two fields.

**Medical Model of Mental illness:**

Mental disorders are the product of physiological factors. The medical model, which is more widely used by psychiatrists than psychologists, treats mental disorders as physical diseases whereby medication is often used in treatment.

The four main assumptions of medical model of mental illness are:

- Objectivity
- Physiological Reasoning
- Necessary Medical Treatment
- Harmless Treatment

**Medical Model of Mental illness: Objectivity**

Objectively measurable conditions define mental illness. For instance, in the same way that the presence of a specific bacterium defines syphilis.

**Medical Model of Mental illness: Physiological Reasoning**

Mental illness stems largely or solely from something within individual psychology or biology. Even if researchers (like those who studied syphilis before 1905) have not yet identified its sources.

**Medical Model of Mental illness: Necessary Medical Treatment**

Mental illness, will worsen if left untreated, but may diminish or disappear if treated promptly by a medical authority.

**Medical Model of Mental illness: Harmless Treatment**

Treating mental illness, rarely harms patients, and so it is safer to treat someone who might really be healthy than to refrain from treating someone who might really be ill.

## Topic 068: Defining Mental Illness: The Sociological Model of Mental Illness

**Defining Mental illness**

The sociological model of mental illness questions the medical model. It argues that mental illnesses reflect subjective social judgments more than objective scientific measurements of biological problems.

**Sociological Model of Mental illness**

It defines mental health within the social contexts within which people exist and uses practice and evidence to work with communities and individuals to help prevent mental health problems and to help with their recovery. Unacceptable and inherently incomprehensible are labelled as Mental illness. Behavior leads to the label of mental illness when it contravenes cognitive norms, performance norms or feeling norms.

**Sociological Model of Mental Illness: Postulates**

- Mental illness reflects a particular social setting as well as individual behavior or biology.
- Persons labeled mentally ill may experience improvement regardless of treatment, and treatment may not help
- Medical treatment for mental illness sometimes can harm patients.
- Sociological model does not totally reject the medical model but rather questions that why we label certain behaviors and not others.

**Lesson 19**

# THE PROBLEM OF DIAGNOSIS AND TREATMENT
# TOPIC 069-072

## Topic 069: The Problem of Diagnosis

- The main problem with diagnosis is that it is subjective and susceptible to social expectations
- Rosenhan's Experiments
- Cultural Variations

**Reducing the Problem of Diagnoses**

To reduce the problems with diagnosis, psychiatrists rely on the Diagnostic and Statistical Manual of Mental Disorders (DSM) for;

- Defining the illness
- Assigning diagnoses to patients

**Edition of DSM**

| Edition | Year |
|---|---|
| DSM-I | 1952 |
| DSM-II | 1968 |
| DSM-III | 1980 |
| DSM-IV | 1994 |

**Problems with DSM**

- Diagnoses based on the clinicians' inferences
- Political battle, involving active lobbying by both professional and lay groups
- Divergent views on causation and treatment

**DSM-III**

- Stress symptomatology and avoid discussing either causation or treatment
- Described the various diagnoses based on the consensus among practicing psychiatrists rather than on researches

**DSM-III & DSM-IV**

DSM-III and DSM-IV gained great support because

- they served a variety of political needs
- the "objective" nature of diagnosis
- autonomy of doctor and clinicians

## Topic 070: A History of Treatment

The history of treatment for mental illness reveals the role social values play in medical responses to problematic behavior.

**Before Scientific Era**

- Normalizing mental illness as eccentricity

First, premodern societies could offer acceptable, low-level roles to those whose thought patterns and behaviors differed from the norm. Second, because work roles rarely required individuals to function in highly structured and regimented ways, many troubled individuals could perform at marginally acceptable levels. Third, in premodern societies, work occurred within the context of the family, whether at home or in fields or forests. As a result, families

could watch over those whose emotional or cognitive problems interfered with their abilities to care for themselves. These three factors enabled families to normalize mental illness by explaining away problematic behavior as mere eccentricity. As a result, unless individuals behaved violently or caused problems for civil authorities, their families and communities could deal with them informally.

- Considering Mental illness as a punishment of a sin

In some cases, however, individuals behaved too unacceptably or incomprehensibly for their communities to normalize. In these cases, and as is true with all illnesses, communities needed to find explanations to help them understand why such problems struck some people and not others. Such explanations helped to make the world seem more predictable and safer by convincing the community that such bad things would never happen to "good people" like themselves.

- Treatment by religious authorities

Until the modern scientific age, societies typically viewed disturbing behavior as a punishment for sin or for violating a taboo; a sign that the afflicted individual was a witch; or a result of evildoing by devils, spirits, or witches. Therefore, they assigned treatment to religious authorities—whether shamans, witch doctors, or priests—who relied on prayer, exorcism, spells, and treatments such as bloodletting or trepanning (drilling a hole in the skull to let "bad spirits" out). Religious control of socially disturbing behavior reached a spectacular climax with the witchcraft trials of the fifteenth to seventeenth centuries, during which religious authorities brutally killed at least 100,000 people, including some we would now label mentally ill (Barstow, 1994).

- Capitalism and almshouses

As a capitalist economy began to develop, both religious control and informal social control began to decline (Horwitz, 1982; Scull, 1977). Under capitalism, work moved from home and farm to workshops and factories, making it more difficult for families to care informally for problematic relatives. In addition, a capitalist economy could less readily absorb those whose productivity could not be scheduled and regimented. At the same time, widespread migration from the countryside to cities weakened families and other social support systems, as did migration from Europe to the United States in subsequent centuries. Meanwhile, other changes in society weakened religious systems of social control. These changes fostered a need for new, formal institutions to address mental illness. By the end of the eighteenth century, however, only a few hospitals devoted to treating the mentally ill existed, along with a few private "madhouses" run by doctors for profit. Instead, most of those we would now label mentally ill were housed with the poor, the disabled, and the criminal in the newly opened network of public alms-houses, or poorhouses.

**The Rise & Decline of Moral Treatment**

- Treatment Moral treatment through kindness and sensitivity

By the late eighteenth century, however, attitudes toward persons with mental illness began to moderate (Scull, 1989: 96–117). In place of punishment and warehousing, reformers proposed moral treatment: teaching individuals to live in society by showing them kindness, giving them opportunities to work and play, and in general treating mental illness more as a moral than a medical issue. The stunning successes that resulted convinced the public that mental illness was curable.

- Increasing doctors' control and the Great Confinement

Despite this strong beginning, moral treatment in the end could not compete with medical models of mental illness (Scull, 1989: 137–161). Because those who promoted moral treatment continued to use the language of medicine, talking of illnesses and cures, medical doctors could argue successfully that only they should control this field. In addition, because moral treatment required only kindness and sensitivity, which theoretically any professionals could offer, no

professional group could claim greater expertise than that of doctors. As a result, by 1840, doctors largely had gained control over the field of mental illness both in the United States and Europe. As care gradually shifted from laypersons to doctors, custodial care began to replace moral treatment. This shift reflected that communities were more interested in controlling problematic individuals than in treatment. It also reflected the growing belief that illness was genetic and untreatable. By the 1870s, moral treatment had been abandoned. Yet the number of mental hospitals continued to grow exponentially (D. Rothman, 1971). Historians refer to this change, and the similar but earlier developments in Europe, as the Great Confinement.

**Freud & Psychoanalysis**

- Increasing Emphasized emotional roots of mental illness

By the beginning of the twentieth century, then, doctors controlled the mental illness field. Yet medicine was torn by internal divisions. From the nineteenth century to the present, although doctors overwhelmingly traced mental illness to sources internal to individuals, some emphasized the emotional roots of mental illness while others emphasized physical causes.

- Supported male supremacy

Freudianism both reflected and supported contemporary cultural notions holding that men's anatomy, intellect, and moral capabilities naturally surpassed women's, that women lacked the necessary maturity and selflessness to hold positions of authority in society, and that women were destined to become wives and mothers. These notions have not been totally abandoned; although no longer widely used in its pure form and rarely used by modern psychiatrists, Freud's conception of human nature and of mental illness continues to permeate American culture and vocabulary and to affect ideas about both normal and abnormal psychology.

- High costs of psychoanalysis lead to cheaper physical interventions

Because psychoanalysis was so costly, most mental patients during the first half of the 1900s instead received far cheaper physical interventions (Valenstein, 1986). Insulin therapy became immediately popular from its inception in 1933, followed by electroconvulsive (shock) therapy in 1938. These therapies caused comas or seizures, which psychiatrists believed improved mental functioning. Neither therapy had received scientific testing before becoming popular, nor did later studies find evidence of their effectiveness.

**The Antipsychiatry Critique: Goffman**

- Mental hospitals as total institutions

By the middle of the twentieth century, mental hospitals had become a huge and largely unsuccessful system (Mechanic, 1989). Patients with mental illnesses occupied half of all hospital beds in the United States. Virtually all (98 percent) were kept in public mental hospitals; insurance rarely covered mental health care, so private hospitals had no interest in the field.

- **Self-fulfilling Prophecy:** patients become what others expect of them.

One of the most powerful critiques of large mental institutions appeared in a classic study by sociologist Erving Goffman (1961). Goffman's work fell within the tradition of symbolic interactionism theory. According to this theory, individual identity develops through an ongoing process in which individuals see themselves through the eyes of others and learn through social interactions to adopt the values of their community and to measure themselves against those values. In this way, a self-fulfilling prophecy is created, through which individuals become what they are already believed to be.

- **Mortification:** Self-image is damaged & replaced by institutional life

Goffman used symbolic interactionism theory to analyze mental hospitals and the experiences of mental patients. He pointed out that mental hospitals, like the military, prisons, and monasteries, were total institutions—institutions where a large number of individuals lead highly regimented lives segregated from the outside world. Goffman argued that these institutions necessarily produced mortification of the self. Mortification refers to a process

through which a person's self-image is damaged and is replaced by a personality adapted to institutional life.

- Role of patient as a master status

Persons confined to mental hospitals lose the supports that usually give people a sense of self. Cut off from work and family, these individuals' only available role is that of patient. That role, meanwhile, is a master status—a status considered so central that it overwhelms all other aspects of individual identity. Within the mental hospital, a patient is viewed solely as a patient—not as a mother or father, husband or wife, worker or student, radical or conservative.

- Depersonalization

As a result, patients experience depersonalization—a feeling that they no longer are fully human, or no longer are considered fully human by others. At the same time, the hierarchical nature of mental hospitals reinforces the distinctions between inmate and staff and constantly reminds both parties of the gulf between them. Consequently, patients can avoid punishment and eventually win release only by stifling their individuality and accepting the institution's beliefs and rules.

**Deinstitutionalization**

By the time the anti-psychiatry critique appeared, the Great Confinement already had begun to wane. Beginning in 1955, the number of mental hospital inmates declined steadily, as treatment shifted from inpatient care (in hospitals) to outpatient care. This process of moving mental health care away from large institutions, known as deinstitutionalization gained further support during the 1970s, as mental patients successfully fought in the courts against involuntary treatment, against hospitals that provided custodial care rather than therapy, and for the right to treatment in the "least restrictive setting" appropriate for their care.

| Causes | Effects |
|---|---|
| Financial changes | Positive |
| Changes in public benefit programs | Negative |
| Individualism | Positive |
| Not due to new medications | Negative |

**Remedicalization**

- "Biological Revolution" since the 1980s
- Majority of the public believes mental illness is a biological problem despite of weakness of correlational data.
- Idea is pushed by doctors, the media, and pharmaceuticals.
- Use of drugs to treat mental illness is common.

The last 20 years have seen an increasing remedicalization of mental illness (P. Brown, 1990). Psychiatrists have developed new techniques for diagnosis and treatment and new theories of illness etiology that link mental illness to individual abnormalities in biochemistry, neuroendocrine functioning, brain structure, or genetic structure and downplay the effects of social factors. The data for this "biological revolution" consist primarily of simple correlations between biological abnormalities and some serious mental disorders (P. Brown, 1990); no studies have uncovered significant biological differences between those who have minor mental disorders and those who do not. None of this research adequately sorts out other factors that might account for these correlations (such as differences in nutrition or in the use of various drugs) or determines whether either the mental disorders or treatment for them might have caused, rather than resulted from, biological abnormalities. Despite these weaknesses in the biological model of mental illness, most psychiatrists have adopted it. As a result, psychiatrists now present a more united front in their struggles for control against other mental health occupations such as psychology and social work. In addition, they have increased their political power relative to these other occupations because, having declared mental illness a biological

problem, they now can argue that only persons trained in medicine can properly diagnose and treat it (P. Brown, 1990).

## Topic 071: Becoming a Mental Patient

- Levels of mental treatment have increased among individuals because of
  - Increased levels of insurance
- Reduced stigma for seeking mental medical help
- Symptoms of mental disorder are usually vague, ambiguous, and open to varying interpretations
- Labels of 'mental illness' are applied once alternative interpretations failed to define the behavior"

**Becoming a Mental Patient: Labeling**

Labelling occurs in three stages

1. Self-labeling
2. Labeling by family, friends, and the public
3. Labeling by the psychiatric establishment

**Self-Labeling**

- Aligning Actions
- Snowballing
- Departing social Expectations
- Feeling Work
- Individuals can change or reinterpret the situation

Regardless of how others define their situation, at least initially individuals usually define themselves as mentally healthy, using a process Whitt and Meile (1985) refer to as aligning actions, or actions taken to align one's behavior with social expectations. If individuals' problems increase, however, these aligning actions become less convincing. In a process Whitt and Meile refer to as snowballing, each additional problem becomes more difficult to deal with than the previous one, so a person with four problems experiences more than twice the difficulty of a person with two problems. As this snowballing occurs, individuals become more likely to define themselves as mentally ill and to seek care. Peggy Thoits (1985) has provided a more detailed model of how self labelling works among those—the majority—who experience only acute or mild problems. Her model, like that of Erving Goffman, draws on the theory of symbolic interactionism. Thoits applies this to mental illness by hypothesizing that well-socialized individuals sometimes label themselves as mentally ill when their behavior departs from social expectations, even if others do not consider their behavior disturbed or disturbing. Because individuals recognize the stigma attached to mental illness, however, they work to avoid this label. According to Thoits, and as described earlier, most of the behavior that can lead to the label of mental illness involves inappropriate feelings or expressions of feelings.

**Self-Labeling: Feeling work**

- Individuals can change their emotions physiologically
- Individuals can change their behavior
- Individuals can reinterpret their feelings

To avoid the label of mental illness, therefore, individuals can attempt to make their emotions match social expectations, through what Arlie Hochschild (1983) refers to as feeling work. Feeling work can take four forms. First, individuals can change or reinterpret the situation that is causing them to have feelings others consider inappropriate. For example, a working woman distracted from her work by worries about how to care for an ill parent—and distracted while with her parent by worries about her work—can quit her job. Second, individuals can change their emotions physiologically, through drugs, meditation, biofeedback, or other methods. The

woman with the ill parent, for example, could drink alcohol or take Prozac to control anxiety. Third, individuals can change their behavior, acting as if they feel more appropriate emotions than they really do. Fourth, individuals can reinterpret their feelings, telling themselves, for example, that they only feel tired rather than anxious. When feeling work succeeds, individuals can avoid labeling themselves mentally ill. This is most likely to happen when the situations causing the emotions are temporary and brief and when supportive others legitimize their emotions. If, for example, the woman with the ill parent has similarly situated friends who describe similar emotions, she might conclude that her emotions are understandable and acceptable. If, on the other hand, her colleagues do not sympathize with her concerns and continually tell her to put her work first, her attempts at feeling work could fail, and she might conclude that she has a mental problem.

**Labeling by Friends, Family & Public**

- They Hesitate to label individuals
- Accommodation

Like individuals, families only reluctantly label their members mentally ill (Horwitz, 1982). Instead, families can deny that a problem exists by convincing themselves that their relative's behavior does not depart greatly from the norm. If they do recognize that a problem exists, they can convince themselves that their relative is lazy, a drunkard, "nervous," responding normally to stress, or experiencing physical problems rather than mental illness. Finally, families might recognize that their relative is experiencing mental problems but define those problems as temporary or unimportant. Two factors explain how and why families can ignore for so long behavior that others would label mental illness. First, those who share cultural values, close personal relationships, and similar behavior patterns have a context for interpreting unusual behavior and therefore can interpret behavior as meaningful more easily than outsiders could. Second, families often hesitate to label one of their own for fear others can reject or devalue both the individual and the family.As a result, families have a strong motive to develop alternative and less stigmatizing explanations for problematic behavior.

**Labeling by Psychiatric Establishment**

- Applying the medical model of illness
- Rejecting the social contexts of behavior
- Patients need help and care
- Seeing illness as a crisis

Once individuals enter treatment, a different set of rules applies, for whereas the public tends to normalize behavior, mental health professionals tend to assume illness. First, because the medical model of mental illness stresses that treatment usually helps and rarely harms, it encourages mental health workers to define mental illness broadly. Second, because mental health workers see prospective patients outside of any social context, behavior that might seem reasonable in context often seems incomprehensible. This is especially likely when mental health workers and prospective patients come from different social worlds, whether because they differ in gender, ethnicity, social class, or some other factor. Third, mental health workers assume that individuals would not have been brought to their attention if they did not need care. Finally, because normalization and accommodation are so common, mental health workers often do not see individuals until the situation has reached a crisis, making it relatively easy to conclude that the individuals are mentally ill.

## Topic 072: The Post Patient Experience

Research on the post-patient experience has focused on the sources, consequences, and extent of stigma experienced by former patients. This is a critical issue, for it challenges the medical model's assumption that psychiatric treatment is benign.

Post Patient Experience, generally relies on:

- Benefits of Treatment
- Hazards of Stigma

**Post Patient Experience: Stigmatizing**

Causes of Stigmatizing the former patients

- Problematic Behavior
- Considering them as fearful
- Social Rejection

**Stigma: Extent**

People who believe mentally ill persons

- As dangerous are more likely to reject a former mental patient

People who believe mentally ill persons

- As harmless are less likely to reject the former patient.

**Stigma: Consequences**

Labeling an individual mentally ill negatively effects:

- How the general public responds
- How the labeled individual responds

**Stigma as a Challenge**

It is important to address the challenge of stigma

- To improve the quality of life of patients

It is important to address the challenge of stigma

- To maintain the benefits of treatment beyond the short term.

**Lesson 20**

# HEALTHCARE SYSTEM IN PAKISTAN-I
# TOPIC 073-077

## Topic 073: Primary and Secondary Healthcare System in Pakistan

**Defining Primary Healthcare**

This is first level of healthcare, where patients have their initial interaction with system and it provides curative and preventive Healthcare Services. It is an intermediate level of healthcare that is concerned with provision of technical, therapeutic and diagnostic services.

**Primary Healthcare: Pakistan**

- 500 Basic Health Units (BHUs)
- 600 Rural Health Centers (RHCs)
- 7500 first level care facilities
- 100,000 lady health workers (LHWs)

| Health Facility | Catchment Population | Functions |
|---|---|---|
| BHU | 25,000 | • Preventive, curative and referral services<br>• Maternal and Child health (MCH) services<br>• Support to LHWs |
| RHC | 100,000 | • Promotive, preventive, curative, diagnostic and inpatient services<br>• Support to BHUs, LHWs and MCH centers |

**Secondary Healthcare: Pakistan**

- Specialist consultation and hospital admissions fall into this category.
- 989 secondary care hospitals, at tehsil and district levels
- Tehsil headquarters (THQS)
- Located at tehsil level
- For population of 0.5 to 1 million
- 40-60 beds
- Provide basic, referral and comprehensive emergency, obstetrics & newborn care.
- Referred by RHCs, BHUs, LHWs
- District headquarters (DHQS)
- Located at district level
- For population of 1-3 million
- Provide promotive, preventive, curative, diagnostics, inpatient and referral services.
- Referred by BHUs, RHCs, THQs

## Topic 074: Tertiary Healthcare System in Pakistan

**Defining Tertiary Health Care**

Tertiary Healthcare hospitals are for more specialized inpatient care. Specialized Healthcare services for inpatients and on referrals from primary or secondary health professionals.

**Tertiary Health Care: Problems**

- ❑ Head and neck Oncology

- Perinatology Neonatology
- PET scans
- Organ transplantation
- Trauma surgery
- High-dose chemotherapy for cancer cases
- Growth and puberty disorders
- Neurology and neurosurgery

**Tertiary Health Care: Pakistan**

Two types of hospitals fall under tertiary care

1. Major hospitals
2. Specialty Hospitals

**Major Hospitals**

Major hospital has a full complement of services including pediatrics, general medicine, various branches of surgery and psychiatry. For e.g., Jinnah Hospital, Lahore

**Specialty Hospitals**

A specialty hospital is dedicated to specific sub-specialty care (pediatric centers, oncology centers, psychiatric hospitals). Pakistan Kidney and Liver Institute (PKLI). Tertiary care hospitals are located in major cities of Pakistan for more specialized inpatient care. 45 tertiary health care hospitals in Punjab.

## Topic 075: Classification of Hospitals

Hospitals can be classified according to

- *Type of service provided*
- *Size or number of beds*
- *Ownership*
- *Duration of Stay*

**According to type of service provided**

- General Hospital-different specialist services are provided to both adult and children under the same roof
- Special hospitals- deal with specific category of diseases

**According to size/ number of beds**

- Regional hospitals- 600 or more beds, attached to medical colleges with all specialties & sub-specialties
- District hospitals- 100-600 beds with 15 specialties
- Rural Hospital- 20-100 beds, provide medical, surgical & obstetrical care.

**According to ownership**

- Public hospital- hospitals owned and managed by government and or autonomous bodies
- Private hospital- hospitals owned by private people or entrepreneur

**According to duration of stay**

- Stay more than 30 days
- Stay less than 30 days

## Topic 076: Public Sector Health System

All health-related institutions, organizations, resources and people that are owned and managed by government and/ or autonomous bodies.

Federal Government

- Ministry of health
- Responsible for planning and formulating policies

Provincial Government

- Provincial health departments
- Responsible for implementation

**Tiers of Public Sector**

Four tiers of public sector are:

- Outreach and community-based services
- Primary Health Care facilities
- Secondary Health Care facilities
- Tertiary Health Care facilities

**Outreach & Community Based Services**

Focuses on

- Vulnerable populations
- Immunization programs
- Sanitation
- Maternal and child health
- Family planning

**Primary Health Care Facilities**

- Mainly focuses on outpatient and basic inpatient care
- Basic health care provided by generalist
- Includes Basic health Units (BHU) and Rural Health Centers (RHC)

**Secondary HealthCare Facilities**

- Focus on outpatient, inpatient and specialties
- Includes Tehsil Headquarters (THQs) and District Health Quarters (DHQs)

**Tertiary Health Care Facilities**

- Focuses on specialized and inpatient care
- Large hospitals located in major cities

**Public Sector Health System: Pakistan**

- 1201 hospitals
- 5518 BHUs
- 683 RHCs
- 5802 Dispensaries
- 731 Maternal & Child Health centers
- 347 Tuberculosis Centers
- 100,00 Lady Health Workers

## Topic 077: Prevention and Control of Disease

Prevention refers to measures applied to prevent the occurrence of a disease. Control refers to measures applied to prevent transmission after the disease has occurred.

**Prevention of Disease**

Successful prevention depends on:

- ❑ Knowledge of causation
- ❑ Dynamics of transmission
- ❑ Identification of risk factors and risk groups

**Levels of Prevention**

1. Primary prevention
2. Secondary prevention
3. Tertiary prevention

**Primary Prevention**- Action taken prior to the onset of disease, which removes the possibility that a disease will ever occur

**Secondary Prevention**- Action which halts the progress of the disease at its incipient stage & prevents complications

**Tertiary Prevention**- Actions to reduce or limit impairments and disabilities

**Levels of Application of Prevention**

1. Health Promotion
2. Specific Protection
3. Early Recognition
4. Disability Limitation
5. Rehabilitation

**Control of Disease**

The four principles of control are:

1. Notification
2. Early Diagnosis
3. Isolation
4. Destruction of infecting agents

- **Notification**- the immediate intimation of the occurrence of infectious disease to take immediate measures for preventing the further spread
- **Early Diagnosis-** The physician who take care of the patient make a tentative diagnosis and Advises isolation measures.
- **Isolation-** the separation of the patient from others to prevent the transmission from the sick to the healthy
- **Destruction of infecting agents-** Destruction of pathogenic microorganisms, that might be present on the material possessed by the patient, is called disinfection

**Lesson 21**

# HEALTHCARE SYSTEM IN PAKISTAN-II
# TOPIC 078-081

## Topic 078: Health Insurance in Pakistan

**Defining Health Insurance**

Health insurance is a type of insurance coverage that covers the cost of an insured individual's medical and surgical expenses.

**Health Insurance: Terminologies**

- **Insured**- the person who owns the insurance policy
- **Provider**- whose health services are being utilized
- **Premium**-the amount a person pays to have medical coverage
- **Underwriting**- a legal agreement ensuring the purchase of health insurance by considering the specific risk categories
- **Co-payment/ co-insurance-** the amount an insurer pays each time while receiving a medical care
- **Deductible**-the amount an insurer has to pay for covered services before the insurance starts paying
- **Standard exclusion-** medical services that are not covered in insurance policy

**Need of Health Insurance**

- Making health care affordable
- Keeping prescription costs low
- Preventive care

**What Health Insurance Covers**

- Doctor visits
- Lab tests
- Hospitalization
- Surgery
- Emergency care
- Pregnancy, maternity and new-born care
- Preventive
- Mental health and substance abuse services,
- Prescription drugs.
- Dental Coverage
- Vision Coverage
- Chiropractic services
- Acupuncture services

**Health Insurance: Pakistan**

The insurance sub-sector is small and mainly confined to social security for government sector employees. Voluntary health insurance comprises only 0.2% of national health expenditure.

## Topic 079: Urban and Rural Health

On the basis of geographic characteristics health can be viewed in**;**

- Urban context.
- Rural context.

**Social Environment;**

- Large disparities in socioeconomic status
- High rates of crime and violence
- Marginalized communities

**Urban Context of Health**

***Social Environment;***

- High risk behaviors.
- Psychological stressors.

***Physical Environment***

- Lack of facilities and outdoor areas for exercise and recreation.
- Bad air quality.
- Lack of basic sanitation and utilities in urban slums
- Depletion of environment through conversion of land and urban waste.

***Access to health & social service***

- Disparities in access to health care services due to different socioeconomic status
- Lack of health insurance

**Rural Context of Health**

***Social Environment;***

- Poorer health status
- Unhealthy behaviors or lifestyle
- High quality of social life

***Physical Environment;***

- Sedentary uneducated women
- Low access to facilities
- Insufficiencies in environment to indulge in healthy habits
- Lack of environmental sanitation
- Lack of facilities for health workers

***Access to health and social service;***

- Limited and inequitable distribution of health care facilities and resources including primary health care and maternal and child health care.
- Absence of health education
- Absence of preventive care
- Prevalence of quacks

**Urban-Rural Distribution**

| **PAKISTAN** | | |
|---|---|---|
| **Human Resources** | **Density in 100,000 population** | |
| | **Urban** | **Rural** |
| **Physicians** | 14.5 | 3.6 |
| **Nurses & Midwives** | 7.6 | 2.9 |

## Topic 080: Primary Health Care

**Defining Primary Health Care**

Primary Health Care (PHC) is first level of healthcare, where patients have their initial interaction with system and it provides curative and preventive Healthcare Services. According to WHO international Conference on PHC, 1978. “PHC is essential health care made universally accessible to individuals and families in the community by means acceptable to them, “through their full participation and at a cost affordable by community and country.”

**Primary Health Care: Key Concepts**

- PHC is for all especially needy
- Services should be acceptable to community
- The health services must be effective, preventive, promotive and curative.
- The health services should form an integral part of the country's health system.
- The program must be efficient multi sectoral

**Components of Primary Health Care**

- Health Education
- Promotion of food supply, proper nutrition, safe water & basic sanitation.
- Maternal and Child Health Care
- Immunization
- Prevention & control of endemic diseases.
- Treatment of common diseases & injuries.
- Promotion of Mental Health.
- Provision of essential drugs.

**Key Concepts in Primary Health Care Planning**

**Equity**

- Everyone is entitled for healthcare
- Health care according to need

**Effectiveness**

- Favorable effect
- Measurable effect

**Efficiency**

- Low-cost programs
- Consistent programs with favorable effect

## Topic 081: Quackery

**Defining Quackery**

**Quackery**, practice of quacks, who pretend to have knowledge and skill that they do not possess, particularly in medicine. **Quackery**, often synonymous with health fraud

**Healthcare Providers: Pakistan**

- Medical doctors
- Homeopaths
- Hakeems
- Nurses
- Pharmacy assistant
- Laboratory assistant
- X-ray technicians
- Paramedical staff
- Spiritual healers
- Bone setters
- Barbers

**Punjab Healthcare Commission**

- Established in 2010 under the Act of Punjab Legislative Assembly
- Regulates the healthcare services delivery
- Focuses on improving the quality of health care services
- Ban all forms of quackery

**Primary Healthcare: Key Concepts**

Punjab Health Care Commission (PHCC) only recognizes qualified allopathic doctors, hakims and homeopathy graduates and defines all other care providers as quack.

**Quackery: Pakistan**

600,000 quacks in Pakistan. According to estimates, there are over 600,000 quacks in Pakistan providing primary and basic healthcare to poor people in rural and urban areas of the country.

**Quackery: Difficult to Eliminate**

- Strongly enrooted in cultural and social context
- Unavailability of health care facilities in rural and semi urban areas
- Belief of people in informal and traditional practices
- Expensive and difficult access to health services

**Lesson 22**

# THE HEALTHCARE PROFESSIONALS
# TOPIC 082-085

## Topic 082: Health Professions

**Professions**

- Professions are defined as the characteristics of the specific occupational trade

**Professional Characteristics;**

- Possession of a specialized body of knowledge
- Formally train the members and apply the relevant body of specialist knowledge
- Monopolize their field of work: Registration required to practice
- Have considerable autonomy
- Positive role in society
- Adhere to a code of ethics
- Enjoy high status and rewards
- Focuses on member' self-identity and loyalty

- Professions are highly regarded positions in society as their work requires high challenge and intelligence to carry out the work of service

**Health Professionals**

- Health professions vary, but hold similar professional attributes

**Professional Socialization**

- Formal and Informal socialization;
  - Studied the interviewing process into medical schools
  - **Formal:**
    Transmission of the formal, specific, codified knowledge and skills
  - **Informal:**
    Transfer of appropriate and inappropriate behaviors/attitudes within the field.
- Medical students are social actors in their training and define their own reality based upon their experiences and interpretations of medical school and the journey to the profession
- Not many studies on other medical professions and how they are made professionals within the prospective healthcare fields

**Professionalization**

- **Professionalization;**
  The complex and often political process by which occupational groups monopolize knowledge, take over other occupations' roles, expel and exclude competitors, and achieve the personal and social privileges for their members associated with the status of a profession
- Before mid-nineteenth century, medical professionals did not have a "consistent educational background" and only the rich received medical care as they were the only ones who could afford it
- The "patient had the power": with the sick person as the center, healthcare became a bargaining process regarding healing personnel considering cost and diagnosis
- For the last 150 years, the rise in biomedicine technology and practice, "normality" referred to one's current health state. Sickness and disease were not seen as "deviations" of normal functioning
- The scientific method was the objective means to determine disease
- Medical professionals began to dominate over the health of patients because the medical training required to treat individuals gave them "expert status"

- There was a surge of hospital construction to observe, treat, and develop biomedical knowledge
- Other medical professions have not achieved the same level of professional achievements and societal recognition as doctors
- New roles such as Nurse Practitioners have given nurses credence within the medical field but are still under the dominance of the doctor for medical accountability
- The medical field is exclusive and elitist and it is hard to understand what is required of a professional within the field

**Medical Power in Healthcare**

- From a Marxist perspective medical domination is a result of;
  - The medical profession controls the workforce as it controls who is deemed sick and well and only returns well people to the workforce which controls the productivity
- Medical power politicizes the role of the doctor in a society and as such negate to acknowledge other medical professions that marginalize patients

**Decline of Medical Power in Healthcare**

- In the 1990s, researchers began to examine the level of power within the healthcare profession
- The research sought to focus on the decline of medical autonomy along with the rise of new medical professions
- Policy initiatives that challenge the autonomous nature of the medical profession were developed to regulate the medical field (specifically doctors who primarily dominated the field)
- Medicine is still a form of social control due to the doctor-patient encounter
- Medicine is still a monopoly of knowledge as it is the "central practice" of the field
- Patients are still extremely vulnerable as they reveal their secrets and object themselves to invasive treatments as a means to maintain good health

## Topic 083: Healthcare Organizations

**Organizations**

- Organizations are the central feature of most societies and influence how we live and many aspects of our lives
- Composed of large and subgroups, organizations have prescribed roles, norms, and specific characteristics to carry out a specific goal
- Interaction is regular and often predictable with organizations
- Not always beneficial to people as their complexities are often ineffective and inflexible in meeting our needs
- Often have significant influence and power over our lives through monitoring and regulation

**Healthcare Organizations**

- The healthcare is comprised of public, private, and volunteer organizations that seek to provide healthcare for all
- Private organizations seek to make profit primarily achieved through private health transactions

**Healthcare Organizations as Bureaucracies**

- Weber (1997) argues, the larger the organization grows, the more bureaucratic it becomes
- Bureaucratic practices are the only way to deal with the administrative duties of a large social system

**Healthcare Organizations as Systems**

- Dominated by the structural functionalist approach—mixing the structural and functional theoretical approaches to organizations
- Subsystems, or independent parts work together to achieve one goal
- If one part of the subsystem fails, then the whole organization fails as they are all independent parts of one body
- Critics bring forth the idea of informal organizations to illustrate there are formal and informal cultures that exist within an organization
- Roles are essential in systems as some of us act out multiple roles or role sets (array of roles to be played) confronted while fulfilling a specific part within a system
- Role conflict can either be inter-role or intra-role. Meaning, individuals can have conflicting roles or conflicting traditional beliefs regarding a specified role respectively
- Systems theory illustrates how many independent parts can work together to form a synergy to complete a specific group goal or task

## Topic 084: Families, Communities and Healthcare

### The Family

- Four Types of Family;
  - The nuclear family
  - The extended family
  - The lone/one-parent family
  - The reconstituted family
- Society has transitioned from the traditional nuclear and extended families due to divorce and unwed co-parenting
- The reconstituted family is increasing with 40 percent of lone parent mothers reconstituting the family within 4.6 years or less and 75 percent forming a stepfamily
- The boundary between reconstituted families and lone parenting is fluid or revolving
- Family predominates because its structure and the way it functions are optimal for meeting the needs of

### Functionalism & Family

- Parsons (1964) argues;
  - Nuclear family is the basis for social roles and socialization
  - Nuclear family meets intimate needs
  - Nuclear family teaches the discipline needed in the industry
  - Nuclear is necessary for the functioning of the western industrialized society

### Feminism & Family

- The nuclear family “is a significant and continuing source of female oppression”
- Reinforces patriarchy as it “leads to inequalities between men and women”

### The Role of Family in Contemporary Society

- Family “is a fundamental and important social institution because of the role it plays in the lives of its members an in society in general”
- Three common themes on the role of family in society;
  - Support and reproduce society
  - Rearing children as primary responsibility
  - Healthcare

### Community & Healthcare

- Community Care;
  - Started in the early 1900s and changes over time. However, it has come to mainly describe the mixed economy of care in which care is a combination of formal, informal, community, and self-care
- Care at home;

- Started in the late 1990s and have been shaped with the modernization agenda
- Self-Care;
  - Empowers patients with long term care
- Caring and the Family;
  - Care at home and self-care rely heavily on the participation of the ill's family to be active in their care

## Topic 085: Responsibilities of Social Medical Officer

**What is Medical Social Work?**

- Medical social work primarily focuses on supporting patients and their families in hospitals, community clinics and other health care settings by coordinating patients' care with the larger medical team
  - Medical social workers work closely with patients and family members who are experiencing mental, emotional, family and/or financial stress due to their or their loved one's medical condition

**How to Become a Medical Social Worker**

- The steps to become a medical social worker are;
  - Complete a bachelor's degree in sociology, social work or related field
  - Pursue a master's degree in related field
  - Complete fieldwork hour requirements
- Medical social workers typically fulfill a number of key tasks;
  - Evaluate mental and emotional health
  - Assess social, family and/or financial circumstances
  - Communicate patient information to stakeholders on a patient's health team
  - Provide counseling or psychotherapy to patients and families
  - Maintain confidential patient records
  - Connect patients and families with outside medical and non-medical resources
  - Coordinate patient care in collaboration with health team stakeholders

**Types of Medical Social Workers**

- Medical social workers are employed in a wide range of medical settings, such as hospitals and medical centers, specialized medical clinics and public health departments
- Inpatient Medical Social Workers
- Social workers who are employed at hospitals and medical centers, providing specialized social services to patients suffering from chronic and/or acute health conditions that require hospitalization, are known as inpatient medical social workers
- While some inpatient medical social workers stay within one medical unit or department, many spread their time across several units
- Assessing new patients as they are admitted
- Providing emotional support or counseling

**The Role of a Social Worker in a Hospital Setting**

- Developing and implementing a patient's plan of care
- Working with agencies or insurance companies to cover costs of treatment and medication
- Arranging outpatient treatments
- Developing a discharge plan
- Conducting trainings for staff to help better meet patients' needs
- Developing health care policy and advocating for patients' rights

**Outpatient Medical Social Workers**

- Outpatient medical social workers work with patients who either do not need hospitalization but still require medical care and guidance, or who are transitioning from hospital care to outpatient care or their home
- Often, these patients grapple with challenges similar to those faced by hospitalized patients, and require similar services – such as resource navigation guidance, counseling and care coordination
- Outpatient medical social workers can work at hospitals, medical centers and specialty clinics

**Medical Social Workers in Specialized Clinics**

- In addition to working in hospital settings, medical social workers can also work for specialized clinics that serve populations suffering from very specific conditions or diseases. These clinics differ from hospital settings in that they are serve individuals solely on an outpatient basis
- Medical social workers in specialized outpatient clinics often fulfill as wide a range of responsibilities as their peers who work in larger hospital settings

**Public Health Educators & Advocates**

- Medical social workers can also work for public health programs that provide education, guidance, advocacy, and resources to patients suffering from chronic conditions

**Challenges that Medical Social Workers Face**

- Medical social work is a challenging field, as social workers must balance the needs of many patients and also manage the demands of stakeholders on the larger medical team
- Witnessing and helping patients work through physical, mental and emotional trauma and hardship can also be deeply stressful, as the stakes for the patient, the family, and the medical team are high. Particularly in acute care medical settings, the work can be emotionally taxing

**Why People Become Medical Social Workers**

- Medical social work, while demanding, gives individuals a unique opportunity to connect with people in deeply meaningful and at times unforgettable ways
- "The rewarding aspects of my job are that I am able to follow patients and families through their experience, from diagnosis to sometimes death,"
- The concrete and, at times, dramatically positive impact that medical social workers can have on their patients' health outcomes can also be rewarding and highly motivating

**Job Description of Medical Social Officer in Pakistan**

- To organize and supervise Patients Welfare Society in the Hospital
- To organize Voluntary Hospital Visiting Committees and to also promote Health Welfare Committees
- To establish drug banks for poor patients in cooperation with Zakat/ Bait-ul-Maal Department and philanthropists
- To organize camps for collection of blood donation through motivation and to maintain a list of blood donors with their blood group and RH factor
- To guide the patients about the availability of artificial limbs free of cost or at minimal process and also arrange for eye glasses for the needy patients through donations
- Maintenance of record of their activities, cases histories, donations and medicines
- Disposal of unclaimed dead bodies / arrange transportation and funeral for destitute patients

**Lesson 23**

# EVALUATION OF HEALTHCARE SYSTEM
# TOPIC 086-087

## Topic 086: Evaluating Health Care Systems

The 8 measures of evaluating Health Care systems are:

- Universal Coverage
- Portability
- Geographic accessibility
- Comprehensive benefits
- Affordability
- Financial efficiency
- Consumer choice
- Provider Satisfaction
- Universal coverage- guaranteeing health care to all citizens and legal residents of a country.

**Universal Coverage**

No Universal coverage results in:

- Private Insurance
- Cost Shifting

**Portability**

Portability defines the coverage that is not threatened by:

- Work,
- Family,
- Geographic changes

**Geographic Accessibility**

Geographic Accessibility defines the obstacles to receive care depending on are of living:

- Rural and urban areas
- Poor and rich areas

**Comprehensive Benefits**

A comprehensive benefits package includes:

- Essential health and wellness benefits
- At all time
- With financial security

**Affordability**

An affordable health care system, restrains the costs not only of insurance premiums but also of

- Co-payments,
- Deductibles, and
- Other health care services such as prescription drugs.

**Financial Efficiency**

Another critical measure of a health care system is Financial Efficiency- whether it operates in a financially efficient manner. Free from Entrepreneurial elements.

**Consumer Choice**

Consumer Choice- a reasonable level of choice of consumer to consume any care they want from any willing provider.

**Provider Satisfaction**

The satisfaction of the provider with the

- Level of clinical autonomy,
- Income commensurate with providers' education and experience,

- And control over the nature of their practices.

## Topic 087: Healthcare in Other Countries

**United States**

- No Universal health Coverage
- Entrepreneurial system
- High role of enterprises
- Variety of mechanism of payments
- Doctors are paid via salaries and fee for service

**Canada**

- Universal Coverage
- National Health Insurance
- Moderate role of enterprise
- Fee for service payment mechanism
- Government pays for primary care and hospital expenses
- Doctors are salaried

| | US | Canada |
|---|---|---|
| **Not able to get medical care** | 12% | 8% |
| **Had serious problems paying medical bills** | 20% | 6% |
| **Long waits to get appointments** | 20% | 34% |

**Great Britain**

- Universal Coverage
- National Health System
- Low role of enterprises
- Capitation payment mechanism
- Government pays for primary care and hospital expenses
- Doctors are salaried

**China**

- No universal coverage
- National health system
- Moderate role of enterprises
- Fee for service payment mechanism
- Individuals pay for primary care
- Doctors are salaried
- Government pays for hospital expenses

**Mexico**

- Inequitable universal coverage
- Three-tiered system
- Moderate role of enterprises
- Payment mechanism for doctors and primary care is salaried
- Government pays for primary care and hospital expenses

**Lesson 24**

# THE PROFESSION OF MEDICINE-I
# TOPIC 088-091

## Topic 088: Social Control of Medicine

### Illness in 19th Century

Illness occurs due to imbalance of bodily humors or fluids. Recovery occurs after episodes of fever, vomiting or diarrhea. Inducting life-threatening fever, vomiting, purging, and bloodletting.

### Medicine in 19th Century

Medical care often dangerous

- "Heroic medicine"
- Unscientific
- Minimal training
- Few effective treatments
- Lack of antisepsis or anesthesia

### Health Care in 19th Century

- Family care-giving most common
- Medicine was not prestigious field
- "Regular doctors" (allopath's): Cure by opposites
- "Irregular practitioners" (homeopaths): Cure by similar

### The Rise of Medical Dominance: 1900

American Medical Association (1847), growing public belief in science and in the complexity of health care. Doctors viewed as scientific. Doctors have more social status than competitors in terms of gender, race, and social class.

### Flexner Report

Flexner Report (1910): Highlights inadequate requirements and poor facilities in medical schools.

### Flexner Report Aftermath

Subsequent legislation resulted in closing many medical schools

- Quality of health care improves
- Admission to medical school tightly restricted to white, middle-class males
- Hierarchal relationship between doctors and patients

### Doctors and Professional Dominance

By the 1920s, doctors had become the premiere example of a profession (Parsons, 1951). Although definitions of a profession vary, sociologists generally define an occupation as a profession when it is considered by most to have three characteristics:

1. The autonomy to set its own educational and licensing standards and to police its members for incompetence or malfeasance;
2. Technical, specialized knowledge, unique to the occupation and learned through extended, systematic training; and
3. Public confidence that its members follow a code of ethics and are motivated more by a desire to serve than a desire to earn a profit.

### Professional Dominance

As the leading profession in the health care world, doctors enjoyed—and to some extent still enjoy—an unusually high level of professional dominance: freedom from control by other occupations or groups and ability to control any other occupations working in the same economic sphere. This concept has been most fully analysed by Eliot Freidson (1970a, 1970b,1994). As Freidson has noted, for much of the twentieth century, most doctors worked in private practice (whether solo or group), setting their own hours, fees, and other conditions

of work. Those who worked in hospitals or clinics were typically supervised by other doctors, not by nonmedical administrators. Although doctors often supervised members of other occupations, the reverse has begun taking place only in the last two decades or so. Similarly, both in the past and currently, doctors often served on boards charged with judging the education and qualifications of other health care occupations, but members of other occupations played little role in setting standards for medical education and licensing. This high level of professional dominance by doctors—otherwise known as medical dominance stemmed from the public's great respect for doctors' claims to a scientific knowledge base and service orientation. This respect in turn was bolstered with active lobbying by organized medicine.

## Topic 089: Decline of Medical Dominance

The main reasons for the decline of medicine are;

- Changes in public sentiments
- Access to medical knowledge
- Change in healthcare financing and organization

**Change in Patient Attitudes and De-Professionalization**

- 1960s social movements and the questioning of authorities
- Media coverage of the backlash against managed care
- Frequent changes in primary care doctors undermines trust
- The role of the internet

**Changing Structure of Medicine & Proletarianization**

- Changes in healthcare financing
- Loss of substantial control by doctors
- Changes in doctor's role from autonomous professionals to proletarians

***Three factors of proletarianization;***

- Rise of corporatization
- Growth of government control
- Decline of American Medical Association

***Rise of Corporatization***

- The shift of hospital ownerships from non-profit or government agencies to healthcare institutions
- Corporations increasingly have shifted from horizontal integration to vertical integration

***The Growth of Government Control***

- Restriction of doctors' professional autonomy
- Decrease in the incomes of specialists

***Decline of American Medical Association***

- Decline in doctors' professional dominance because of the decline of power of AMA
- Decline of support of doctors for AMA
- Support of doctors for liberal organizations

## Topic 090: The Continued Strength of Medical Dominance

**Restructuring of Profession of Medicine**

Reliance of health care corporations on doctors both to generate profits and to control costs. Shift of Managed Care Organizations from prospective review. Doctors set licensure and practice standards. More relative power of doctors than other health care occupations. Retained autonomy of doctors. The ability of doctors to manipulate and control the environment.

Doctors advertise cosmetic surgery, laser eye surgery, infertility treatment, and weight loss treatment because these procedures are;

- ❑ Remunerative
- ❑ Largely free of oversight by insurance, government, or hospital bureaucrats.

## Topic 091: Medical Education and Medical Values

**Education**

- Earning a degree.
- Lengthy training as residents- doctors who are continuing their training while working in hospitals.
- Substantial debt.
- Time cost.

**Learning Medical Values**

Medical Norms—expectations about how doctors should;

- Act
- Think
- Feel

**Medical Norms**

- Emotional detachment.
- Trust clinical experience.
- Master uncertainty.
- Adopt a mechanistic model of body.
- Trust intervention.
- Prefer working with rare or acute illnesses.

**How Medical Values are Learnt?**

- **Professional Socialization-** the process of learning the skills, knowledge, and values of an occupation.
- Medical Culture.

**The Consequences of Medical Value**

- Emotional detachment can lead doctors to treat patients insensitively.
- Clinical experience can lead doctors to adopt treatments that have not been tested through controlled clinical trials and that lack scientific validity.
- Desire for certainty probably contributes to authoritarian relationships with patients.
- The emphasis on working with rare illnesses leads oversupply of specialists and undersupply of primary care doctors.
- The mechanistic model of body emphasizes on reductionist treatment rather than holistic treatment.
- Emphasizing intervention can lead doctors to act when inaction might be best.

**Lesson 25**

# THE PROFESSION OF MEDICINE-II
# TOPIC 092-094

## Topic 092: Patient-Doctor Relationship

**Paternalistic Value System**

Only doctors are capable of making decisions about what is best for a patient.
Reinforced by:

- Patients
- Structure of medical practice
- Stereotypes.
- Cultural barriers.

**Process of Paternalism**

- Brief patient visits
- Asking closed rather than open ended questions
- Referring to patient by first name while a doctor remains a "Dr."
- Interrupting the patients.
- Giving general rather than specific answers to patients.

From the beginnings of Western medicine, medical culture has stressed a paternalistic value system in which only doctors, and not patients or their families, are presumed capable of making decisions about what is best for a patient (Katz, 1984); this chapter's ethical debate on truth telling in healthcare (Box 11.2) gives an example of such a situation. Often, this paternalism is reinforced by patients who prefer to let their doctors make all decisions; indeed, at least part of doctors' efficacy comes simply from patients' faith in doctors' ability to heal. Paternalism is also reinforced by the structure of medical practice, in which doctors by their own (probably optimistic) estimates spend an average of only 18 minutes per patient per office visit (Mechanic, 2001b). As a result, doctors often do not have the time to inform patients fully or to assess patients' needs or desires. Unfortunately, doctors' inclination to make decisions for patients is sometimes bolstered by doctors' racist, sexist, or classist ideas. Doctors are exposed to and sometimes adopt the same stereotypical ideas about minorities, women, and lower-class persons common among the rest of society, believing, for example, that African Americans are unintelligent, women flighty, and lower-class persons lazy. Doctors who hold such ideas sometimes make decisions for patients belonging to these groups, rather than involving the patients in the decisions, because these doctors believe it is easier and less time-consuming to do so. For example, medical residents in obstetrics and gynaecology interviewed by Diana Scully (1994) made such comments as "I don't like women that think they know more than the doctor and who complain about things that they shouldn't be complaining about" and "I think the main thing is that the patient understands what I say, listens to what I say, does what I say, believes what I say." Similarly, "I don't care for the patient that gives you a fight every time you try to give them a drug. I don't care for the patient that disagrees with me" (Scully, 1994: 92). Finally, doctors' inclination to make decisions for patients can be reinforced when cultural barriers make it difficult for doctors to gain patients' cooperation or to understand patients' beliefs or wishes. Those cultural differences are probably greatest when Western-born doctors treat immigrants from non-Western societies. In these circumstances, even the smallest gestures unintentionally can create misunderstanding and ill will.

**Models of Doctor-Patient Relationship**

- Activity-Passivity
- Guidance-Cooperation
- Mutual Participation

As Thomas Szasz and Marc Hollander (1956) explain, three models of doctor-patient interactions exist. Only in the first model, activity-passivity, is the doctor totally active and the patient totally passive. Emergency surgery performed on an unconscious patient would fall into this category, as would drugging a psychiatric patient against his or her will. In the second and most common model guidance-cooperation, the doctor offers guidance to a cooperative but clearly submissive patient, such as one suffering from a cold. In the third model, mutual participation, both doctor and patient participate equally. This model occurs most often with chronic illnesses such as diabetes or multiple sclerosis, in which much of doctors' work consists of helping patients discover what works best for them.

**Power Dynamics**

Doctors' power depends upon:

- Incapacitation of patients
- Cultural authority of doctors
- Economic independence of doctors.
- Cultural differences from patients.
- Assumed social superiority to patient.

## Topic 093: Mainstream Healthcare Providers

Following are the mainstream healthcare providers:

- ❑ Nursing
- ❑ Pharmacy
- ❑ Osteopathy

**Nursing**

The Rise of Nursing;

- Emphasis on caring and duty.
- Professionalization.
- Exploitative training.
- Alienating practicing nurses

**Nursing's Push for Professionalization**

- Increased educational requirements.
- Reinforced hierarchical structure of nursing;
  - Nursing Assistant.
  - Licensed practicing nurses.
  - Registered nurses.

**Current Issues in Nursing**

- Rise of advanced practice nursing.
- Changing gender roles.

**Pharmacy**

- Pharmacy meets the criteria that defines profession.
- Changing role of pharmacists.

**The Growth of Clinical Pharmacy**

- Clinical pharmacy.
- The impact of managed care;
  - Increase in the professional power and status of pharmacists.
  - Participation in utilizing review.
  - Growth in disease management.

**Osteopathy**

- 19th century roots
  - Magnetic healing and bone setting.
- Professionalizing osteopathy

    - American Osteopathic Association.
    - A code of ethics.
    - Improved education curriculums.
- The waning of osteopathic identity;
    - The California merger.
    - Internal shifts.
- The growth of consumer health movement.

## Topic 094: Alternative Healthcare Providers

Alternative medicine is the term for medical products and practices that are not part of standard care and those practicing it are Alternative Healthcare Providers. Little known about effectiveness. Research funding issues and publication issues. Rise in public interest and political support.

**Chiropractors**

- From marginal to limited practitioners.
- 19th century roots.
- Magnetic healing and spinal manipulation.
- The fight against medical dominance.

**Chiropractors: Current Status**

- Increasing numbers and acceptance, good incomes.
- Some insurance and legal restrictions.
- Desire to move toward primary care.

**Lay Midwives**

- Until mid-19th century, midwives-controlled childbirth.
- Childbirth gradually medicalized.
- Lay midwifery part of backlash to medicalization.
- Currently: Very safe, but continued legal restrictions.

**Curanderos**

- Folk healers within Mexican and Mexican-American communities.
- Combine western and folk theories of illness.
- Holistic treatments including prayer massage, etc.
- Primarily learned through apprenticeships.
- No legal status.

**Acupuncturists**

- Believe illness caused by blocked “chi”.
- The impact of medical dominance.

**Alternative Health Care Providers in Pakistan**

- Homeopaths.
- Hakeems.
- Spiritual and religious Healers.
- Bone Setters.
- Sex therapists.

**Lesson 26**

## THEORIES, PERSPECTIVES AND CONCEPTS OF HEALTH-I
## TOPIC 095-099

### Topic 095: A Brief History of Health and Healing

**History of Health & Healing**

Focuses on;

- The social dimension of health and healing.
- Changes in society that leads to new diseases and new ways of healing.

Today's healing practices and health care systems have developed through centuries of efforts to understand disease and illness and to find effective means to protect and restore health. Understanding this historical development is important both as an end in itself and as a means to a better understanding of current patterns.

**Humans & Health**

- Shift of lifestyle from hunter gather to agrarian which gave context of zoonotic disease.

The early humans used to observe the hunting and gathering lifestyle, moving from one place to another in search of prey and food. But, after the advent of agriculture, they settled at one place and domesticated the wild animals for their help and support. Such as dogs, bulls, hens etc.

- **Zoonotic disease:** the spread of disease from animals to humans.

**Ancient Greece**

- Holistic concept of Health.
- Health seen as the individual in balance with the self, society and nature.

A more empirically based medicine was developing, and many physicians enjoyed favorable reputations. The most renowned of these physicians is certainly Hippocrates of Cos (460–377 b.c.)—the "Father of Medicine." Hippocrates was born in Cos, was well educated, became a successful and much beloved physician, and was an esteemed teacher. He is best known for three major contributions:

One is the "The principle of natural, rather than supernatural, explanations for disease."
Four Humours; Hippocrates taught that disease is a natural process and that symptoms are reactions of the body to disease. He further emphasized that the chief function of the physician is to aid the natural forces of the body. With this principle, sick people ceased to be considered as sinners and sinners began to be thought of as sick people. Hippocrates emphasized that the body possessed its own means of recovery and that a healthy man was one in a balanced mental and physical state because of complete harmony of all the humors.

- Blood
- Phlegm
- Yellow bile
- Black bile


Hippocrates subscribed to the humoral theory of disease—a dominant approach for centuries. The humoral theory postulates that there are four natural elements in the world (air, earth, fire, and water) and four natural properties (hot, cold, dry, and wet). In the body the elements are blood (hot), phlegm (cold), yellow bile (dry), and black bile(wet). A person is healthy when these four humors are in balance and when the individual is in balance with the environment. Therefore, one seeks moderation in life so as not to upset the balance. Sickness is created by imbalance. These imbalances are detected by physical symptoms. A warm forehead (fever) indicates excessive heat; a runny nose is a sign of excessive phlegm. Appropriate cures seek to restore balance. For example, cold food was a remedy for heat-related diseases, and a very dry environment was created for the patient with excessive phlegm.

**Early Medieval Islam**

- Maintained and advanced Ancient Greek healing.
- Development of new ideas.
- Mix of different religions, cosmopolitan cities and wide geographic reach.

The commonwealth of Islam was founded in 622 by Mohammed. During the next 100 years, his followers conquered almost half of the world known at that time. By 1000, the Arab Empire extended from Spain to India. The Arabs were intensely interested in medicine: They built famous teaching hospitals, bestowed high prestige on private physicians, and basically served as the link between Greek medicine and Renaissance medicine (Magner, 2005).

**The Enlightenment**

- Scientific Explanation instead of religious explanations of health, illness and healing.
- Development of modern medicine.

The eighteenth century, the "Age of Enlightenment," is marked by efforts to collate the advancements of the preceding century and further refine knowledge in all fields including medicine. People perceived that they were living at a special time of rapid growth; more open intellectual inquiry; advancement in the arts, literature, philosophy, and science; and freer political expression.

**The Industrial Revolution**

- During 1700s.
- Large scale urbanization.
- Emergence of new health problems.

Many eighteenth- and nineteenth-century inventions stimulated a rapid growth in the iron and textile industries and led to the Industrial Revolution. Industrialization began in England and spread to the rest of Europe and the United States. The development of large industries with

many jobs pulled large numbers of workers into concentrated areas. The world was not prepared to deal with the consequences of this urbanization process. The cities that grew up around the industries were severely overcrowded, typically unsanitary, and often lacking safe procedures for food and water storage. These conditions produced a very unhealthy living environment.

**Up to Present**

- New challenges for health and healing.
- Infectious diseases.
- Social process led to health problems.

Attempts to interpret and explain the ascendancy of medical authority in the United States have followed various lines. Two contrasting approaches, that of Paul Starr and Vicente Navarro, are summarized here. Paul Starr emphasizes that medical authority ascended in the United States because the medical profession persuaded people that such power was in their best interest. Vicente Navarro contends that the profession of medicine and the health care system has evolved in ways determined by powerful groups.

## Topic 096: Evidence and Enquiry: An Overview of Sociological Research

**Sociological Research**

Research is integral to sociology. Research is a practical activity, requiring careful planning. Research has to be ethically sound.

**Importance of Research**

Allows for a scientific understanding of society. Adds empirical 'weight' to sociological analysis. Tests existing theories. Generate new theories.

**Types of Research**

- Qualitative Research- deals with words and meanings.
- Quantitative Research- deals with numbers and statistics.

**Data Collection Techniques**

- Interviews;
    - Structured- formal set questions in a predetermined order.
    - Semi-Structured- fluid approach.
- Focus Groups- Small interactive group of people discussing and commenting on questions.
- Ethnography and participant observation;
    - Deep hanging out' (Wogan 2004).
    - Immersion in group/situation of research.
    - Access to observing how people interact in their everyday environments and contexts.

**Analyzing Qualitative Data**

Identifying themes and coding the data. A cyclical process of refining and referring. Process stops when no refinement is possible or no new codes emerge.

**Ethics**

- Consent
- No physical and emotional harm
- Anonymity
- Privacy

## Topic 097: Places of Care

Place of care exert influence over the care and quality of life.

Two types of care:

- Institutional care.

- Community involvement.

**Care, Docile Bodies & Institutions**

- Institutionalization.
- Needs of institution create docility and compliance.
- Institutions can restructure self and identity.

**Critiques of institutions**

- Foucault– the 'mad' separated out from society.
- Panopticon instills new forms of control and surveillance.
- Moral' as opposed to 'physical' control.
- Scull – institutions meet the needs of capitalism.

**Goffman and Institutionalization**

- Total institutions.
- Mortification of self.
- Reorganization of self.
- Response to total institution.
- Patients' response to total institution;
    - Colonialization.
    - Conversion.
    - Withdrawal.
    - Intransigence.
    - Plying it cool.

**Community**

Community is used to mean many different social arrangements and interactions. Community usually provides informal care.

**Analyzing Qualitative Data**

Informal care is;

- Non-Institutional.
- Unpaid.
- Provided through bonds of kinship.
- Typically applied to those requiring long term care.

**The Body & Care**

The body is also symbolic and social. This can reorder pre-existing bodily interactions. Possible problems both for the person who is cared for and the carrier.

## Topic 098: Health Policy

Not simply the legislation passed by national governments. Dynamic process encompassing a variety of processes, institutions and social actors. Simple top-down models of policy formation.

**Health Policy Formation**

Health policy emerges out of a variety of influences including;

- Economics.
- Political ideology.
- Public opinion.
- National culture.
- Events.

**Political Ideology**

Collectivist;

- ❑ Public provision.
- ❑ Paid through general taxation.
- ❑ Social democratic.

Individualist;

- ❑ Private provision.
- ❑ Paid through individual insurance.
- ❑ Social conservative.

**Neoliberalism and Political Ideology**

- Dominant political and economic ideology.
- Market fundamentalism.
- Transform culture and individual subjectivity.

Critics;

- Fragmentation of society
- Alienation of people

**New Directions in Health Policy**

Focus on social structures rather than individual decisions for better health outcomes.

**Sociological Research Policy Suggestions**

- Changing how we perform and understand gender roles in society as a way of dealing with gender differences in health.
- Challenge and transform structural and institutional racism to reduce ethnicity and health inequalities.

## Topic 099: Sport, Health Exercise and Wellbeing

**Sport & Exercise**

Sport and exercise are not necessarily healthy in themselves. Sport and exercise are not 'neutral' activities but are bound into;

- Cultural traditions.
- Wider social norms.
- Social inequalities.

**Sport & the Civilizing process**

Sport assists in the control of violence in a society. As a society develops there is an increase in regulating the human body.

**Class & Sport**

Sport as a mechanism of social regulation and control of working-class. Sport provides a form of distinction between social classes.

- Habitus- the almost subconscious way, society shapes preferences and dispositions.

**Gender & Sport**

Sport and exercise are highly differentiated by gender. Sport plays a role in creating gender identities and bodily differences. Social norms of masculinity prevent players from admitting to injury.

**Ethnicity & Sport**

- Sport is 'double-edged' for black and ethnic minority groups;
  - Replicates existing social discriminations.
  - Provides one sphere for success & increased social status.
- Physical superiority and racism.

**Lesson 27**

## THEORIES, PERSPECTIVES AND CONCEPTS OF HEALTH-II
## TOPIC 100-103

### Topic 100: Death & Dying

**Death, Dying & the end of Narrative**

'There are various ways of dealing with the fact that all lives, including those of the people we love, have an end. 'Elias (1985)

**What is Death**

Death is a contestable state. Death and dying vary across time and space. Death and dying are very much bound into:

- Social processes.
- Cultural traditions.
- Historical time.

**Death Denying**

- Late-modernity excludes death from common discourse.
- Possible reasons for death denying culture;
  - Rationalization.
  - Medicalization.
  - Secularization.
  - Individualization.
  - Consumerism.

**Kubler Ross (1969) Stages of Death**

1. Denial.
2. Anger.
3. Bargaining.
4. Depression.
5. Acceptance.

**Critique of Kubler Ross**

- Professional misinterpretation of behavior.
- Lack of empirical research.
- Too linear.
- Orientated to American cultural norms.
- Perhaps more of a personal vision than academic thesis.

**Emotional Labor & Death**

- Working with dying people can involve emotional labor.
- Emotional labor refers to drawing on emotions as part of work.
- Can lead to burn out.
- Emotional labor in healthcare not fully understood.

### Topic 101: Health Technologies

- Societies use technology to improve health and wellbeing.
- Health technologies are an increasing presence within health and social care.
- Health technologies alter and transform social agents who interact with them.
- Pre-historic obsidian and flint scalpels.
- Toothbrush.
- Stethoscope.
- Just as much technology an MRI scanner or bionic limb.

**Analyzing Health Technologies**

Health Technologies are:
Difficult to discuss and analyze. Inherently good and progressive. Inherently bad and repressive. Very much depends on context and application.

**Actor-Network Theory**

Associated with Bruno Latour. Focuses on how power emerges through relationships. Technology is accorded the same importance as humans. Changes are dynamic with the technology & are able to exert change on humans.

**Social Media**

Platforms such as Facebook and Twitter are increasingly dominant. Thought of as a useful and powerful tool in spreading health messages. Could target difficult to reach groups. Knowledge in itself not enough to bring about change.

**Limits of Technology**

- Technology can be highly disruptive.
- Traditional jobs and forms of labor change by technology.
- Skills such as compassion and care may be harder to replace.
- And become even more important for health professionals.

## Topic 102: Health, Aging and the Life Course

**Understanding Old Age**

Old age and ill health are not synonymous, with the majority of older people living fit, healthy and active lives. Older people may be subject to ageist stereotyping and this can impact on identity and sense of self.

**Understanding Ageing**

Ageing emerges out of the interplay of society, biology and psychology. Experiences and perceptions of ageing are mediated by society and culture. Contemporary western society can offer highly negative images of older age.

**Health Technologies**

A set of beliefs originating in biological variation related to the ageing process. The actions of corporate bodies and their agents and the resulting views of ordinary people.

**Theories of Ageing**

1. Disengagement theory

The 'disengagement theory' explained that there has been a gradual withdrawal of older people from their social roles and both society and older people were preparing to dissociate from one another. Such disengagement might be functional in the sense that older people retreated and provided the younger generations the space, power and opportunity to manage society.

2. Dependency theory

This means that the state determines the age of retirement and the onset of pension. In other words, older people are structurally made to leave their former work activities and, consequently, must depend on the state in order to survive. As explained above, one of the social groups that are likely to be below the poverty line is that of people older than the age of 65. This was the case since older people were made to abandon the labour force and were forced to become dependent on a low pension through which they were expected to manage their financial needs. However, limited financial means may have left many older people socially inactive, or at least not as active as they would like to be. Such a structural approach to old age has led to a form of discrimination against the elderly in the sense that emphasis and value have been placed on younger generations.

3. Third Age theory

**Life Cycle or Life Course**

Life cycle implies a static set of phases that are passed through by everyone and that are outside their control. Life course implies a fluid approach to passing through life where the individual has more agency to act and do as they want.

**Health & the Life Course**

- Historical time: the circumstances in which they lived and the attitudes they hold.
- Biographical time: the events and experiences that shaped their particular life.
- Good and bad experiences are 'recorded' on the body.

**Painful & Disabled Joints**

Normal part of biography for older people. Consequence of old age and/ or personal history. Aspiration to positive ageing result in 'playing down' of symptoms.

**Dementia & Social Health**

The body without the self. Clinically/ biologically defined life but a socially accepted death. Responses of careers to social death;

- Accepting but not behaving.
- Accepting and behaving.
- Not accepting and not behaving.

## Topic 103: Ethnicity, Migration and Health

Minority groups display an ill-health burden. Mainly to do with socio-economic factors, the effects of racism & negative experiences of medical & health services. Highly contentious concept with no basis in science. All humans are virtually genetically identical. Using 'race' as a way of differentiating between people emerges out of social and historical processes.

**Understanding Race**

Highly contentious concept with no basis in science. All humans are virtually genetically identical. Using 'race' as a way of differentiating between people emerges out of social and historical processes.

**Understanding Ethnicity**

Ethnicity is dynamic and fluid, and not static. Ethnicity can be one of many aspects of a person's identity. Refers to the cultural practices of a group of people. However, it can act as 'code' for race.

**Ethnicity & Class**

Class is an important issue in ethnicity and health inequalities. Ethnic minorities are found in the lowest paid jobs and in poverty. People with manual occupations will have worse health than those with non-manual occupations in the same ethnic group.

**The Effects of Racism**

- A daily occurrence.
- Wide and far-reaching consequences.
- Racism underlies all aspects of ethnic health, impacting on mental and physical health.
- Everyday tasks can become fraught with risk and stress.

**Institutional Racism**

The collective failure of an organization to provide an appropriate & professional service to people because of their color culture or ethnic origin.

**Lesson 28**

## THEORIES, PERSPECTIVES AND CONCEPTS OF HEALTH-III
## TOPIC 104-107

### Topic 104: Sexuality and Health

**Understanding Sexuality**

- Everyone has a sexuality.
- Diverse forms of sexualities
- Issues of sexuality apply to everyone.
- Sexualities are socially constructed

**Homophobia & Heteronormative**

**Homophobia** refers to negative attitudes, discrimination and prejudice against lesbian, gay, bisexual and transgendered people on the grounds of their sexual orientation. **Heteronormative** refers to the primacy and dominance of heterosexuality (straight) in society that marginalizes other sexualities.

**Health & LGBT People**

- HIV/ AIDS
- Mental health.
- Ageing.
- Use of services.
- Alcohol and substance use.
- Other forms of social inequalities also relevant.

**Use of Services**

- Barriers exist for LGBT people in using health and social care services.
- Repeat 'outing' can be problematic and emotionally demanding.
- Heteronormative assumptions.
- Lack of specific LGBT services.

**LGBT People & Ageing**

- Emphasis on youth in LGBT culture can stigmatize older LGBT people.
- Existing social prejudice
- Longer personal narrative of discrimination and prejudice.
- Poverty.
- Lacking support

**Mental Health**

Higher instances of mental health issues among LGBT people. Crucially it is society's attitudes and not being gay in itself that is behind the increased incidence rates. Issues associated with coming out. Encounters with day-to-day prejudice.

**Alcohol and Substance Use**

Higher rates of alcohol and substance use among LGBT people. The cause is to be found in wider societal homophobic attitudes. Research into alcohol use tends to recruit from commercialized gay villages in urban settings, which may skew findings.

### Topic 105: Inequality & Health

The more equal a society is the better the health of that society. The more unequal a society the worse the health of that society. Inequality leads to health problems by creating a fragmented, less cohesive society.

**Global Inequality**

The gap between the global wealthiest 1% and everyone else is widening. There is nothing natural or inevitable about inequality. Inequality has grown due to changes in the labor market, government policy and the expansion of finance capital.

**Wilkinson & Pickett (2009)**

- Unequal societies create a toxic society.
- Alienation.
- Fragmentation.
- Lack of social cohesion.
- Social problems are translated into health problems via psycho-social pathways.

**Roseto (Wilkinson 1996)**

- Roseto, Pennsylvania, USA.
- Mid-1930s deaths from heart disease were 40% lower than elsewhere.
- Diet, smoking and exercise not factors.
- Strong social cohesion appears to be the most likely explanation.

**Marmot (2015)**

Society disempowers people:

    - Material disempowerment.
    - Psychosocial disempowerment.
    - Political disempowerment.
- People should be allowed to live a life that they value.

**Respiratory Diseases - Causes**

The World Bank estimates that Pakistan's annual burden of disease due to outdoor air pollution accounts for 22000 premature adult deaths while that for indoor pollution accounts for 40 million cases of acute respiratory infections and 28 000 deaths/year. Lastly, working condition may also contribute in exposing individuals to various health risks related to respiratory diseases.

## Topic 106: Gender and Health

**Understanding Gender**

Gender is a social construct. How it is to be a man or a woman shapes and conditions behaviors and attitudes and in turn health and wellbeing.

**Gender & Health**

Men and women have different and similar experiences of health and healthcare. Globally women can experience worse health than men. Higher rates of HIV/AIDS.

**Theories of Gender**

In sociology gender is not understood as an essential fixed point of reference. What it is to be a man or women varies across time and across cultures. Gender orders can change rapidly.

**Butler (1990) & Gender**

For Butler gender is not a natural static entity. It emerges through the performance of social respects. That performance becomes so commonplace that the performance can be mistaken for being natural.

**Connell's (2005) Gender Hierarchy**

- Hegemonic Masculinity.
- Complicity Masculinity.
- Subordinated Masculinity.
- Subordinated Femininities.

**How does Gender Shape Health?**

For women and men their place in the gender hierarchy affects health. Depends on location in the globe. Difference also by class and ethnicity.

**Men & Health**

Living up to expectations of hegemonic masculinity can make it difficult for men to talk about feelings or seek help. Especially problematic for issues of mental and emotional wellbeing. Can lead to violent behaviors and unsafe risk taking.

**Women & Health**

Meeting the requirements of emphasized femininity can lead to body issues. Women's weaker economic and social position can lead to heightened risk of HIV/AIDS. Sexual, emotional, physical and domestic violence are a risk for women.

**Changing Gender Health Inequalities**

Two possible approaches:

1. Either work with and through existing gender constructs.
2. Radical transformation of the gender order and the root cause of gender health inequalities.

## Topic 107: Emotional Distress

**Mental Health & Distress**

Mental Health is framed in and by society. Attitudes of people and society affect the well-being of those experiencing distress. Social inequalities also contribute in mental health problems.

**Contribution of Sociology**

Highlights the importance of;

- Social process in defining the categories and boundaries of mental disorder
- Factors that give rise to mental disorder
- Mental health practice
- Professionals and others who shape the practice

**Madness & Civilization**

All societies recognize some form of mental illness

**Contribution of Sociology**

Two pitfalls:

- Biological determinism
- Cultural determinism

**The Other**

Society constructs and stigmatized various groups of people as being:

- Different
- Dangerous
- Threatening
- Criminal

**What is Stigma?**

An attribute that is 'deeply discrediting'

Goffman notes three types of stigma;

- Physical deformities
- Character blemishes
- Tribal (social)

**Causes of Depression**

Brown and Harris' (1978) classic study on social causes of depression;

- Vulnerability factors
- Provoking factors
- Symptom formation factors

**Lesson 29**

# SOCIOLOGY AND REPRODUCTIVE HEALTH-I
# TOPIC 108-111

## Topic 108: Population and Reproductive Health

### World Population

More than 7.8 billion people.

Concerns;

- Demographic divide between poor & rich nations
- Differences in women's health status
- Unequal access to contraception and safe abortion
- Environmental degradation

### Reproductive Health

A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity in all matters related to the reproductive system and to its functions and processes (WHO). 22 million sexually active women lack access to contraception.

### Population & Reproductive Health

Rapid growth countries have young populations;

- Often scarce reproductive health services
- Example of Uganda with 6 to 7 births per woman
- Contraceptives used by a quarter of women

Rich countries have less population growth;

- Higher contraceptive prevalence
- Much higher child survival

### Human Population Growth

Population size determined by;

- Fertility
- Mortality
- Migration

### Fertility Control

Universal demand for family size limitation. History shows wide range of practices;

1. Delayed marriage
2. Infanticide
3. Contraception
4. Abortion

## Topic 109: Measuring Populations: Mortality, Fertility and Migration

### Tools of Demography

- Data and measures
- Size, change, and structure of populations

Three components of population;

- Mortality
- Fertility
- Migration

### Population Data

Costly and usually generated by governments;

- Researchers perform secondary data analysis

Sources of population data;

- Census data
- Registration systems

- Survey data

**Components of Change**

- Mortality
- Fertility
- Migration

**Measures of Mortality**

- Crude death rate or CDR (global range: 1-17)
- Age specific mortality rates;
  - Take into account the age structures of populations
  - Infant mortality rate most common (range: 2-131)
  - Life expectancy at birth

**Measures of Fertility**

- Crude Birth Rate (CBR): range 6-46
- General Fertility Rate
- Age specific fertility rates

**Measures of Migration**

- Migration difficult to measure than mortality or fertility
- Domestic vs. International Migration
- Stock and Flow of Migration
- Net Migration;
  - In-migration - Out-migration

## Topic 110: Measuring Reproductive Health

**Understanding Reproductive Health**

State of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes (WHO).

**Implications of Reproductive Health**

- Satisfied and safe sex lives
- The capability to reproduce as well as the freedom of its decision
- Access to appropriate reproductive health (RH) care services

**Reproductive Health: Challenges**

The challenges in measuring RH are;

- Related to sexual life
- Reproductive health ignored due to women's low status in many locales

**Components of Reproductive Health**

Sexual Behavior;

- Important because sexual activity is precursor for nearly all reproductive health outcomes

Common measures;

- Age at menarche
- Age at sexual initiation
- Frequency and type of sexual activity

**Sexually Transmitted Infections**

- Important because transfer through sexual activities and can affect fertility
- Contraceptive Use;
  - Contraceptive Prevalence
  - Contraceptive Effectiveness
- Child Mortality;
  - Stillbirth

- Infant mortality
- Neonatal mortality
- Perinatal mortality
- Under 5 mortalities

- Maternal Mortality;
  - 99% maternal deaths in developing countries
  - Major causes include
  - Hemorrhage
  - Eclampsia
  - Obstructed labor

**Antenatal Care**

Antenatal care is important to;

- Monitor the pregnancy
- Detect and treat complications early
- Prevent diseases through immunization & nutrition
- Communicate health messages about the delivery and newborn care

## Topic 111: Contraceptive History and Practice

**Understanding Contraception**

Intentional avoidance of pregnancy through the use of various devices, agents, drugs, sexual practices, or surgical procedures. Another name for contraception is birth control

**History of Contraception**

Ancient Egypt

- Used lactic acid, now found in modern contraceptive jellies

Ancient Greeks;

- Silphium
- Herbal contraceptives and abortifacients
- Abortion was viewed with "conflicting attitudes"
- Greek knowledge of birth control was passed on to the Romans

**Other Ancient Cultures**

- Varied contraceptive practices by regional customs in early Christians
- Valid recorded contraceptive information in ancient Islamic world
- Early Islamic writings were more accurate than early Christian writings
- Ancient India, rock salt used as a spermicide

**Contraception in Modern Ages**

By the end of 18th century, Europeans began to recognize population growth & accompanying poverty as problems.

**Developments in 19th Century**

- 1800s;
  - Coitus interruptus
  - Lactation
  - Abortion
- 1830s;
  - Public Lectures
  - Paid Ads
  - Additional Methods

**Reversible Contraceptive Methods**

- Intrauterine methods
- Hormonal methods
- Barrier methods

- Fertility awareness-based methods
- Lactational amenorrhea
- Coitus interruptus (withdrawal)

**Permanent Contraceptive Methods**

Male sterilization

- Vasectomy

Female sterilization;

- Tubal Ligation
- Other Methods

**Lesson 30**

## SOCIOLOGY AND REPRODUCTIVE HEALTH-II
## TOPIC 112-114

### Topic 112: Abortion and Reproductive Health

**Abortion: Definition & Types**

A pregnancy not resulting in live birth or stillbirth.

**Types of Abortion**

1. Miscarriage (spontaneous abortion)
2. Deliberate termination
    - Medical abortion (pharmacological)
    - Surgical procedure

**Incidence, Numbers & Safety**

Globally;

- 1 in 5th pregnancies end in abortion
- 44 million abortions
- Half of these are unsafe
- 47,000 maternal deaths
- 13% of maternal mortality

**Abortion: Trend**

Usage of herbal abortifacients and menstrual-regulating practices in old times

**Determinants of Abortion**

- Unintended Pregnancy
- Contraceptive Failure
- Individual determinants include;
    - Delay or end childbearing
    - Interruption in education or job
    - Financial issues
    - Unstable relationship or sexual violence
    - Sex-Selection Abortion in Asia

**Safe & Unsafe Abortion**

Abortion is a safe procedure if carried out early in pregnancy by a trained provider in sanitary conditions. Half of world's abortions are unsafe. Africa has the highest mortality from abortion. East Central Asia (65% abortions unsafe)

**Abortions Techniques**

- Surgical methods;
    - Vacuum aspiration
    - Manual vacuum aspiration (MVA)
    - Dilation and curettage (D & C)
- Menstrual Regulation
- Medical abortion (pharmacological)

**Conclusion**

Abortion is a key aspect of reproductive health Response to unwanted pregnancy. Higher rates where contraceptive use is low. Unsafe abortion is a global health problem.

### Topic 113: Benefits of Family Planning

**Global Contraception**

Global contraceptive revolution since 1970s;

- Increased effectiveness and types of birth control
- Women's education and labor force participation

**Types of Contraceptive Method**

Modern (examples);

- Sterilization (female and male)
- Birth control pills
- IUDs
- Hormonal patch or injection

Traditional (examples);

- Periodic abstinence or rhythm or natural
- Withdrawal

**Unmet Need of Contraception**

Contraception Prevalence Rate- Number of women of reproductive age using contraception per 100 women;

- Less than 20% in African countries

Unmet need of contraception- Number of women who do not want to become pregnant, but not using contraception;

- Global unmet need estimated at 222 million

**Unintended Pregnancy & Induced Abortion**

- Unplanned births are either birth which are;
  - Mistimed
  - Not wanted at all
- Unintended Pregnancy is the root cause of Induced Abortion

**Benefits of Contraception**

- Birth spacing and limiting
- Breast feeding and birth spacing
- Preventing sexually transmitted infection
- Reduced Risks for Females;
  - Obstructed labor & fistula for females younger than 18 years
  - Hypertension, preeclampsia and diabetes for females above 35 years

Reduced Maternal Mortality;

- If only women aged 18-35 delivered offspring, global maternal mortality reduced by 20 to 25%

Improved Child Health;

- Contraception saves lives by spacing births
- 36–59-month birth interval is optimal

**Benefits of Girls' Education**

- Critical trigger for reducing high fertility
- Educated women;
  - Marry later,
  - Have greater access to contraception,
  - Use family planning more effectively,
  - Have greater autonomy in decision-making on reproductive issues

## Topic 114: Women's Status and Reproductive Rights

**Gender Inequalities**

Gender inequalities remain entrenched in every society;

- Occupational segregation and gender wage gaps
- Lack of access to education and health care
- Violence and discrimination
- Under-representation in politics

**Global Status of Women**

- Poorer Status
- Less educated;
  - 10 million more girls than boys not in school.
- Much less likely to own property
- Susceptible to violence
- More likely to be victims of human trafficking;
  - Sexual exploitation and forced labor

**Signs of Progress**

- Increasing number of girls being educated
- FMG is gradually decreasing
- More women heads of state
- Women comprise almost 1/5 of legislators

**Sexual & Reproductive Health**

- Child marriage (< 18 years) is a risk to sexual and reproductive health
- Increased health risks for very young mothers;
  - Obstetric fistula
  - Offspring of very young mothers do not fare as well.
- Girls' education determines better reproductive health outcomes

1. The freedom to decide how many children to have and when to have them
2. The right to have the information and necessary means to regulate one's fertility
3. The right to control one's own body

**Evolution of Sexual & Reproductive Rights**

- Developed from human rights precepts;
  - Mary Wollstonecraft
  - A Vindication of the Rights of Women (1792)
  - Called a feminist declaration of independence
- Women's rights liberation movement (19th and 20th centuries)

**Sexual & Reproductive Rights**

- UN Fund for Population Activity supports ICDP
- ICDP holds great importance because;
  - Links population and development
  - Women empowerment and reproductive health required for "balanced development"
- Reproductive health replaces family planning
- ICDP Implementation Problems;
  - Lack of reproductive health funding.
  - Too many disparate implementers of reproductive rights programs
- What is needed;
  - Feminists to recognize population issues.
  - Widespread alliances to extend sexual and reproductive health services

**Lesson 31**

# SOCIOLOGY AND REPRODUCTIVE HEALTH-III
# TOPIC 115-117

## Topic 115: Population and Reproductive Health Policies

### Population & Reproductive Policies

These are legal practices that focuses on;

- Reduction in the rate & incidence of unwanted fertility

Population and reproductive policies are legal practices that focuses on;

- Reduction in demand for large-size families
- Greater investment in adolescents to tackle the population momentum problem
- Sound maternal and child health

### Contraception or Birth Control

- Different herbs were used for birth control in ancient times
- The contraception methods disappeared in 1350s due to;
  - Massive instability by black plague
  - Midwives replaced by male medical profession not as informed or interested in contraception
- By the end of 18th century, Europeans began to recognize population growth & accompanying poverty as problems.
- Thomas Malthus (1766-1834) studied population growth but considered contraception immoral

### English Contraception Movement

Frances Place disagreed with Malthus and Initiates English Birth Control Movement in 1822. Published and distributed contraceptive brochures in 1823 which raised interest of contraception among people

### Social Purity Movement & Comstock Laws

- In response to increased interest among people for contraception social purity movement was started and Comstock laws were introduced.
- Social Purity movement included groups opposed to contraception and abortion

### Comstock Laws

Federal Comstock laws passed in 1873. Set the stage for separation of contraception from other medical care. Prohibited interstate trading of literature or any materials related to birth control. 22 states passed similar legislation in 15 years;

- 14 states prevented the verbal transmission of information about birth control
- 11 states made possession of information about pregnancy prevention a criminal offense
- 4 states authorized search and seizure of contraceptive instructions

### Social Activism & Population & Reproductive Policies

- (1914) Margaret Sanger Social Activist jailed for distributing contraceptive information
- (1916) jailed again for opening a birth control clinic
- (1918) Population and reproductive policies were introduced
- 1918) NY Court of Appeals rules that physicians can prescribe contraception to cure or prevent disease

### Population & Reproductive Policies

(1937) One Package decision;

- Largely invalidated the 1873 federal Comstock law
- Opened the mails for contraceptives for physicians

**Population & Reproductive Policies: Pakistan**

Lady Health Worker Programs. Female community health workers servicing in rural areas for providing contraceptive services for child spacing reducing the incidence of unwanted fertility and sound child and maternal health.

## Topic 116: Maternal and Child Health as Social Problem

**Maternal Health**

Maternal health is the health of women during pregnancy, childbirth, & the postpartum period. Maternal Health encompasses;

- Family planning
- Preconception
- Prenatal
- Postnatal care

**Child Health**

Child's health, or pediatrics, focuses on the well-being of children from conception through adolescence. Child health focuses on children's growth and development.

**Maternal & Child Health**

Maternal and child health is one of the significant components of family welfare. The health of both mother and child are interconnected.

**Maternal & Child Health: Issues**

- Maternal Age
- Sexuality Issues
- Gender
- Nutrition Factors
- Life Style Issues
- Socio- Cultural Factors
- Psychological Factors

**Maternal & Child Health: Pakistan**

- Poor delivery system
- Weak infrastructure
- Low spending in health
- Anemia is the prominent cause of maternal and child mortality
- Pakistan's spending on nutrition is the lowest in South Asia

## Topic 117: Adolescent Health

It is the range of approaches to preventing, detecting or treating young people's health and well-being. Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19.

**Adolescent Health: Importance**

- Unique stage of human development including mental process & adult identity
- Important time for laying the foundations of good health
- Rapid physical, cognitive and psychosocial growth
- Sexual Maturity
- Menstruation & Pregnancy

**Adolescent Health: Worldwide**

- Adolescents represent over 16% of the world's population
- Over 3,000 adolescents die every day
- Road traffic is the major global cause of adolescent mortality
- 777,000 adolescent girls give births in low- and middle-income countries annually

**Adolescent Health: Pakistan**

10.56% adolescents in Pakistan

Major causes of adolescent mortality;

- Road injury
- Interpersonal violence
- Tuberculosis
- Lower respiratory Infections
- Diarrheal diseases

**Adolescent Health: Physical Growth**

Skeletal growth;

- Secondary growth spurt
- 25% of adult height

Body composition;

- Weight gain
- Increase in adipose tissue in girls
- Increase muscle mass in boys 15

**Adolescent Health: Psychological Growth**

- Less interest in parental activities
- Mood swings
- Intense relationship with same & opposite sex friends
- Increased cognition
- Increased need for privacy
- Lack of impulse control
- Increased intellectual ability.
- Risk- taking behavior

**Adolescent Health: Sexual Growth**

| Girls | Boys |
|---|---|
| Breast Bud (8-12 years) | Testicular Enlargement (9 years) |
| Pubic Hair (11-14 years) | Pubic Hair (10-15 years) |
| Growth spurt (10 years) | Enlargement of larynx, pharynx |
| Menarche (9-16 years) | Weight & Muscle Gain |
| Ovaries enlargement | Facial & Body Hair |

**Adolescent Health Problems**

Nutritional Problems;

- Undernutrition
- Iron deficiency
- Obesity eating disorder

Reproductive problems;

- Teenage pregnancy
- Abortion related problems
- Acne
- Reproductive tract infections
- Irregular menstrual cycles
- Vulvovaginitis and Urologic issues
- STIs

Mental Health Problem;

- Depression& suicide
- Psychosis
- Mania
- Conduct disorder
- Anxiety disorder

Behavioral problems;

- Drug experimentation
- Substance abuse - tobacco, alcohol, illicit drug
- Risk behavior-having knife, rods, rash driving
- Violence
- Bullying

**Adolescent Heath: Social Factors**

- Parents perceptions, awareness about adolescent health
- School drop outs
- Less female literacy
- Economically weaker society
- Neglected need of health seeking behavior

**Lesson 32**

## SOCIOLOGY AND REPRODUCTIVE HEALTH-IV
## TOPIC 118-120

### Topic 118: Determinants of Reproductive Health

**Reproductive Health:**

- Reproductive health refers to the condition of male and female reproductive systems during all life stages.
- Reproductive health is an essential component of general health

**Reproductive Health: Components**

- Safe motherhood
- Fertility Regulation
- Prevention & Control of Reproductive tract Infections
- Sexually Transmitted Diseases
- Infertility
- Malignancies of reproductive tract
- Newborn Care

**Reproductive Health: Determinants**

**Age;**

- The quality and quantity of a woman's eggs begin to decline with increasing age
- Higher risks for pregnant females younger than 18 or elder than 35 years

**Education;**

- Educated people have better access to health information and have better health status

**Poverty and Income;**

- Low-income women have poor status and poor reproductive health indicators

**Geographic Location;**

- Women residing in urban areas have better status of reproductive health than those living in rural areas

**Contraception;**

- Reduces the risk of Sexually Transmitted Infections (STIs)
- Reduced reproductive health risk by child spacing

**Sexual Orientation;**

- Having more sexual partners increases risk of STIs

**Lifestyle Choices that affect reproductive Health;**

- Nutrition
- Weight
- Exercise
- Psychological Stress
- Environmental and Occupational Exposure

**Substance Use;**

- Negatively influence fertility and reproductive health.
- Damages cervix and fallopian tubes, increases risk of miscarriage and ectopic pregnancy

**Access to healthcare;**

- Better access to healthcare, better reproductive health

**Reproductive Health: Dangers**

Conditions that harm female reproductive system;

- Endometriosis
- Uterine Fibroids

- Gynecologic Cancer
- HIV/AIDS
- Interstitial Cystitis
- Polycystic Ovary Syndrome (PCOS)
- Sexually Transmitted Diseases (STDs)

## Topic 119: Sexually Transmitted Diseases

Sexually Transmitted Diseases (STDs) or Sexually Transmitted Infections (STIs) are a group of communicable diseases that are transmitted predominantly by sexual contact and caused by a wide range of bacterial, viral, protozoal & fungal agents & ectoparasites.

**Sexually Transmitted Diseases: Transmission**

- Sexual Activity
- Transmission from mother to baby during childbirth
- Breast Feeding
- Sharing equipment like intravenous needles
- Exchange of bodily fluids

**Sexually Transmitted Diseases: Agents**

1. Bacterial agents
2. Viral agents
3. Protozoal agents
4. Fungal agents
5. Ectoparasites

**Sexually Transmitted Diseases: Global Burden**

- More than 1 million STIs are acquired every day worldwide
- 376 million new infections each year
- More than 500 million people have genital infection with herpes simplex virus (HSV)
- 38.0 million people were living with HIV at the end of 2019
- True incidence will never be due to;
    - ❑ Inadequate reporting
    - ❑ Stigma attached
    - ❑ Secrecy attached
    - ❑ Most STDs have no or very mild symptoms

## Topic 120: HIV AIDS and Reproductive Health

**Understanding HIV**

- The human immunodeficiency virus (HIV) targets the immune system and weakens people's defense against many infections and some types of cancer.
- Destroys and impairs the function of immune cells, making infected individuals immuno-deficient.

**HIVAIDS**

- Most advance stage of HIV infection is acquired immunodeficiency syndrome (AIDS)
- Take many years to develop if not treated
- Defined by the development of certain cancers, infections or other severe long term clinical manifestations

**HIV AIDS: Symptoms**

- Influenza like illness or no symptoms in initial stage
- Varying Symptoms in later stages like swollen lymph nodes, weight loss, fever, diarrhea and cough
- Severe illness development including tuberculosis (TB), cryptococcal meningitis and cancers

**HIV AIDS Transmission**

- Exchange of body fluids;
  - Blood
  - Breast milk
  - Semen
  - Vaginal Secretions
- Mother to child during pregnancy
- Cannot be transmitted through ordinary contact

**HIV AIDS: Risk Factors**

- Unprotected sex
- Having other STI/ STD
- Sharing contaminated injecting equipment
- Unsafe fluid transfusions
- Accidental needle stick injuries

**HIV AIDS & Reproductive Health**

- AIDS is inexorably linked to reproductive health and care
- HIV tends to infect those who are in their reproductive years
- HIV potentially affects all the dimensions of women's sexual and reproductive health
- Biological changes caused by HIV;
  - Affect the function of reproductive organs
  - Result in infertility
  - Cause psychological trauma
  - Decrease in sexual drive and sexual activity

**Lesson 33**

# COMMUNICABLE/NON-COMMUNICABLE DISEASES-I
# TOPIC 121-125

## Topic 121: Introduction to Immunization and EPI

**Immunology & Immunity**

- Immunology deals with complex defense mechanism of the body and also with equally complex invading agent.
- Immunity is the defense mechanism of the body

**Natural Immunity**

- Resistance offered by the body under the normal condition without any external stimulation of previous infections

**Non-Specific & Specific Immunity**

- Non-specific or innate immunity is present in all the living beings irrespective of their stage in evolution and initiated immediately.

**Specific or Acquired Immunity**

- Active Immunity;
  - Antibodies are formed in persons own tissues
  - Natural active acquired immunity
  - Artificial active acquired immunity
- Passive Immunity;
  - Antibodies are induced in persons
  - Passive acquired immunity
  - Herd Immunity

**Artificial Immunization**

- It is a procedure adopted for inducing artificial immunity by inducing antigens or prepared antibodies.

**Expanded Programme of Immunization (EPI)**

- The World Health Organization (WHO) initiated EPI in May 1974
- Vaccinate children aged 0-15 months against ten Vaccine Preventable Diseases
- Pregnant women aged 15-45 years against Tetanus

**Ten VPDs**

- Childhood Tuberculosis (TB)
- Polio
- Diarrhea
- Pneumonia
- Tetanus
- Pertussis (Whooping Cough)
- Hepatitis-B
- Meningitis
- Diphtheria
- Measles

**EPI: Goals**

- To ensure full immunization of children
- To globally eradicate poliomyelitis
- To reduce maternal and neonatal tetanus
- To cut in half the number of measles-related deaths
- To extend all new vaccine and preventative health interventions to children

**EPI: Children Immunization Schedule**

| Disease | Causative agent | Vaccine | Doses | Age of administration |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Childhood TB | Bacteria | BCG | 1 | Soon after birth |
| Poliomyelitis | Virus | OPV | 4 | OPV0: soon after birth<br>OPV1: 6 weeks<br>OPV2: 10 weeks<br>OPV3: 14 weeks |
| | | IPV | 1 | IPV-I: 14 weeks |

| Disease | Causative agent | Vaccine | Doses | Age of administration |
|---|---|---|---|---|
| Diphtheria<br>Tetanus<br>Pertussis<br>Hepatitis B<br>Hib pneumonia and meningitis | Bacteria<br>Bacteria<br>Bacteria<br>Virus<br>Bacteria | Pentavalent Vaccine (DTP+Hep B+Hib) | 3 | Penta1: 6 weeks<br>Penta2: 10 weeks<br>Penta3: 14 weeks |

| Disease | Causative agent | Vaccine | Doses | Age of administration |
|---|---|---|---|---|
| Measles | Virus | Measles | 2 | Measles1: 9 months<br>Measles2: 15 months |
| Diarrhea due to rotavirus | Virus | Rotavirus | 2 | Rota 1: 6 weeks<br>Rota 2: 10 weeks |

**Tetanus Toxoid (TT) Schedule for Women**

- TT1- At first contact or as early as possible during pregnancy
- TT2- 4 weeks after TT1
- TT3- 6-12 Months after TT2
- TT4- At least 1 year after TT3
- TT5- At least 1 year after TT4

## Topic 122: Coronavirus

Coronaviruses are a family of viruses that can cause respiratory illness in humans. Severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS) and the common cold are examples of coronaviruses.

**COVID-19**

- New strain of coronavirus, COVID-19, was first reported in Wuhan, China in December 2019
- Declared pandemic on 11 March, 2020
- Has been spread to all continents

**Covid-19: Symptoms**

Most common symptoms;

- fever
- dry cough
- Tiredness

Less common symptoms;

- aches and pains
- sore throat
- diarrhea
- conjunctivitis

- headache
- loss of taste or smell
- a rash on skin, or discoloration of fingers or toes

**Covid-19: Transmission**

- Droplets generated when an infected person coughs, sneezes, or exhales
- Breathing in the virus
- Touching a contaminated surface and then your eyes, nose or mouth

**Covid-19: Vaccines**

- The Beijing Institute of Biological Products, Sinopharm vaccine
- The CanSino Biologics Inc., Beijing Institute of Biotechnology vaccine
- The University of Oxford, AstraZeneca vaccine
- The Gamaleya Research Institute, Sputnik V vaccine

## Topic 123: Poliomyelitis

Poliomyelitis is an infectious disease caused by the poliovirus. It moves from the gut to affect the central nervous system causing muscle weakness and flaccid paralysis.

**Poliomyelitis: Symptoms**

- Fever, headache, stiffness of neck & spine, weakness & flaccid paralysis of voluntary muscles
- Some degree of permanent crippling involvement of the respiratory failure

**Poliomyelitis: Causes and Transmission**

- Three types of causative agent: I, II, III.
- Oro-pharyngeal secretions & faeces of infected person transmit the disease
- 7-21 days incubation period

**Methods of Control**

- Preventive Environmental Control of Infected Persons, Contacts, Environment
- Notification to local health authority
- Isolation of patients for 6 weeks
- Concurrent disinfection of discharges
- Terminal disinfection
- Quarantine of infective contacts for 3 weeks

**Poliomyelitis: Treatment**

Epidemic Measures;

- Isolation
- Education
- Mass

**Global Eradication**

- WHO Global Programme for polio eradication
- Children under 5 are immunized
- Pakistan and Afghanistan are the only two countries with polio as endemic.

## Topic 124: Viral Hepatitis

Viral hepatitis is a systemic disease with primary inflammation of the liver by any one of a heterogeneous group of hepatotropic viruses.

- ❑ HAV
- ❑ HBV
- ❑ HCV
- ❑ HDV
- ❑ HEV
- ❑ Herpes simplex

- Cytomegalovirus
- Epstein–Barrvirus
- Yellow fever

**Viral Hepatitis: Transmission**

- Hepatitis A (HAV) and E (HEV);
  - Contaminated food & water
- Hepatitis B (HBV), C (HCV) and D (HDV);
  - Sexual contact
  - Mother-to-child transmission
  - Unsafe injecting practices
- Route of Transmission;
  - Fecal-oral
  - Vertical
  - Parenteral
  - Sexual

**Viral Hepatitis: Preventive Measures**

- Vaccination
- Safe sexual activity
- Adequately sterilized medical equipment
- Hepatitis testing and counselling services
- Awareness Programmes

**Viral Hepatitis: Prevention**

- Pre-Exposure Prophylaxis for people;
  - Not immune to Hepatitis
  - Not currently or previously infected with Hepatitis
- Two Vaccinations;
  - Plasma Derived
  - Recombinant DNA derived

**Viral Hepatitis: Global Burden**

- 325 million infected people worldwide
- 1.5 million deaths annually
- 5 million people affected with hepatitis B and C in Pakistan
- Pakistan has the second largest burden of hepatitis C with a prevalence of 4.8%

## Topic 125: Tuberculosis

- Tuberculosis (TB) is a potentially fatal contagious disease that can affect almost any part of the body but is mainly an infection of the lungs.
- It may spread to any part of the body including meninges, kidney, bones and lymph-nodes

**Tuberculosis: Symptoms**

- Constitutional symptoms;
  - Anorexia
  - Low grade fever
  - Night sweats
  - Fatigue
  - Weight loss
- Pulmonary symptoms;
  - Dyspnea
  - Bronchopneumonia
  - Chest tightness

- ❑ Nonproductive cough
- ❑ Mucopurulent sputum
- ❑ Chest pain

- Severe Symptoms;
  - ❑ Persistent cough
  - ❑ Chest pain
  - ❑ Coughing with bloody sputum
  - ❑ Shortness of breath
  - ❑ Urine discoloration
  - ❑ Cloudy & reddish urine
  - ❑ Fever with chills
  - ❑ Fatigue

**Tuberculosis: Risk Factors**

- Close contact with infected person
- Immuno compromised status
- Drug abuse and alcoholism
- Lacking adequate health care
- Co-morbidities
- Immigrants
- Institutionalization
- Living in substandard conditions

**Tuberculosis: Preventive Measure**

- Mask
- BCG vaccine
- Regular medical follow up
- Isolation of Patient
- Ventilation
- Natural sunlight
- UV germicidal irradiation

**Tuberculosis: DOTS**

- Directly observed treatment (DOTS)- tuberculosis control strategy recommended by the WHO
- The most cost-effective way to stop the spread of TB in communities with a high incidence is by curing it
- The best curative method for TB is known as DOTS
- Five components of DOTS;
  1. Government commitment
  2. Case detection
  3. Standardized treatment regimen
  4. A regular drug supplies
  5. A standardized recording and reporting system

**Global Burden**

- One of the top 10 causes of death
- 10 million people fell ill with TB in 2019
- Present in all countries and age groups
- India leading the count, followed by Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh and South Africa

**Lesson 34**

## COMMUNICABLE/NON-COMMUNICABLE DISEASES-II
## TOPIC 126-130

### Topic 126: Cancer

- Uncontrolled growth and spread of cells that arises from a change in one single cell
- The change may be started by external agents and inherited genetic factors
- Can affect almost any part of the body
- Transformation from a normal cell into a tumor cell is a multistage process

**Cancer: Causes**

- Physical carcinogens- ultraviolet and ionizing radiation or asbestos
- Chemical carcinogens- vinyl chloride, or betnapthylamine, tobacco smoke, aflatoxin & arsenic
- Biological carcinogens- infections from certain viruses, bacteria or parasites

**Cancer: Risk Factors**

- Tobacco Use
- Unhealthy Diet
- Insufficient Physical Activity
- The harmful use of Alcohol
- Infections i.e., Human Papillomavirus Helicobacter Pylori
- Radiation
- Variety of Environmental & Occupational Exposures

**Cancer: Types**

- Oral Cavity Cancer
- Lung Cancer
- Breast Cancer
- Gastrointestinal Malignancies
- Female Genital Tract Cancer
- Lymphoma
- Cervical cancer
- Colo-rectum cancer
- Head & neck tumors
- Prostate cancer
- Hepatoma
- Gall Bladder cancer

**Cancer Prevention**

- Primary Prevention;
    - Eliminating the environmental factors
    - Minimizing exposure to risk factors
    - Awareness and Education
- Secondary Prevention;
    - Time lag between initiation & promotion of cancer
    - Early detection and screening
- Tertiary Prevention;
    - For cases that require definitive treatment
    - Palliative Care in specialized centers
    - Pain relief

**Cancer Control**

- Methods of Treatment;
    - Surgery

    - Radiotherapy
- Surgery is curative and can remove tumor but difficult to conduct
- Radiotherapy and chemotherapy is useful but effects the healthy cells

**Cancer Control Program**

- 58th World Health Assembly in 2005
- Mandatory for all countries to implement Cancer Control Programs
- Three Goals of Program;
    - Primary prevention where possible
    - Improving early diagnostic facilities
    - Maximizing existing treatment facilities

**Global Burden of Cancer**

- Cancer is the second leading cause of death globally
- Responsible for about 10 million deaths per year
- Globally, about 1 in 6 deaths is due to cancer
- 70% of deaths from cancer occur in low- and middle-income countries

## Topic 127: Vitamin Deficiency

- The condition of a long-term lack of a vitamin
- Primary deficiency- caused by not enough vitamin intake
- Secondary deficiency- caused due to an underlying disorder such as malabsorption

**Common Vitamin Deficiencies**

- Vitamin A deficiency
- Vitamin D deficiency
- Niacin Deficiency
- Vitamin C Deficiency
- Iodine Deficiency
- Anemia

**Vitamin A**

- Necessary for normal growth, vision & functioning of glandular & epithelial tissue
- Deficiency Symptoms;
    - Dryness, night blindness, eye problems
- Prevention;
    - Consumption of foods high in vitamin A

**Vitamin D**

- Vitamin D deficiency causes rickets- disorder producing alteration in structure of bones that occurs during infancy
- Symptoms;
    - Night sweating
    - Soft skull bones
    - Flabby muscles
- Prevention - exposure to sun rays;
    - Bowed legs
    - Pigeon breast
    - Pot belly

**Thiamine-Vitamin B1**

- Essential for the formation of co-carboxylase
- Deficiency causes Beri Beri-accumulation of pyruvic acid in blood
- Neurological symptoms
- Cardiac symptoms
- Gastro-intestinal Symptoms

- Prevention- use of diet rich in thiamine

**Niacin-Vitamin B3**

- Turns food into energy
- Deficiency causes Pellagra
- Deficiency Symptoms;
  - Glossitis
  - Skin lesions
  - Gastro-intestinal disturbances
- Prevention- use of food containing niacin or tryptophan

**Vitamin C**

- Essential for growth, development & repair of body tissues
- Deficiency causes; scurvy
- Deficiency Symptoms;
  - Inability to move limbs
  - Hemorrhage in periosteum
- Prevention- intake of sources of Vitamin C

**Iodine**

- Essential for making thyroid hormones
- Deficiency causes goiter
- Hypothyroidism- cretinism & myxedema
- Hyperthyroidism- enlargement of thyroid gland and increased functionality
- Simple Goiter- enlargement of thyroid gland and malfunctioning

**Anemia**

**Macrocytic Anemia**

- Macrocytic anemia of pregnancy
- Sprue
- Celiac disease

- Deficiency of folic acid or vitamin B12
- Defective blood formation

Iron deficiency Anemia;

- Causes hypochromic microcytic anemia
- Deficient intake of iron, blood lose or increased demand of iron

Iron deficiency Anemia Symptoms;

- Pallor
- Weakness
- Irritability
- Fissures of the angle of mouth
- Heart murmurs
- Indigestion

## Topic 128: Non-Communicable Diseases

- Non-communicable diseases (NCDs) are the diseases caused due to multiple causes
- Are not passed or transmitted directly or indirectly from person to another by any agency
- Causes;
  - Genetic
  - Physiological
  - Environmental
  - Behavioral factors
- Types;

- ❑ Cardiovascular Disease
- ❑ Cancers
- ❑ Chronic Respiratory Diseases
- ❑ Diabetes

**Cardiovascular Disease**

- Caused by disorders of the heart and blood vessels and includes;
  - ❑ Coronary heart disease
  - ❑ Cerebrovascular disease
  - ❑ Raised blood pressure
  - ❑ Peripheral artery disease
  - ❑ Rheumatic heart disease
  - ❑ Congenital heart disease

**Cancer**

- Uncontrolled growth and spread of cells that arises from a change in one single cell
- The change may be started by external agents and inherited genetic factors
- Can affect almost any part of the body
- Transformation from a normal cell into a tumour cell is a multistage process

**Chronic Respiratory Disease**

- Diseases of the airways and other structures of lungs
- Chronic obstructive pulmonary disease (COPD)
- Asthma
- Occupational lung Diseases
- Pulmonary Hypertension

## Topic 129: Communicable Diseases

- Communicable, or infectious diseases, are caused by microorganisms such as bacteria, viruses, parasites and fungi.
- Transmitted from one person to another person or from a reservoir to a susceptible host

**Communicable Diseases: Mode of Transmission**

- Human pathogen transmission;
  - ❑ Airborne transmission
  - ❑ Physical contact with infected person
  - ❑ Contaminated water
  - ❑ Pathogens in blood stream and tissue

**Communicable Diseases: Types**

1. Respiratory Infections;
   - ❑ Tuberculosis
   - ❑ Chicken pox
   - ❑ Measles
   - ❑ Influenza
   - ❑ Diphtheria
   - ❑ Whooping cough
2. Intestinal Infections;
   - ❑ Poliomyelitis
   - ❑ Cholera
   - ❑ Typhoid fever
   - ❑ Hepatitis
   - ❑ Food poisoning
   - ❑ Hook worm infection
3. Arthropod Infections;

- Malaria
- Plague
- Filariasis

4. Surface Infections;
   - Rabies
   - Trachoma
   - Tetanus
   - Leprosy
5. Sexually Transmitted Infections;
   - Gonorrhea
   - Syphilis
   - AIDS

**Global Burden of Communicable Diseases**

- Communicable diseases pose significant threats to human health and can threaten international health security
- Prevalent in low- and middle-income countries
- Reduction in global burden from 1.1 billion in 1990 to below 670,000 in 2016.
- Prime cause of morbidity and mortality, due to socioeconomic, environmental and behavioral risk factors, in Pakistan.
- 38 percent burden of communicable diseases in Pakistan including HIV/AIDS, hepatitis B and C and tuberculosis.

**Communicable Diseases: Control Measures**

- Hygienic Conditions
- Vaccination
- Use of antibiotics
- Isolation and Quarantine when infected
- Disinfection
- Safe sexual activity

## Topic 130: Diabetes

- Heterogeneous chronic disease
  - Occurs when the pancreas does not produce enough insulin
  - When the body cannot effectively use the insulin it produces.

**Diabetes: Types**

- Type 1 Diabetes Mellitus (Type 1 DM);
  - Insulin dependent or Juvenile onset diabetes
  - Develops when the body immune system destroys the pancreatic beta cells that makes insulin
- Type 2 Diabetes Mellitus (Type 2 DM);
  - Non-insulin dependent or adult-onset diabetes
  - Begins as insulin resistance- a disorder in which cells do not use insulin properly
  - Pancreas loses ability to produce insulin
  - Strikes older and obese people
- Maturity Onset Diabetes of Youth (MODY);
  - Develops in people with Type 2 DM
  - Genetic Condition
  - Cannot be prevented by modifying lifestyle factors
- Gestational Diabetes;
  - Glucose intolerance developed during pregnancy

**Other Types**

- Diabetes resulting from;
  - Surgery
  - Drug
  - Malnutrition
  - Infections

**Tolerance (IGT) Impaired Fasting Glucose (IFG)**

- Reversible Pre-Diabetic Conditions
- IGT- blood sugar level is elevated between 140 & 199 mg/dL after a 2-hour oral glucose tolerance test
- IFG- fasting blood sugar level is elevated between 110 & 125 mg/dL after an overnight fasting

**Diabetes: Risk Factors**

- Family history of diabetes
- Genetic makeup
- Overall obesity and high abdominal fat
- Hypertension
- Gestational diabetic condition
- IGT and IFG conditions

**Diabetes: Health Complications**

- Diabetic retinopathy
- Diabetic neuropathy
- Leading causes of kidney failure
- Increased risk of heart disease and stroke
- Dental Disease
- Pregnancy Complications

**Diabetes: Prevention**

- Achieve and maintain healthy body weight.
- Be physically active
- Early diagnosis and screening
- Lowering blood sugar and other known risk factors that damage blood vessels
- Tobacco cessation

**Diabetes: Control**

- Insulin for Type 1 Diabetes
- Medication and insulin for Type 2 Diabetes
- Blood pressure control
- Screening & treatment for retinopathy
- Blood lipid control
- Screening for kidney related diseases

**Global Burden of Diabetes**

- Number of people with diabetes rose from 108 million in 1980 to 422 million in 2014.
- 5% increase in premature mortality from diabetes between 2000 to 2006
- High prevalence in low- and middle-income countries
- Seventh leading cause of death in 2016

**Lesson 35**

# SOCIOLOGY AND NUTRITION-I
# TOPIC 131-134

## Topic 131: Breast Feeding

Breastfeeding, also called nursing, is the process of feeding a mother's breast milk to her infant. Either directly from the breast or by expressing the milk from the breast and bottle-feeding it to the infant.

**Quality of Human Milk**

Composition of Human milk

- Proteins- less casein & easier to digest
- Fat content- fatty acids needed for brain, eyes and blood vessels, lipase to digest fat
- Lactose- energy source for brain development
- Vitamins & Iron- Vitamin A & C, 50% absorbable iron

**Colostrum-The First Milk**

- First few days after delivery
- Yellow and thicker than later milk
- First immunization having lots of antibodies and white blood cells
- Rich in growth factors
- Have laxative properties
- Prevents jaundice

**Mature Milk**

- After 1-2 weeks, milk quantity increases, and appearance & composition changed
- Foremilk- come at beginning of feed
  - Greyish white & watery
  - Rich in protein, lactose,
- Hind milk- comes at the end of feed
  - Whiter and contains more fat for energy

**Production of Breastmilk**

Anatomy of the Breast;

- Gland tissues, supporting tissues & fat
- Rich supplies of sensory nerves
- Areola & Montgomery's gland

Milk producing hormones;

- Prolactin- milk secreting hormone
- Oxytocin- milk ejecting hormone

**Common Problems during Lactation**

- Engorgement of breast
- Blocked duct
- Sore nipples
- Cracked nipples
- Insufficient milk
- Mastitis
- Breast Abscess

**Breast Feeding: Advantages**

Human breast milk- a dream product;

- Ideal food for growth & development of infants
- Have anti-infective properties
- Cost effective

- Fulfil nutritional needs of infants
- Natural immunization of children
- Natural family planning method
- Reduced risk of cancers for mothers

**Topic 132: Complementary Feeding**

Process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants and therefore other foods and liquids are needed, along with breast milk.

**Definition of Complementary Feeding**

Complementary feeding means giving other foods in addition to breast milk. These other foods are called complementary foods

**Complementary Feeds**

After six months all babies require complementary foods while breastfeeding continues for up to two years of age or beyond

Complementary feeds should be:

- Timely
- Adequate
- Safe
- Properly fed

**Starting Other Foods Too Soon**

Adding foods too soon may;

- Take the place of breast milk
- Result in a low nutrient diet
- Increase risk of illness;
  - Less protective factors
  - Other foods not as clean
  - Difficult to digest foods
- Increase mother's risk of pregnancy

**Starting Other Foods Too Late**

Adding foods too late may;

- Result in child not receiving required nutrients
- Slow child's growth and development
- Risk causing deficiencies and malnutrition

**Key Message 1**

Breastfeeding for two years or longer helps a child to develop and grow strong and healthy

**Key Message 2**

Starting other foods in addition to breast milk at 6 completed months helps a child to grow well

**Key Message 3**

Foods that are thick enough to stay in the spoon give more energy to the child

**Key Message 4**

Animal-source foods are especially good for children, to help them grow strong and lively

**Key Message 5**

Peas, beans, lentils, nuts and seeds are also good for children

**Key Message 6**

Dark-green leaves and yellow-coloured fruits and vegetables help a child to have healthy eyes and fewer infections

**Key Message 7**

A growing child 6 – 8 months needs 2 – 3 meals a day

**Key Message 8**

A growing child 9 – 24 months needs three to four meals a day. Plus, additional 1 – 2 snacks if the child is hungry. Give a variety of foods. A growing child needs increasing amounts of food

**Key Message 9**

A young child needs to learn to eat: encourage and give help with lots of patience

**Key Message 10**

Encourage children to drink and eat during illness and provide extra food after illness to help them recover quickly

## Topic 133: Growth Monitoring & Promotion

Regular measurement, recording and interpretation of child's growth change. Continuous activity incorporating all key interventions with the goal of improving the health of children

- Implemented & applied in following ways;
  - ❑ Passive- no interpretation
  - ❑ Active- interpretation by workers
  - ❑ Interactive- interpretation understood by mothers

**Growth Monitoring & Promotion: Uses**

- Management tool for individual recipients;
  - ❑ Screening tool for identifying faltering tool patterns
  - ❑ Diagnostic tool for child's health record
  - ❑ Motivation and education tool for helping mothers understand their roles
- A program management tool for decision makers
- A promotive tool to improve coverage
- A promotive tool for community action, awareness and empowerment
- A promotive tool for social, political and individual advocacy

**Objectives & Priorities**

- Education & monitoring
- Screening, Early detection, risk assessment
- Entry points comprehensive health care
- Entry point for women's participation
- Mechanism to promote community awareness, organization & empowerment
- Health indicator & impact Assessment
- Instrument for Supervision
- Advocacy

**Growth Chart**

- Make growth a tangible visible attribute
- Create felt need, a demand for growth
- Detect the earliest signs of faltering growth
- Reinforce effective behavior
- Illustrate the effects of various negative events
- Facilitate the transfer of information to mothers

## Topic 134: Human Nutrition

Human nutrition deals with the provision of essential nutrients in food that are necessary to support human life and good health. Poor nutrition is a chronic problem often linked to poverty, food security, or a poor understanding of nutritional requirements

**Energy Value of Nutrients**

Kilocalorie/ Food Calorie- unit of heat for measuring energy produced by food

**Food and Nutrients**

- Food is a substance that living beings eat to satiate their hunger
- Nutrients are present in food
- Nutrients are substances that are responsible for the functions of food and protect the body from disorders

**Nutrients: Classification**

Macronutrients;

- Carbohydrates
- Fats and oils
- Proteins

Micronutrients;

- Minerals
- Vitamins
- Antioxidants & photochemical

**Carbohydrates**

- Main source of energy
- Essential for oxidation of fats & for synthesis of non-essential amino acids.
- Starch, sugar and cellulose are three main carbohydrates
- Recommended intake: 50-70% of total energy intake

**Fats & Oils**

- Most concentrated source of energy
- Produces more heat than other nutrients
- Provide protection against injuries
- High consumption increases blood cholesterol
- Linoleic & Lenolenic- fatty acids essential for growth
- Recommended Intake:15-30% of caloric need

**Proteins**

- Highly complex nitrogenous substances
- Principle source of nitrogen
- Supply essential amino acids
- Necessary for building tissues
- Cannot be stored in body
- Recommended intake, 60-70 grams

**Mineral Salts**

- 21 mineral salts in body make up 4-5% of body weight
- Calcium, phosphorous, sodium, potassium, iron, magnesium, Sulphur & chlorine are most important minerals
- Trace elements- mineral present in small amount- are of equal importance

**Vitamins**

- Organic substances.
- Required in small amount for normal metabolism, insufficiencies cause disorder
- 21 identified vitamins
- Water soluble vitamins- B complex and C
- Fat soluble Vitamins- A, D, E & K
- Most vitamins are destroyed upon cooking

**Antioxidants & Photochemical**

- Antioxidants are free radical Scavengers and consumes free radicals, protect cells, prevent disease and slow down aging process
- Photochemical are plant compounds with antioxidant activities
- 14 identified classes

**Water and Fiber**

- Water regulates body temperature & serves as the transportation system
- Dietary fibers are plant cell wall materials which are indigestible in the human gastrointestinal tract but increases the overall speed of intestinal transit.
- Fiber modifies the rate of absorption of nutrients

**Diet**

- Diet differs according to nature of occupation, physical labor, body surfaces, sex, age, climate, availabilities, tastes, desires, religious prejudices, social customs
- Balanced diet- diet that contains the optimum requirement of food calories and the nutrients

**Body Composition of Man**

- 62% Water
- 17% Proteins
- 15% Fats
- 6% Minerals & Glycogen

**Lesson 36**

## SOCIOLOGY AND NUTRITION-II
## TOPIC 135-137

### Topic 135: Health Education and Communication

**Health Education**

Any form of education with a positive impact on physical, social, emotional, environmental or value-oriented aspects of an individual. Planned attempts to change what people think, feel and do with a goal of promoting higher levels of health

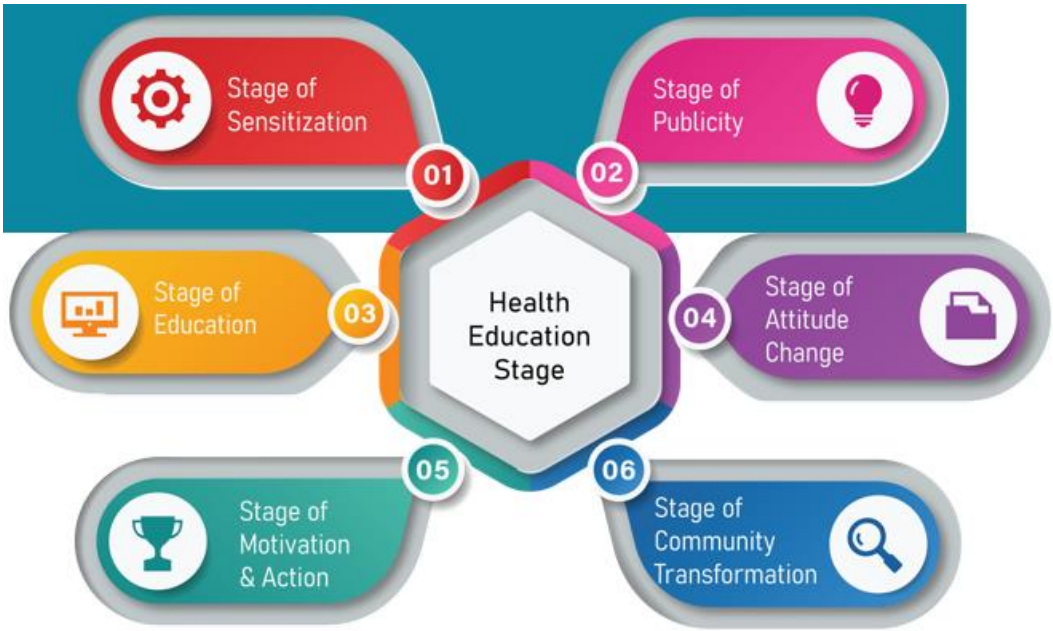
**Health Education in Primary Health Care**

Foster activities that encourage people to;

- ❑ Want to be healthy
- ❑ Know how to stay healthy
- ❑ Do what they can to maintain health
- ❑ Seek help when needed

All conscientious persons dealing with other individuals in everyday life are responsible for health education. Health education aims to produce positive behavior change in individuals and communities

**Stages**




**Strategies for Health Education: Communication**

Communication is a two-way process includes;

- ❑ Sender- Codes the message
- ❑ Channel- Transmits the message
- ❑ Receiver- Decodes the message

**5 Qualities of a good Sender**


Types of Channels;

1. Print media
2. Audiovisual

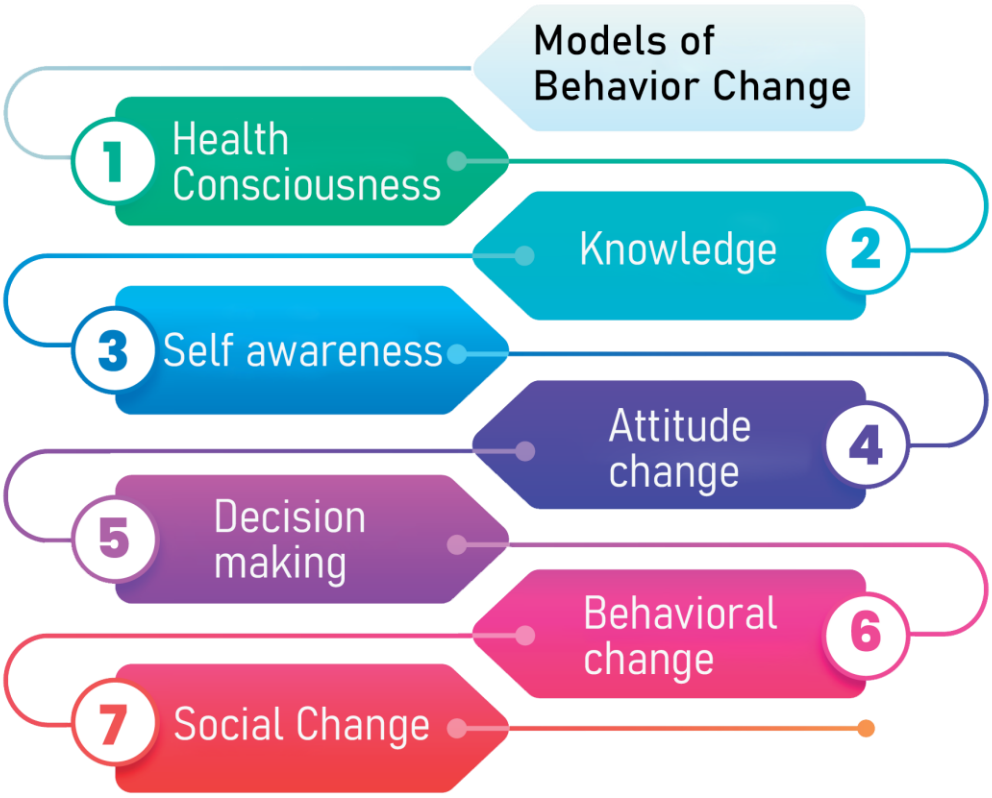
3. Verbal
4. Mass Media

**Communication Barriers**

- Social & cultural gap between sender & receiver
- Limited receptiveness of receiver
- Negative attitude of sender
- Limited understanding & memory
- Insufficient emphasis by sender
- Contradictory message

**Models**

- **Model of Behavior changes**




- **AIETA**


**Key Principles**


## Topic 136: Anthropometry

- Metry means measurement
- Anthro means man
- Measurement of physical dimensions used to assess growth and the state of nutrition, either of individuals or of communities
- Body Measurements
- Widely used, inexpensive and non-invasive measure of general nutritional status of an individual or population group

**Building blocks of Anthropometry**

4 Variables;

- Age
- Sex
- Weight
- Height

**How to Assess Age (6-59 months)**

- Age needs to be confirmed from birth certificate, EPI card
- Ask Mothers/Caretakers-recall (use local events calendar)
- For young children check child's swallow skills with RUTF
- Use of height sticks (65 cm – 110 cm)

**Anthropometric Measurements**

- Weight
- Height
- Length
- Arm circumference
- Head circumference
- Chest Circumference
- Skinfold Thickness

**Anthropometric Indices**

- When 2 variables are used together and compared to a reference value called an Index
- Indices used in assessing nutritional status;
  - WFH
  - WFA
  - HFA
- Height and age (HFA);
  - Measures for chronic malnutrition; Measurements which are low height-for-age indicate long-term malnutrition, i.e., "stunting"
- Weight and height (WFH);
  - Measures for acute malnutrition; measurements which are low weight-for-height indicate short-term malnutrition, i.e., "wasting"
- Weight and Age (WFA);
  - Combine measure for chronic and acute malnutrition; measurements which are low for WHA indicate malnutrition
- Mid Upper Arm Circumference (MUAC);
  - measures for acute malnutrition and immediate risk of death in children 6-59 months

**Reference Standards**

Used to compare and interpret results as percentage pf defined standards.

- Harvard Standards;
  - Stuart Study (1930-1939)
  - Sample of well-nourished Caucasian Children
- National Center for Health Statistics;
  - Study conducted on two randomly selected populations
  - WHO recommended

**Classification of Malnutrition**

| Gomez Classification | |
|---|---|
| Expected wt/age | Classification of child |
| >90% | Normal |
| 90-76% | Grade 1 (mild malnutrition) |
| 75-61% | Grade 2 (moderate malnutrition) |
| <60% | Grade 3 (Severe malnutrition) |

| Welcome Classification | |
|---|---|
| Expected wt/age | Classification of child |
| 100-80% | Normal |
| 80-60% + no oedema | Undernutrition |
| 80-60% + oedema | Kwashiorkor |
| <60% + no oedema | Marasmus |

| Waterlow Classification | |
|---|---|
| Expected Ht/Age | Classification of child |
| >95% | Grade 0 (Normal) |
| 95-90% | Grade 1 (mild malnutrition) |
| 90-85% | Grade 2 (moderate malnutrition) |
| <85% | Grade 3 (Severe malnutrition) |

## Topic 137: Health Inequality

Unfair and avoidable differences in health across the population, and between different groups within society. Arise because of the conditions in which we are born, grow, live, work and age

**Health Inequity**

Unjust differences in health between persons of different social groups; a normative concept. Observable health differences between subgroups within a population; can be measured and monitored

**Health Inequalities: Reasons**

People can suffer from health inequalities due to;

- Geographical areas
- Ethnic or racial groups
- Gender
- Social Class

**Geographical Inequalities**

- Differences in standards of health between areas but also within areas
- Differences of standards of health between different countries and within countries
- Rural and urban health disparities in Pakistan

**Racial or Ethnic Disparities**

- Variation in health amongst various racial or ethnic groups
- Arise from racism and discrimination
- Poor life chances cause increased chances of illness and diseases

**Gender Inequalities**

- Biological - Women's role in reproduction can cause ill-health
- Material - Women still seen as 'carers' - commitments often force them to take low paid /part time jobs
- Ageing - Women live longer more prone to ill-health connected to old age

**Social Class Inequalities**

- Lifestyle choices like exercise, healthy diets are linked with social class
- Poor habits can be traced back to poverty
- Consumption of junk food and fizzy drinks and obesity are also linked with social class
- Professional classes are tended to listen to health advice and quit unhealthy habits

**Approaches to Solve Health Inequality**

Collectivist Approach;

- Differences in health are beyond the ability of the individual to change
- Poorer social classes suffer most
- Focuses on government anti-poverty strategies

Individualistic Approach;

- Health inequalities are the result of how individuals choose to lead their lives
- Differences in health habits between different social classes
- People responsible for their own health
- Focus on health advertising campaign

**Lesson 37**

## SOCIAL FACTORS IN HEALTH-I
## TOPIC 138-140

### Topic 138: How Psychosocial Factors Affect Health Behavior

**Behavior and Social Environment**

- Most important predictor of health is socioeconomic status (SES)
- Health gradient holds at all levels of the social scale
- Health is also affected by gender, marital status, race, and ethnicity
- Health disparities are a big concern of public health

**Effect of Socioeconomic Status (SES)**

- Nutrition
- Sanitation
- Conditions of the physical environment
- Levels of healthy behavior
- Access to medical care

**Psychological Factors**

Stress;

- Mortality increases after death of a spouse, loss of a job, divorce.
- Increased risk of heart disease and common cold.
- More daily hassles at lower SES.

Social support;

- Alameda study and Stress Buffer

**Psychological Models of Health Behavior**

**Health Belief Model;**

The classic frame of reference for understanding health behavior, and especially behavior change, is the Health Belief Model.

- ❑ I am vulnerable to the threat
- ❑ The threat is serious
- ❑ By taking action, I can protect myself

The Health Belief Model (HBM) was developed in the early 1950s by social scientists at the U.S. Public Health Service in order to understand the failure of people to adopt disease prevention strategies or screening tests for the early detection of disease. Later uses of HBM were for patients' responses to symptoms and compliance with medical treatments. The HBM suggests that a person's belief in a personal threat of an illness or disease together with a person's belief in the effectiveness of the recommended health behavior or action will predict the likelihood the person will adopt the behavior.

The HBM derives from psychological and behavioral theory with the foundation that the two components of health-related behavior are 1) the desire to avoid illness, or conversely get well if already ill; and, 2) the belief that a specific health action will prevent, or cure, illness. Ultimately, an individual's course of action often depends on the person's perceptions of the benefits and barriers related to health behavior. There are six constructs of the HBM. The first four constructs were developed as the original tenets of the HBM. The last two were added as research about the HBM evolved.

1. Perceived susceptibility - This refers to a person's subjective perception of the risk of acquiring an illness or disease. There is wide variation in a person's feelings of personal vulnerability to an illness or disease.

2. Perceived severity - This refers to a person's feelings on the seriousness of contracting an illness or disease (or leaving the illness or disease untreated). There is wide variation in a person's feelings of severity, and often a person considers the medical consequences (e.g., death, disability) and social consequences (e.g., family life, social relationships) when evaluating the severity.
3. Perceived benefits - This refers to a person's perception of the effectiveness of various actions available to reduce the threat of illness or disease (or to cure illness or disease). The course of action a person takes in preventing (or curing) illness or disease relies on consideration and evaluation of both perceived susceptibility and perceived benefit, such that the person would accept the recommended health action if it was perceived as beneficial.
4. Perceived barriers - This refers to a person's feelings on the obstacles to performing a recommended health action. There is wide variation in a person's feelings of barriers, or impediments, which lead to a cost/benefit analysis. The person weighs the effectiveness of the actions against the perceptions that it may be expensive, dangerous (e.g., side effects), unpleasant (e.g., painful), time-consuming, or inconvenient.
5. Cue to action - This is the stimulus needed to trigger the decision-making process to accept a recommended health action. These cues can be internal (e.g., chest pains, wheezing, etc.) or external (e.g., advice from others, illness of family member, newspaper article, etc.).
6. Self-efficacy - This refers to the level of a person's confidence in his or her ability to successfully perform a behavior. This construct was added to the model most recently in mid-1980. Self-efficacy is a construct in many behavioral theories as it directly relates to whether a person performs the desired behavior.

**Self-efficacy Model;**

- ❑ The sense of having control over one's life.
- ❑ Increased by previous successful performance
- ❑ Increased by seeing others successfully perform, especially if the model is a peer
- Learned helplessness is a pattern of "numbed acceptance of a negative situation."

**Trans theoretical Model;**

Process involves progress through five stages


The Transtheoretical Model (also called the Stages of Change Model), developed by Prochaska and DiClemente in the late 1970s, evolved through studies examining the experiences of smokers who quit on their own with those requiring further treatment to understand why some people were capable of quitting on their own. It was determined that people quit smoking if they were ready to do so. Thus, the Transtheoretical Model (TTM) focuses on the decision-making of the individual and is a model of intentional change. The TTM operates on the assumption that people do not change behaviors quickly and decisively. Rather, change in behavior, especially habitual behavior, occurs continuously through a cyclical process. The TTM is not a theory but a model; different behavioral theories and constructs can be applied to various stages of the model where they may be most effective.

The TTM posits that individuals move through six stages of change: precontemplation, contemplation, preparation, action, maintenance, and termination. Termination was not part of the original model and is less often used in application of stages of change for health-related

behaviors. For each stage of change, different intervention strategies are most effective at moving the person to the next stage of change and subsequently through the model to maintenance, the ideal stage of behavior.

1. Precontemplation - In this stage, people do not intend to take action in the foreseeable future (defined as within the next 6 months). People are often unaware that their behavior is problematic or produces negative consequences. People in this stage often underestimate the pros of changing behavior and place too much emphasis on the cons of changing behavior.
2. Contemplation - In this stage, people are intending to start the healthy behavior in the foreseeable future (defined as within the next 6 months). People recognize that their behavior may be problematic, and a more thoughtful and practical consideration of the pros and cons of changing the behavior takes place, with equal emphasis placed on both. Even with this recognition, people may still feel ambivalent toward changing their behavior.
3. Preparation (Determination) - In this stage, people are ready to take action within the next 30 days. People start to take small steps toward the behavior change, and they believe changing their behavior can lead to a healthier life.
4. Action - In this stage, people have recently changed their behavior (defined as within the last 6 months) and intend to keep moving forward with that behavior change. People may exhibit this by modifying their problem behavior or acquiring new healthy behaviors.
5. Maintenance - In this stage, people have sustained their behavior change for a while (defined as more than 6 months) and intend to maintain the behavior change going forward. People in this stage work to prevent relapse to earlier stages.

**Ecological Model of Health Behavior**

Ecological Model describes five levels;

1. Intrapersonal level - Psychology
2. Interpersonal level - Family, friends, coworkers
3. Institutional level – School, workplace
4. Community level - Churches, community organizations
5. Public policy level - Government regulations

**Changing the Environment**

- More effective than changing individual behavior
- Changes focus from blaming the victim
- Pioneered in injury control programs
- Effective in tobacco control programs
- Considered for improving diet and decreasing physical inactivity

## Topic 139: Poor Diet and Physical Inactivity

**Measuring Health Risk**

BMI;

- Calculated from height and weight
- Overweight 25–29.9 BMI, Obese >30 BMI

Waist to hip ratio;

- Distribution of fat on the body
- Pear-shaped versus apple-shaped bodies

**Epidemiology of Obesity**

- Increased prevalence since 1960s in all ages and genders
- Higher SES is associated with lower rates of overweight and obesity, especially among women

**Overweight among Children**

Prevalence of overweight among 6 to 19-year-olds increased from under 5% in the 1960s to 16.9% in 2011–2012.

**Diet and Nutrition**

- More fruits and vegetables, whole grains, low-fat milk and dairy products
- Less refined grains, added sugar, salt, cholesterol, saturated and trans fats

**Promoting Healthy Eating**

- Social, cultural, and economic factors contribute to dietary patterns.
- Learn from tobacco control success
- Enhance self-efficacy and provide social support
- Reduce less healthy foods in public venues

**Learnings From Tobacco Control Programmes**

- Provide more food labeling;
  - For calories, fat, and sugar content
  - In advertising and on wrappers/containers
- Limit advertising of unhealthy options
- Best hope is to focus on children, starting with encouraging breast-feeding

**Physical Activity and Health**

- Weight control works best when healthy eating is combined with physical activity
- Physically active people live longer
- Exercise promotes health and helps prevent
- Heart disease
- High blood pressure
- Harmful cholesterol levels
- Diabetes
- Some forms of cancer

**Needed Exercise**

- Children: 60 minutes or more daily
- Adults: 150 minutes per week
- More is better
- Lower SES is associated with more inactivity
- Obesity in children is correlated with time using TV, computer, and video games

**Promoting Physical Activity**

- Employ the ecological model
- Remove environmental barriers and provide places to exercise
- Suburban lifestyle is to drive everywhere;
- Add sidewalks, walking trails, bike paths
- Pedometers increase physical activity and reduce BMI and blood pressure
- Increase safety with police surveillance and neighborhood watches in high-crime areas
- Develop habits of exercise in children;
  - Physical education classes should focus on activities that can be practiced throughout one's lifetime

**Confronting the Obesity Epidemic**

- Overweight and obesity could reverse public health improvements achieved in the 20th century
- Life expectancy will decline due to obesity

- Bariatric surgery helps obese people lose weight and control diabetes

**Weight Loss and Drugs**

Orlistat inhibits the absorption of fats.

## Topic 140: Injuries are not Accidents

**Injuries**

Categories;

- ❑ Unintentional
- ❑ Intentional
- ❑ Homicide
- ❑ Suicide

Causes;

- ❑ Poisoning
- ❑ Motor vehicle injuries
- ❑ Firearm injuries
- ❑ Falls
- ❑ Suffocation
- ❑ Drowning
- ❑ Fires/burns
- ❑ Cuts/pierces

**Epidemiology of Injuries**

- Leading cause of death for ages 1–44
- Higher injury rates for groups with lower SES
- Many injuries are not fatal, but fatal injuries are most reliably reported
- Injuries, especially to head and spinal cord, result in long-term disability

**Injury Pyramid**

- Deaths
- Hospital discharges;
  - ❑ Including long-term disability
- Emergency department visits
- Episodes of injuries reported

**Analyzing Injuries**

- Environment's role in injury
- Chain of causation — host, agent, environment
- Primary prevention;
  - ❑ Conditions prevailing before the event
- Secondary prevention;
  - ❑ Conditions prevailing during the event
- Tertiary prevention;
  - ❑ Availability and quality of emergency care

**Injury Prevention**

Three E's of Injury Prevention;

- ❑ Education
- ❑ Enforcement
- ❑ Engineering

**Poisoning**

- Leading cause of injury death;
  - ❑ Unintentional deaths
  - ❑ Inappropriate prescription
- Prevention;

- Strict regulation and Drug tracking
- Suicide by poisoning most commonly involves psychoactive drugs

**Motor Vehicle Injuries**

- Second leading cause of injury death causing 34,000 deaths per year
- Alcohol, youth inexperience and distracted driving by the use of cell phones are major causes
- Can be prevented by education and enforcement about speed limit and seat belts

**Pedestrian, Motorcyclists and Bicyclists**

- Pedestrians — >4,000 deaths per year;
  - Children under 14 have the highest risk (21%).
- Motorcyclists — 4,500 deaths per year
- Bicyclists — about 750 deaths per year

**Firearms Injuries**

- Third leading cause of injury death with >31,000 deaths
- Almost 60% suicides, 37% homicides, others unintentional
- Residents of a household with a gun are three times more likely to die in a homicide

**Occupational Injuries**

- Occupational Safety and Health Administration (OSHA): Regulatory agency
- National Institute of Occupational Safety and Health (NIOSH): Research agency
- >4,600 deaths/year
- Logging and fishing are most dangerous occupations

**Domestic Violence**

Child abuse;

- 686,000 victims and 1,640 deaths in 2012
- Childhood physical or sexual victimization is a risk factor for future victimization and perpetration

Adult intimate partner violence;

- Rape, physical violence, and stalking
- More than 12 million victims per year

**Nonfatal Traumatic Brain Injuries**

- 2.2 million Americans per year are treated in hospital emergency departments for nonfatal traumatic brain injuries (TBIs)
- Mild TBI is a concussion
- Severe TBIs can lead to changes in thinking, sensation, or language and may cause permanent disability

**Tertiary Prevention**

For any kind of serious injury, promptness and quality of emergency care play a significant role in whether a victim survives and in the extent of permanent disability

- Special trauma centers
- Use of helicopters

**Lesson 38**

## SOCIAL FACTORS IN HEALTH-II
## TOPIC 141-142

### Topic 141: Clean Air

**Air Pollution Events**

- Weather inversion in London, 1952 caused more than 4,000 deaths
- Donora, Pennsylvania, 1948 had a similar weather inversion
- Smog in Los Angeles, 1950s and 1960s
- Higher death rates in polluted cities
- Clean Air Act, 1970

**Air Pollutants**

Particulate Matter;

- Most visible air pollution form
- Air pollutants can be products of combustion
- Smaller particles penetrate deeper into lungs.
- In 1987, the EPA set standards for PM10, later set more stringent standards for PM2.5
- Lung cancer, other lung diseases, and heart disease are proportional to PM2.5

Sulphur Dioxide;

- Combustion of sulfur-containing fuels, especially coal
- Irritation of respiratory tracts
- Acid rain
- Potential for causing respiratory damage

Carbon Monoxide;

- Carbon Monoxide is a highly toxic gas
- Most is produced in motor vehicle exhaust
- It is especially harmful to patients with cardiovascular disease
- It causes headaches and impairs mental processes

Nitrogen Oxides;

Main sources are on-road motor vehicle exhaust, off-road equipment, and power plant emissions. Responsible for yellowish-brown appearance of smog and contribute to;

- ❑ Respiratory tract irritation
- ❑ Acid rain
- ❑ Ozone formation

Ozone;

- Is a highly reactive variant of oxygen
- Is produced by sunlight acting on other air pollutants
- Irritates eyes and respiratory system
- Increases mortality from cardiovascular and respiratory diseases

Lead;

- Damages nervous system, blood, and kidneys
- Poses special risk to the development of children's intellectual abilities
- Was used in leaded gasoline but was banned in the 1980s.
- Has decreased dramatically as an air pollutant

**Other Air Pollutants**

- The 1990 Clean Air Act amendments directed the EPA to set standards for 187 specific chemicals
- As of 1993, the EPA had only acted on asbestos, mercury, beryllium, benzene, vinyl chloride, arsenic, radionuclides, and coke oven emissions

- Controversy exists for each standard

**Strategies for Motor Vehicles**

- Tailpipe emissions limits
- Vapor recovery systems on gasoline pumps
- Inspection and maintenance requirements
- Requirements that auto makers develop zero emission vehicles
- Public transportation development
- Encouraging carpooling

**Strategies for Industrial Sources**

- Scrubbers on smokestacks
- Less polluting fuels
- Market approach; buy and sell pollution allowances
- Emergency Planning and Community Right-to-Know Act

**Indoor Air Quality**

- People spend more time indoors than out;
  - ❑ "Sick building syndrome"
- Sources of indoor air pollution are;
  - ❑ Tobacco smoke
  - ❑ Wood-burning stoves and fireplaces
  - ❑ Gas ranges and furnaces
  - ❑ Radon
- Formaldehyde;
  - ❑ Insulation, particleboard, plywood, some floor coverings, and textiles
- Consumer products;
  - ❑ Pesticides, dry-cleaning solvents, paints, thinners, hair spray, air fresheners
- Microbes
- Allergens

**Global Effect of Air Pollution**

- Acid rain damages forests, crops, turns lakes and rivers acidic, kills fish and plants
- Depletion of the ozone layer
- Production of CFCs are being phased out
- Carbon dioxide produced by burning fossil fuels causes the greenhouse effect and global warming

## Topic 142: Clean Water

**Water Pollution Events**

- Lake Michigan, Chicago—Cholera, 1885
- Minamata Bay, Japan—Mercury, 1950s
- Lake Michigan, Milwaukee-Cryptosporidiosis,1993

**Federal Legislation**

- Clean Water Act—1972, 1977, 1987
- Lakes and rivers should be fishable and swimmable
- All pollution discharges should be eliminated
- Safe Drinking Water Act— 1974, 1996
- EPA should set standards for local systems
- States should enforce the standards

**Clean Water Act**

Fishable and swimmable lakes and rivers.

Point-source pollution;

- ❑ Treating wastewater

- Sewage treatment plants Sludge: Prohibited Ocean dumping
- Pretreatment of industrial wastes

Nonpoint-source pollution;

- Agricultural runoff
- Urban runoff
- Air pollutants deposited by rain

**Safe Drinking Water**

- Surface water;
  - Clean Water Act
- Ground water;
  - Generally cleaner
- Community water treatment to produce potable water;
  - Coagulation and flocculation
  - Settling
  - Filtration
  - Disinfection
- EPA has set standards for 87 identified contaminants
- Secondary standards have been set for 15 contaminants that may affect taste, odor, or color, or that cause discoloration of teeth
- CDC collects data on water-borne disease outbreaks

**Regulated Contaminants**

Microorganisms; bacteria, viruses, cryptosporidium

**Dilemmas in Compliance**

- Cost is a problem in many communities
- Disinfectants may produce harmful byproducts
- A new concern is trace amounts of hormones, pharmaceuticals, and household chemicals in many waterways

**Shortage of Portable Water**

- Most water on the earth's surface is salt water or ice.
- Less than 1% is fresh water suitable for drinking, cooking, bathing, etc
- Water shortages exist in much of the world.
- Political disputes already occur in World over water

**Lesson 39**

# PUBLIC HEALTH IN 21ST CENTURY
# TOPIC 143-145

## Topic 143: Public Health: Science, Politics and Prevention

### What Is Public Health?

Mission is "fulfillment of society's interest in assuring the conditions in which people can be healthy". Substance is "organized community efforts aimed at the prevention of disease and the promotion of health".

### Core Functions of Public Health

Core functions of public health;

- Assessment
- Policy development
- Assurance

### Public Health Versus Medical Care

- In medicine, the patient is the individual; in public health, the patient is the community
- Public health diagnoses the health of the community using public health sciences
- Treatment of a community involves new policies and interventions
- Goal of medicine is to cure; goal of public health is to prevent disease and disability

### Public Health: Science & Politics

- Science is how we understand threats to health, determine what interventions might work, and evaluate whether the interventions worked
- Politics is how we as a society make decisions about what policies to implement
- Politics is part of both the policy development and assurance functions of public health
- Community pays for public health initiatives through taxes

### Public Health Disciplines

- Epidemiology
- Statistics
- Biomedical Sciences
- Environmental Health Science
- Social and Behavioral Sciences
- Health Policy and Management

### Social & Behavioral Sciences

- Behavior is now the leading concern of factors that affect people's health
- A theory of health behavior is that social environment affects people's behavior;
    - Major health threats are tobacco, poor diet, and physical inactivity and injuries

### Public Health Approach

- Define the health problem
- Identify risk factors associated with the problem
- Develop and test community-level interventions to control or prevent the cause of the problem
- Implement interventions to improve the health of the population
- Monitor interventions to assess their effectiveness

### Public Health & Terrorism

- Public health response to disasters, natural and man-made, helps to control the damage and to prevent further harm to survivors and rescuers
- Bioterrorism is recognized primarily through classic public health measures similar to those used for natural epidemics
- The threat of bioterrorism did more to teach the public about public health than any educational program

## Topic 144: Public Health in the 21st Century: Achievements and Challenges

**Top Ten Public Health Achievements of the 20th Century**

- Routine use of vaccination
- Improvements in motor vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Access to family planning and contraceptive services
- Fluoridation of drinking water
- Recognition of tobacco use as a health hazard

**Challenges for the 21st Century**

- Renewed threats from infectious diseases
- Climate change
- Rising costs of medical care for aging population
- Understanding and altering human behavior
- Need to strengthen the public health system
- Persistent disparities in health

**Hope for the Integration of Public Health & Medical Practice**

Affordable Care Act contains provisions that could improve health outcomes through integration;

- Free preventive services
- Lowered medical costs
- Increased access to health insurance

**Information Technology**

- Improves communication and data sharing among public health agencies at various levels and between public health agencies and clinical settings
- Enables tracking of emerging infectious diseases, investigation of outbreaks and possible bioterrorism attacks, and monitoring of disease trends
- Databases are useful in assessment and evaluation of activities
- Makes health information available to individuals
- Provides opportunities for people to receive health information and monitor their behaviors

**Electronic Medical Records**

- Improve efficiency and quality of health care
- Increase coordination of care;
  - Less duplication of services
- Reduces medical errors
- Reduces administrative costs

**Ultimate Challenge to Public Health in the 21st Century**

- To educate the public and policy makers about the role of nonmedical factors in determining people's health
- To foster a national debate on priorities that will bring spending on medical care more in line with its value in assuring health

## Topic 145: Do People Choose Their Own Health?

**Leading Actual Causes of Death**

- Tobacco
- Poor diet and physical inactivity

- Alcohol consumption
- Microbial agents
- Toxic agents
- Motor vehicles
- Firearms
- Sexual behavior
- Illicit drug use
- These account for almost half of all deaths
- Most are preventable
- Most are premature
- Most are caused by individual behavior
- These are targets for public health intervention

**Tobacco**

Tobacco is the leading actual cause of death in the U.S.

Tobacco causes;

- Cancer
- Cardiovascular disease
- Chronic obstructive lung disease
- Infant deaths due to low birth weight
- Burns due to accidental fires

**Poor Diet and Physical Inactivity**

These are the second most important actual cause of death

Poor diet and physical inactivity lead to;

- Obesity
- Heart disease and stroke
- Diabetes
- Cancer

**Misuse of Alcohol**

- Motor vehicle fatalities
- Chronic liver disease and cirrhosis
- Home injuries
- Drownings
- Fire fatalities
- Job injuries
- Cancer
- Underage drinking

**Microbial Agents**

- Are the fourth leading actual cause of death
- Encompassed the top three killers of 1900
- Have by no means been conquered
- Could move to a higher position on the list in the future

**Toxic Agents**

- Toxic agents are the fifth leading actual cause of death
- The fact that toxic agents are only listed fifth is evidence of successes in environmental health

**Lesson 40**

# SOCIOLOGY AND COMMUNITY HEALTH
# TOPIC 146-147

## Topic 146: Community Organizing/Building and Health Promotion Programming

**Introduction**

Evidence-based practice;

- Systematically finding, appraising, and using evidence as the basis for decision making
- Evidence: The body of data that can be used to make decisions
- Evidence-based intervention/program: Programs or practices that are peer reviewed and based on empirical evidence of effectiveness

Socio-ecological approach to behavior change;

- Interaction between and interdependence of factors within and across all levels of a health problem
- Behavior has multiple levels of influence
- Behavior changes usually a combination of individual and environmental/policy-level interventions

**Community Organizing/Building**

- Community health problems range from small/simple to large/complex
- Community organizing;
  - Process through which communities are helped to identify common problems or goals, mobilize resources, and develop and implement strategies for reaching the goals they have collectively set

**Need for Organizing Communities**

Changes in community social structure have led to loss of a sense of community;

- Advances in electronics
- Communications
- Increased mobility

**Community Organizing Methods**

- No single preferred method
- Planning and policy practice, community capacity development, and social advocacy
- All incorporate fundamental principles;
  - Start where the people are
  - Participation
  - Create environments in which people and communities can become empowered as they increase problem-solving abilities

**Recognizing the Issue**

Initial organizer;

- Recognizes that a problem exists and decides to do something about it
- Gets things started
- Can be from within or outside of the community

**Gaining Entry into the Community**

Organizers need;

- Cultural sensitivity, cultural competence, cultural humility

Organizers need to know;

- Who is causing problem and why; how problem has been addressed in past; who supports and opposes idea of addressing problem; who could provide more insight

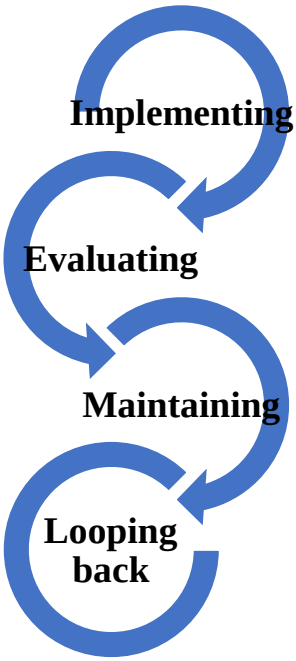
**Arriving at a Solution and Selecting Intervention Strategies**

Alternate solutions exist for every problem;

- Probable outcomes
- Acceptability to the community
- Probable long and short-term effects
- Costs of resources

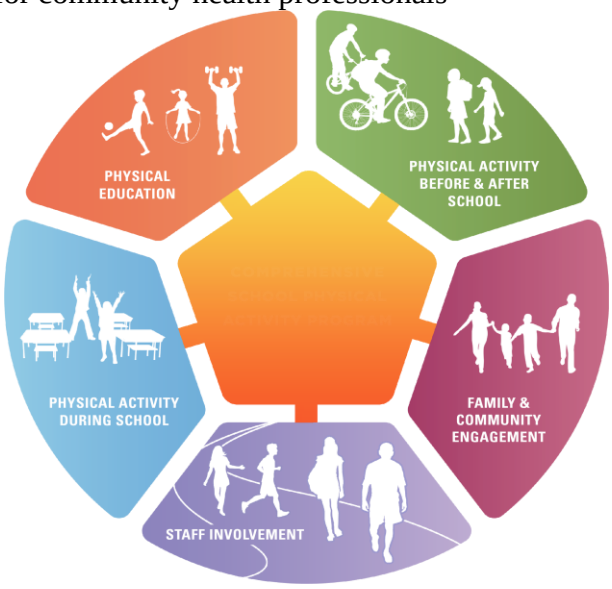
**Final Steps**

- Implementing
- Evaluating
- Maintaining
- Looping back




**Health Promotion Programming**

- Important tool for community health professionals




- Health education; Part of health promotion
- Health promotion; More encompassing than health education


## Topic 147: Disparate Populations, Community and Public Health

**Introduction**

- Strength of countries lies in diversity of people
- Minority health
- Health disparities

**Race and Health Initiative Goal**

Eliminate disparities among racial and ethnic minority populations in six areas;

- ❑ Infant mortality
- ❑ Cancer screening and management
- ❑ Cardiovascular disease and stroke
- ❑ Diabetes
- ❑ HIV/AIDS
- ❑ Adult and child immunization

**Social Determinants of Health and Disparities in Health**

Many factors contribute to health disparities;

- ❑ Strong associations between social determinants of health factors and health outcomes
- ❑ Education, level of income, poverty

**Racial and Ethnic Classifications**

- Classifications used to operationalize race and ethnicity
- Race;
  Categorization of parts of a population based on physical appearance due to particular historical social and political forces"
- Ethnicity;
  Subcultural group within a multicultural society; six main features

**Health Data Sources and Their Limitations**

Challenges to collection of race and ethnicity data

- Unreliability of self-reported data
- Classifications are social constructs that change over time and vary across societies and cultures
- Biased analysis

**Other Diverse Populations**

- Many diverse populations exist aside from racial and ethnic classifications
- Can be as much or more variation within groups as between groups

- Gender identity

**Immigrant and Refugee Health**

- Refugees
- Immigrants
- Can be classified into existing racial/ethnic groups; as a single group, present special concerns

**Empowering the Self and the Community**

To enable people to solve their community health problems three kinds of power associated with empowerment;

- **Social:**
  Access to "bases;" needed to gain political power
- **Political:**
  Power of voice and collective action
- **Psychological:**
  Individual sense of potency

**Lesson 41**

# SOCIOLOGY AND WORKPLACE HEALTH
# TOPIC 148-150

## Topic 148: Safety and Health in the Workplace

**Introduction**

- Occupational illness
- Occupational injury

**Importance of Occupational Safety And Health to the community**

- Industry is a subset of the larger community
- Hazardous agents in workplace affect workplace and those outside the worksite
- Workers themselves are a community

**Prevalence of Occupational Injuries, Diseases, and Deaths**

- Recent trends in workplace injuries and illness;
    - Decline in number of workplace injuries and illnesses reported in private industry since 1992
- Sectors with highest rates of occupational injury and illness;
    - Healthcare and social assistance
    - Agriculture
    - Forestry
    - Fishing and hunting

**Unintentional Injuries in the Workplace**

- Minor injuries: Cuts, bruises, abrasions, minor burns
- Major injuries: Amputations, fractures, severe lacerations eye losses, acute poisonings, severe burns

**Fatal Work-Related Injuries**

Reported by many sources

- Transportation incidents leading cause
- Industries with highest rates of fatal occupational injuries;
    - Agriculture
    - Forestry
    - Fishing and hunting
    - Construction
    - Transportation and warehousing

**Nonfatal Work-Related Injuries**

- Disabling injuries and illnesses

**Workplace Injuries by Industry and Occupation**

- Fatal occupational injuries by industry;
    - Highest total number of deaths: Construction industry
    - Highest workplace fatality rates: Agriculture, forestry, fishing, and hunting
- Nonfatal occupational injuries by industry

**Prevention and Control of Unintentional Injuries in the Workplace**

- Four fundamental tasks;
    - Anticipation
    - Recognition
    - Evaluation
    - Control

**Risk Factors**

- Working with the public
- Working around money or valuables

- Working alone
- Working late at night
- Jobs with higher risk;
    - Healthcare and service providers
    - Education

**Prevention Strategies**

- Environmental designs
- Administrative controls
- Behavior strategies

**Types of Occupational Illnesses**

- Skin diseases
- Noise-induced hearing loss
- Respiratory conditions;
    - Pneumoconiosis
    - Coal workers' pneumoconiosis
    - Asbestosis

**Other Work-Related Illnesses**

- Poisonings;
    - Agricultural workers
- Infections;
    - Healthcare and social assistance industry
- Exposure to hazardous agents

**Prevention and Control of Occupational Diseases and Disorders**

- Requires vigilance of employer and employee
- Agent-host-environment model

**Workplace Safety, Health, and Wellness Promotion Programs**

- Preplacement examinations
- Disease prevention programs
- Safety programs
- Worksite health and wellness promotion programs;
    - Total worker health
- Employee assistance programs

## Topic 149: Organizations That Help Shape Community and Public Health

**Introduction**

Three classifications based on funding sources, responsibilities, and organizational structure;

- Governmental
- Quasi-governmental
- Nongovernmental

**Governmental Health Agencies**

- Part of governmental structure;
    - Federal, state, or local
- Funded primarily by tax
- Managed by government officials
- Authority over some geographical area
- Exist at four levels;
    - International, national, state, local

**International Health Agencies**

World Health Organization;

- Headquartered in Geneva, Switzerland

- Six regional offices around the world
- Not oldest world health-related international agency, but largest

**Organization of WHO**

- Membership opens to any nation that has ratified constitution and receives majority vote of World Health Assembly;
  - World Health Assembly - delegates of member nations
  - Approves WHO programs and budget
- 194 member states
- WHO administered by different levels of staff

**Purpose and work of WHO**

- Mission; Attainment of highest possible level of health by all peoples
- Work financed by member nations
- Most notable work; Helping to eradicate smallpox
- Work guided by 13th General Program of Work and the UN's Millennium Declaration;
  - Millennium Development Goals (MDGs) established as part of Road Map
  - Sustainable Development Goals established in 2015 to build on MDGs

**National Health Agencies**

Each nation has department or agency within its government responsible for protection of health and welfare of its citizens

**State Health Departments**

- Most organized into divisions or bureaus
- Play many different roles;
  - Can establish health regulations
  - Provide link between federal and local health agencies
  - Have laboratory services available for local health departments

**Nongovernmental Health Agencies**

- Funded by private donations or membership dues
- Arose due to unmet health need
- Operate free from governmental interference
- Many types; Voluntary, professional, religious, social, philanthropic, corporate, service

**Voluntary Health Agencies**

- Created by one or more concerned citizens that felt a specific health need was not being met by governmental agencies
- Most exist at national, state, and local levels
- National often focused on research, state links national with local offices, local often carry out programming
- Usually, combination of paid staff and volunteers

**Professional Health Organizations**

- Made up of health professionals who have completed specialized training and have met standards of registration/ certification or licensure for their fields
- Mission; To promote high standards of professional practice
- Funded primarily by membership dues

**Philanthropic Foundations**

- Endowed institutions that donate money for the good of humankind
- Fund programs and research on prevention, control, and treatment of many diseases
- Examples;
  - Bill and Melinda Gates Foundation
  - Commonwealth Fund

**Corporate Involvement in Community Health**

Worksite health promotion programs aimed at lowering healthcare costs and reducing absenteeism;

- Safety, counseling, education courses, physical fitness centers

## Topic 150: Solid Waste

**Before 1970s**

Open dumps were;

- ❑ Outlawed by the Resource Conservation and Recovery Act (RCRA) in 1976
- ❑ Supported large populations of vermin and produced toxic leachates that contaminated groundwater

Garbage was burned in incinerators or in the open;

- ❑ Outlawed by the Clean Air Act of 1970

Garbage was poured into rivers, lakes, or oceans;

- ❑ Outlawed by the Clean Water Act (1972) and the Marine Protection, Research, and Sanctuaries Act (1972)

**Sanitary Landfills**

- Site should be dry, impervious clay soil;
  - ❑ Lined with plastic
  - ❑ Drained of liquids
  - ❑ Vented to control explosive gases
- Tipping fee is the cost of disposing of one ton of municipal waste
- Big drawback is that landfills use a lot of space

**Alternatives to Landfills**

- Reduce;
  Buy only what is needed; avoid excessive packaging
- Reuse;
  Use reusable items
- Recycle;
  Include composting
- Can be encouraged through financial incentives or mandated
- Waste-to-energy incineration still a pollution concern

**Hazardous Wastes**

Resource Conservation and Recovery Act (RCRA), 1976, 1984;

- ❑ All hazardous wastes accounted for "from cradle to grave"
- ❑ Wastes from petroleum refining, pesticide manufacturing, some pharmaceuticals
- ❑ Ignitable, corrosive, reactive, toxic wastes

**Superfund**

Comprehensive Environmental Response, Compensation, and Liability Act, 1980;

- ❑ The law required emergency cleanup of old waste sites
- ❑ The fund would be paid for by a tax on industry

**Superfund Controversy**

- Much effort was focused on determining who is liable.
- Tax was not reauthorized in 1995
- American Recovery and Reinvestment Act allocated $600 million for further cleanup of Superfund sites

**Coal Ash**

- Waste from coal-burning power plants
- Stored in open dumps, often near rivers
- Contains heavy metal contaminants, which leach into nearby water

- Is unregulated by the EPA
- Major spill in 2008 on the banks of the Tennessee River brought attention to coal ash

**Lesson 42**

# SOCIOLOGY AND HEALTH ETHICS-I
# TOPIC 151-153

## Topic 151: Introduction to Health Ethics in Sociology

**Health Ethics**

Concerned with moral principles, values and standards of conduct in healthcare. Raises ethical concerns, related to health care delivery, professional integrity, data handling, use of human subjects in research, and the application of new techniques, such as gene manipulation

**History**

- Nuremberg Trials in 1946;
  - Medical experiment without consent of people
  - Subjects died or were permanent crippled
  - Made voluntary consent essential
- Declaration of Helsinki, 1964
- Ethical principles for human experimentation developed by World Medical Association
- Revised in 1975, 1983, 1989 & 1996
- Issues addressed in declaration of Helsinki;
  - Animal experimentation
  - Research protocols
  - Informed consent
  - Scientifically qualified individuals
  - Risks should not exceed benefits

**Ethical Principles**

Four principles of health care ethics developed by Tom Beauchamp and James Childress in the 1985;

- Autonomy
- Beneficence
- Non-Maleficence
- Justice

- Autonomy;
  - Right of the patient to retain control over his or her body
- Beneficence;
  - All procedures and treatments recommended must be with the intention to do the best for the patient
- Non-Maleficence;
  - To do no harm
- Justice;
  - Fairness in all medical decisions
  - Fairness in decisions that burden and benefit
  - Equal distribution of scarce resources and new treatments

## Topic 152: Consent, Choice and Refusal: Adults with Capacity

**Capacity**

Everyday ability individuals possess to make decisions or to take actions that influence their life. A person lacks capacity if he or she cannot make a decision because of impairment of, or a disturbance in the functioning of, the mind or brain.

**Assessing Capacity**

Person regarded as unable to make a decision if he or she is unable:

- To understand the information relevant to the decision

- ❑ To retain the information relevant to the decision
- ❑ To use or weigh the information to communicate the decision

**The Nature and Purpose of Consent**

- Legal;
  - ❑ Consent is trigger that allows treatment
  - ❑ Some interventions can be harmful (side effects, etc)
  - ❑ Some interventions could be considered assault or battery
- Ethical;
  - ❑ Patients' views should be respected
  - ❑ HealthCare is a partnership between doctor and patient

**Informed Consent**

To be informed, the patient must be told in plain language:

- ❑ Purpose of a proposed investigation or treatment and what it will involve
- ❑ Diagnosis and prognosis
- ❑ Uncertainties about the diagnosis or prognosis
- ❑ Conflicts of interest doctor may have
- ❑ Likelihood of success for each option
- ❑ Potential benefits, risks and burdens
- ❑ Options for further investigations
- ❑ Other options for treating or managing the condition

**Refusal of Treatment**

- Adult patients with capacity have the right to refuse any medical treatment
- Exception;

Compulsory treatment authorized under mental health legislation

- Can refuse even if refusal results in;
  - ❑ Permanent physical injury or death
  - ❑ Permanent physical injury or death of a viable fetus
- Adult patients must have all information to make an informed consent before making an informed refusal
- Should be offered care and symptom management appropriate to their needs
- Refusal should be documented in health records

**Individual's Choices**

- Limitations;
  - ❑ Procedures carried out for the benefit of others
  - ❑ Organ donation from live donors
- Ethical issues;
  - ❑ Requests for the amputation of healthy limbs
  - ❑ Procedures that will cause death
  - ❑ When physically healthy patients seek procedures that are disabling, legal advice should be sought before proceeding

**Incapacitated Adults**

- Families and those close to the adult as the patient's proxy decision maker
- Without appointed legal proxies' responsibility fall on the doctor
- Decision making on the basis of
  - ❑ The area's legal requirements
  - ❑ An assessment of the patient's best interests

## Topic 153: Consent For Children and Young People

**Who Gives Consent for Children?**

- Views of children and young people must be heard;

- Decision by a competent young person based on appreciation of the facts demands respect
- Parents or others with parental responsibility
- Doctors

**Competency of Young People**

- Children and young people can give consent if they are able to;
  - Understand the nature of the treatment
  - Understand the purpose of the proposed treatment
  - Retain the information
  - Weigh it in the balance to arrive at a decision
- A young person's competency can fluctuate because of;
  - Their medical condition
  - Medication
  - Time of day
  - Their mood

**Consent or Refusal**

- Presume people are competent from 16 years
- Young people should be encouraged to involve their parents, but are entitled to confidentiality
- Opportunity for hearing views of young
- Legal advice if essential care is refused

**Involvement of Courts**

- Child refuses care, and competency of child is in doubt
- Doctors are concerned about the willingness of parents to provide essential care following invasive procedures
- If an agreement cannot be reached

**Doctors' Responsibility**

- Never delay taking emergency action
- Keep clear, comprehensive, accurate, & contemporaneous notes
- Awareness about local child protection procedures
- Override the interests of the child to those of parents or caregivers
- Safeguard & promote Children's welfare
- Ensuring Follow-up System
- Ensure Follow-up care & system with future documented plan
- Able to recognize & know how to act upon signs that a child may be at risk of abuse or neglect in any living environment
- Encourage and ensure parental involvement and support
- Overall responsibility for the child protection aspects of the case
- Thorough examination of child within 24 hours
- Include children and young people in decisions that closely affect them
- Listen to and respect the views and wishes of children

**Lesson 43**

## SOCIOLOGY AND HEALTH ETHICS-II
## TOPIC 154-157

### Topic 154: Confidentiality

**Key Terms**

- Anonymized and identifiable Information
- Consent- Express and Implied consent
- Disclosure and Public Interest Disclosure
- Personal and Pseudonymized information.
- Healthcare Team

**Confidentiality**

- The General Medical Council guidance states that 'Patients have a right to expect that information about them will be held in confidence by their doctors
- Readily Available information
- Consent should be sought
- Use of anonymized information
- Minimum disclosures
- Justifiable decisions
- Protected information
- Training on confidentiality & security issues

**Confidential Data**

- All information collected in the context of healthcare, that may identify the patient direct or indirectly are confidential;
  - ❑ Clinical information about an individual's diagnosis or treatment
  - ❑ A picture, X-ray, photograph, video, audiotape or other images of the patient
- Who the patient's doctor is;
  - ❑ Which clinics the patient attends and when
- Any social information that a doctor may learn about;
  - ❑ Information about family life

**Disclosure of Data**

- Disclosure to courts, tribunals, regulatory bodies, solicitors (lawyers), police, social services and partner organizations
- Spiritual care
- Disclosure to the media
- Responding to criticism in the press
- Employment, insurance & other affairs
- Disclosures in the public interest;
  - ❑ Health
  - ❑ Public safety
  - ❑ Serious crime and national security
  - ❑ Gunshot and knife wounds
  - ❑ Safety in the workplace
  - ❑ Abuse and domestic violence

### Topic 155: Assisted Reproduction

Assisted reproductive (AR) or Assisted Reproduction technology (ART) is a general term referring to methods used to achieve pregnancy by artificial or partially artificial means. It is used primarily in infertility treatments.

**Hormonal Injections & Surgery**

- Hormonal Injections or fertility drugs;
  - Used on women to address unexplained fertility issues or ovulation problems
  - They increase the chance of multiple births
- Surgery is done when reasons include blocked fallopian tubes or endometriosis

**Insemination Procedure**

Insemination procedures put sperm directly into the woman's reproductive tract with a tube inserted through the cervix. This can improve the chances of conception in women who have difficulty conceiving

**In vitro fertilization (IVF)**

Man's sperm is mixed with the woman's eggs in a lab. Sometimes donor sperm or eggs are used. If egg and sperm join, fertilization occurs. Embryos are put into the uterus, hoping they implant and grow. Usually, more than one embryo is put to increase chances, resulting in multiple births.

**Intracytoplasmic Sperm Injection**

Used for low sperm count. Sperm collected over time to produce a concentrated sample of semen, which is then used for insemination. One sperm is injected into one egg. If fertilization occurs, the doctor puts the embryo back into the uterus via IVF.

**Genetic Reasons**

Some forms of ART are also used in fertile couples for genetic reasons;

- To avoid the transfer of unwanted genetic characteristics to the embryo
- Couples who have certain communicable diseases, i.e. AIDS, to reduce the risk of infection

**Ethical Issues**

- Ideology or religion;
  - Status of the embryo
  - Sanctity of the family's genetic lineage
- Utilitarian principles;
  - Best for society
  - Best interest of the child
- Autonomy;
  - Patient's autonomy (respect for autonomy)
  - Reproductive freedom
  - Decision based on accurate information
  - Issue of success rates
- Donation;
  - Commercialization- people buying and selling eggs and sperms of desired genes
  - Use of eggs and ovaries from aborted female fetuses
  - Donation of eggs and ovaries after a woman's death
- Right and Privacy;
  - The right of autonomy and privacy of the parents
  - The right of privacy of the donor
  - The right of the child to know his/her origins
- Pre-implantation genetic diagnosis (PGD);
  - Status of the embryo
  - Discrimination
  - "Designer" babies
  - Sex selection
  - "Destruction of unwanted embryos
- Risks- Benefits;

- Who is making the decisions for the welfare of the child?
- Parents
- Medical personnel
- Society and the law;
  - Is it in one's best interest to be born?

## Topic 156: Prescribing and Administering Medication

**General Principles**

- When a doctor prescribes a medicine;
  - Accepts clinical and legal responsibility
  - Should have sufficient knowledge and experience
  - Should not prescribe to form business
  - Avoid conflicting treatment
- Prescribing unlicensed medicines

**Responsibility for Shared prescribing**

- Legal responsibility for prescribing
- Insufficient Knowledge and experience
- Prescribing off-label treatments
- Prescribing drugs that are not normally dispensed
- Sharing care between consultant and General Physician
- Follow up treatment plan for patients
- Transferring responsibility of patient from hospital to General Physician
- Agreement between hospital consultant and general Physician

**Pressure from Patients**

- Request for particular medication
- Economic and efficacious treatment
- Prescribing larger doses
- Prescribing lifestyle drugs

**Prescribing From A Distance**

- Prescribing by email or over call;
  - Compromised standard of care
  - Serious safety risks
  - Lack of examination, monitoring and limited follow up chances
- Doctors are not obliged to prescribe drugs for patients' relatives in other countries

## Topic 157: Emergency Situation

A medical emergency is an acute injury or illness of sufficient severity that poses an Immediate risk to a person's life or long-term health. Severe bleeding, breathing difficulties, collapses, fits or seizures, severe pain, Heart attack, stroke and accidents are examples.

**Emergency Care**

Emergency Care is an essential part of the health system and serves as the First point of contact for many around the world. 'Emergency care' means inpatient and outpatient hospital services necessary to prevent the death or serious important of the health of the recipient.

**Emergency Care: Step**

Five steps of emergency care are:

- Triage
- Registration
- Treatment
- Reevaluation
- Discharge

**Core Ethical Issues of Emergency Care**

- The duty to promote patient autonomy when possible and patient-centered services
- The protection of patient confidentiality, privacy and dignity
- The duty of care both for patients and, in some cases, families
- A recognition of the abilities of others in the healthcare team to work across traditional boundaries
- The obligation to act within one's sphere of competence

**Lesson 44**

# SOCIOLOGY AND EPIDEMIOLOGY-I
# TOPIC 158-159

## Topic 158: Epidemiology: The Basic Science of Public Health

**Epidemiology**

- Diagnostic discipline of public health
- Part of public health's assessment function
- Investigates causes of diseases
- Identifies trends in disease occurrence
- Evaluates effectiveness of medical and public health interventions
- Observational science

**Definition**

Epidemiology is defined as "the study of the distribution and determinants of disease frequency in human populations"

**Patterns of Disease Occurrence**

- Epidemiologists infer why a disease occurs:
  - Who is getting the disease?
  - When did they get the disease?
  - Where is the disease occurring?
- The ultimate goal is to use this knowledge to control and prevent the spread of disease

**Epidemic Surveillance**

- Line of defense against diseases
- Control spread of known disease
- Aids in recognizing new disease
- Importance increased with threat of bioterrorism
- Endemic versus epidemic
- "Notifiable" diseases
- "Shoe-leather epidemiology"

**John Snow and Cholera**

First example of use of epidemiology. London had Cholera epidemics in mid-1800s. Snow suspected an association with the water supply, the Thames River. "Natural experiment": Questioned households where cholera death had occurred. Most deaths were associated with one water supply company.

**Outbreak Investigation**

- Verify the diagnosis
- Construct a working case definition
- Find cases systematically
- Ask who, where, and when questions to describe the epidemic by person, place, and time
- Look for a common source of exposure

**Epidemiology and Chronic Diseases**

- Identify risk factors
- Observe long-term trends
- Epidemiologic studies of chronic diseases are more complicated and difficult than for infectious diseases or toxic contamination

## Topic 159: Epidemiologic Principles and Methods

**Define the Disease**

- Death is easy to determine

- A blood test or stool culture is needed to verify a diagnosis of certain diseases
- Some diseases are hard to define
- Sometimes a definition changes as more is learned
- Other health outcomes include injuries and risk factors

**Disease Frequency**

- Count the number of people with a disease and relate that to the population at risk (PAR)
- Two ways to measure frequency are;
  - Incidence, the number of new cases
  - Prevalence, the number of existing cases
- Incidence is used for studying causes of disease
- Prevalence depends on incidence and prognosis;
  - Causes or risk factors increase, incidence and prevalence increase
  - Ability to diagnose increases, incidence and prevalence appear to increase

**Distribution of Disease**

- Who;
  - Sex, age, occupation, race, and economic status
- When;
  - Season, year (long-term trends), elapsed time since an exposure (epidemic curve)
- Where;
  - Neighborhood (e.g., clusters), latitude (climate), urban vs. rural, national variations

**Determinants of Disease**

- Why is distribution as it is?
- We can make inferences from distribution
- We can make inferences from distribution

**Human Population**

- Epidemiology studies human population, usually using observational methods
- Biomedical approach uses animal models to investigate the causes of disease
- Experiments conducted on animals can yield clear answers as to cause and effect
- For ethical reasons, experiments cannot usually be done on humans

**Kinds of Epidemiology Studies**

- Goal is to determine an association between an exposure and a disease or other health outcome
- Studies may be prospective or retrospective
- Intervention study
- Cohort study
- Case-control study

**Intervention Study**

- Epidemiologists do not perform the experiments, closest study to an experiment
- Start with two groups:
  - Experimental group (gets the intervention or exposure)
  - Control group
- Watch them over time and compare
- Randomized, double-blind, placebo control is ideal
- Pharmaceutical companies conduct many clinical trials for new drugs
- Field trial of polio vaccine in 1954 was randomized and double-blind

**Cohort Study**

- Used when doing an intervention study would be unethical or too difficult
- Considered to be the next most accurate

- Choose a large number of healthy people, collect data on their exposures, and track outcomes over time
- The only difference from intervention is that people choose their own exposures

**Case-Control Study**

- Faster and cheaper
- Least accurate approach
- Commonly done to follow up on a hypothesis generated by "shoe-leather" epidemiology
- Start with two groups:
  - Experimental group (gets the intervention or exposure)
  - Healthy control group, similar to cases
- Ask people for their previous exposures
- Estimate the strength of the association between exposure and disease by calculating an odds ratio

**Lesson 45**

## SOCIOLOGY AND EPIDEMIOLOGY-II
## TOPIC 160-162

### Topic 160: Problems and Limits of Epidemiology

**Problems with Studying Humans**

- Intervention study problem;
  - Subjects may not follow prescribed behavior throughout study period
- Cohort study problem;
  - Sometimes it is hard to isolate which of many factors are responsible for health differences
- Case-control study problems;
  - Control group may not be truly comparable
  - Errors may exist in reporting or recalls

For all studies, differential drop-outs are worrisome

**Sources of Error**

- Random variation
- Confounding variables
- Bias;
  - Selection bias
  - Reporting bias or recall bias

**Factors that Lend Validity to Results**

- Strong association
- Dose–response relationship
- Known biological explanation
- Large study population
- Consistent results from several studies
- High relative risk or odds ratio

**Hormone Replacement Theory**

- Conflicting results exist between two major studies
- Previous positive evidence has all come from observational studies
- Clinical trial is the gold standard
- Results of cohort study were confounded by associated factors that made women taking HRT healthier, even without the therapy

**Ethical Issues**

- Nazi experiments on humans
- Tuskegee syphilis study
- AIDS epidemic
- Bone marrow treatment for advanced breast cancer
- New rules;
  - Informed consent
  - Institutional review boards
- Importance of clinical trials
- Possibility of conflict of interest with medical providers who stand to profit

**Conflict of Interest in Drug Trials**

- Randomized controlled trials on a new drug before it can be approved
- Harmful side effects of drugs
- Drug companies sometimes suppress negative findings
- All clinical trials must now be registered in advance with a public database

## Topic 161: The Conquest of Infectious Diseases

**Infectious Diseases: Major Killers in the Past**

- Bubonic plague
  - "Black Death"
- Tuberculosis
- Smallpox
- Cholera
- Typhoid
- Typhus
- Yellow Fever
- Diphtheria
- Measles
- Influenza

**Infectious Diseases Were "Conquered" by the 1960s**

- Immunization
- Antibiotics
- Public health measures;
  - Purification of water
  - Proper disposal of sewage
- Public health measures;
  - Pasteurization of milk
  - Improved nutrition and personal hygiene

**Infectious Agents**

Cholera;

- Tuberculosis, cholera, typhoid, tetanus, diphtheria, dysentery, syphilis, streptococci, staphylococci

Viruses;

- Smallpox, poliomyelitis, hepatitis, Measles, rabies, AIDS, Yellow fever

Parasites;

- Malaria, cryptosporidiosis, giardiasis, roundworms, tapeworms, hookworms, pinworms

**Chain of Infection**

The transmission pattern is composed of links;

- Pathogen (infectious agent)
- Reservoir
- Means of transmission
- Susceptible host

**Mode of Transmission**

- Directly from one person to another
- Aerosol
- Touching contaminated object and putting hands to mouth, nose, or eyes
- Fecal-oral route
- Vectors
- Sexual contact

**Interrupting chain of infection**

- Kill pathogen with antibiotics
- Eliminate the reservoir
- Increase resistance of host by immunization
- Antibiotic resistance
- Prevent transmission:

- Hand Washing
- Quarantine

**Public Health Measure**

- Epidemiologic surveillance
- Contact tracing
- Immunization and treatment of identified patients to prevent further spread
- Quarantine if necessary

**Eradication**

- Eradication is possible if there is no nonhuman reservoir and if a vaccine exists
- Smallpox was eradicated in 1977
- Polio is eradicated;
  - Endemic only in Afghanistan and Pakistan
  - Religious opposition in some countries
- Measles is the next target
- Rumors of vaccines causing autism & SIDS

**Fear of vaccine**

- Side effects for some vaccines
- Parents refuse to accept risks
- Herd immunity is lost if many people do not get vaccinated
- Reluctance of pharmaceutical companies;
  - Low Profit
  - Risk of lawsuits

## Topic 162: The Resurgence of Infectious Diseases

**Infectious Diseases: Major Killers in the Past**

- Bubonic plague
  - "Black Death"
- Tuberculosis
- Smallpox

**HIV/AIDS**

- Was first recognized in the U.S. in 1981
- Is now a worldwide killer
- Is caused by a retrovirus
- Attacks the immune system
- Screening test recognizes antibodies
- Now many drugs are available but no cure

**HIV: Origin**

Probably originated in Africa. Transmitted cross-species from monkeys/apes. Spread in human populations due to disruption of traditional lifestyle. Spread to Western countries due to changing patterns of sexual behavior and international travel.

**Other Emerging Virus**

- Ebola
- Monkey pox
- Hantavirus
- Other hemorrhagic fevers
- West Nile Virus
- SARS

**Emergence of New Infection Diseases: Factors**

- Human activities that cause ecological damage and close contact with wildlife
- Modern agricultural practices

- International travel
- International distribution of food and exotic animals
- Breakdown of social restraints on sexual behavior and intravenous drug Use

**Influenza**

- Influenza is an RNA virus like HIV
- Virus is constantly mutating
- Vaccine must be changed frequently
- New lethal strains appear periodically
- Epidemic of 1918-1919 killed 20 million to 40 million worldwide
- Bird flu and H1N1 are concerns

**New Bacterial Threats**

- Legionnaire's disease
- Lyme disease
- Group A streptococci
- E. coli O157:H7 in food
- Antibiotic resistance;
    - From improper medical use
    - Use in agriculture

**Tuberculosis**

Leading cause of infectious-disease death worldwide. One third population of world is infected. Resurgence in U.S. in the early 1990s. People with HIV are at much higher risk. Transmitted by aerosol. Fatality rate is 50% for untreated TB. Antibiotics are effective but improper use leads to resistance, including multidrug resistance. Directly observed therapy works. In 2007, the CDC revised its requirements for overseas medical Screening of applicants for immigration to the U.S.

**Public Health Response**

- Global surveillance
- Improved public health capacity
- Veterinary surveillance
- Reducing inappropriate use of antibiotics
- Institute of Medicine recommendations;
    - New Vaccines
    - New antimicrobial drugs
- Institute of Medicine recommendations;
    - Measures against vector- borne diseases

**Threat of Bioterrorism**

- Approach to bioterrorism is the same as that for natural disease outbreaks
- Bioterrorism will probably first be recognized by surveillance
- It is best defended against by the same methods as natural outbreaks