

SURFACE INFECTION



Centurion
UNIVERSITY

*Shaping Lives...
Empowering Communities...*

Suman Kumar Mekap
Assistant Professor (Pharmacology)
CUTM, Bhubaneswar

INTRODUCTION

A communicable disease is one that is spread from one person to another through a variety of ways that include: contact with blood and bodily fluids; breathing in an airborne virus; or by being bitten by an insect. Over 13 million people die each year from infectious and parasitic diseases one in two deaths in some developing countries. *World Health Report 2000* that 14 million deaths estimated 2.2 million deaths, followed by tuberculosis, with nearly 1.5 million deaths, and malaria.

DEFINITION

Communicable Disease . Any disease that can be transmitted from one person to another. This may occur by direct physical contact, by common handling of a contaminated object through a disease carrier, or by spread of infected droplets exhaled into the air.

DEATH OF CHILDREN UNDER FIVE IN 2015

DISEASE	NUMBER OF DEATH
1. PNEUMONIA	920,000
2. DIARRHOEA	526,000
3. MALARIA	306,000
4. HIV	87,000
5. MEASLES	74,000

AIM AND OBJECTIVE

- Define Communicable Disease.
- Explain The Control And Prevention Of Communicable Disease
- Describe The Treatment Of Communicable Disease
- List Down The Clinical Feature Of Communicable Disease

TERMINOLOGY

EPIDEMIC

A widespread occurrence of an infectious disease in a community at a particular time .

ENDEMIC

Of a disease or condition regularly found among particular people or in a certain area .

PANDEMIC

An epidemic which is worldwide in distribution

CONT...

RESERVOIR

Anything (living or inert) in which an infectious agent lives and multiplies in such a manner that it can be transmitted to a susceptible host

FOMITE

Contaminated substance (not necessarily a reservoir) serving as an intermediate means of transport for an infectious agent

HOST

Person/animal that affords subsistence to an infectious agent under natural conditions

INFECTION

Infection is the invasion of a host organism's bodily tissues by disease-causing organisms, their multiplication, and the reaction of host tissues to these organisms and the toxins produce.

DISEASE

Any deviation from a condition of good health and well-being .

INFECTIOUS DISEASE

A disease condition caused by the presence or growth of infectious microorganisms or parasites.

Cont...

ACUTE INFECTION

An infection characterized by sudden onset, rapid progression, and often with severe symptoms .

CHRONIC INFECTION

An infection characterized by delayed onset and slow progression.

Cont...

PRIMARY INFECTION

An infection that develops in an otherwise healthy individual

SECONDARY INFECTION

An infection that develops in an individual who is already infected with a different pathogen

Cont...

LOCALIZED INFECTION

An infection that is restricted to a specific location or region within the body of the host

SYSTEMIC INFECTION

An infection that has spread to several regions or areas in the body of the host .

Cont...

CLINICAL INFECTION

An infection with obvious observable or detectable symptoms

SUBCLINICAL INFECTION

An infection with few or no obvious symptoms

ECTOPARASITES

A parasite, such as a flea, that lives on the outside of its host

TETANUS

INTRODUCTION

Tetanos – A Greek word – First described by Hippocrates & Susruta

Tetanus is one of the most deadly diseases. It continues to cause approximately 213,000–293,000 deaths worldwide each year, 180,000 of which have been reported in neonates. In India, tetanus is endemic and remains an important health problem. The annual incidence of neonatal tetanus is 1.74/1000 live births .

Tetanus is important endemic infection in India. Causative factors, Hand washing, Delivery practices, Traditional birth customs, Interest in immunization Prior to the national immunization programme estimated 3.5 Lakh children were dying annually. 70,000 cases continue to occur largely in the states – Orissa, Bihar, MP, Aasam, Rajasthan, UP ,where TT immunization coverage is less than national coverage(70%) .

DEFINITION

Tetanus an neurological disease characterized by an acute onset of hypertonic, painful muscular contractions (usually of the muscles of the jaw and neck), and generalized muscle spasms without other apparent medical causes.

Only vaccine preventable disease that is infectious but not contagious

EPIDEMIOLOGICAL DETERMINANTS

AGENT FACTOR

AGENT : *CLOSTRIDIUM TETANI* , Anaerobic , Motile , Gram positive bacilli

PERIOD OF COMMUNITY : None not transmitted from person to person .

HOST FACTOR

AGE : It is the disease of active age (5-40 years), New born baby, female during delivery or abortion

SEX : Higher incidence in males than females

OCCUPATION : Agricultural workers are at higher risk

RURAL -URBAN DIFFERENCE: Incidence of tetanus in urban areas is much lower than in rural areas

ENVIRONMENTAL

SOCIAL FACTORS: Unhygienic custom habits, Unhygienic delivery practices

MODE OF TRANSMISSION

Apparently trivial injuries , Animal bites/human bites, Open fractures , Burns , Gangrene, In neonates usually via infected umbilical stumps.

INCUBATION PERIOD: 6to 7 days

CLINICAL FEATURES: First symptoms to the reflex spasm ,injury site is from the central nervous system, Early symptoms are neck stiffness, sore throat and poor mouth opening. Neck rigidity, dysphagia, restlessness



TYPES OF TETANUS

- ① **TRAUMATIC** :Trauma is a major and important cause of tetanus .Some times tetanus may result from most trivial or even unnoticed wound.
- ① **PUERPERAL** :Tetanus follow abortion more frequently than a normal labor a post –abortal uterus is a favorable site for the germination of tetanus spores.
- ① **OTOGENIC** :Ear may be a rare portal of entry foreign bodies such as infected pencil matches ,may introduce the infection .
- ① **TETANUS NEONATORUM** :In many countries ,neonatal tetanus kills about 85 per cent of those afflicted .The common cause is infection of the umbilical stumspafter birth.
- ① **DIAGNOSIS** :Blood tests,Cerebrospinal fluid (CSF) direct smear – Show Gram-positive bacilli

PREVENTION

ACTIVE IMMUNIZATION

Tetanus is completely preventable by active tetanus immunization. Immunization is thought to provide protection for 10 years. Begins in infancy with the DTP series of shots. The DTP vaccine is a "3-in-1" vaccine that protects against diphtheria, pertussis, and tetanus.

Two preparations are available for active immunization

- ❑ Combined vaccine -DPT
- ❑ Monovalent vaccine vaccines
 - i. Plain or fluid (formal) toxoid

1 st dose - 6th week (DPT) 2 nd dose - 10th week (DPT) 3 rd dose - 14th week (DPT) 1 st booster - 18th month (DPT) 2 nd booster - 6th year (DT) 3 rd booster - 10th year (TT)

CONT...

COMBIND VACCINE :In combination with diphtheria vaccine the primary course of immunization consists of 3 doses of DPT at interval 4-8 week ,starting at 6 week of age follow by a booster at 18 months of age and secound booster at 5-6 year of age and a third booster (only TT) after 10 year of age .

MONOVALENT VACCINES

Purified tetanus toxoid (adsorbed) supplanted the plain toxoid – higher & long lasting immunity response

- Primary course of immunization – 3 doses
- Each 0.5 ml , injected into arm given at intervals of 0,1,6 months
- The longer interval b/w two doses, better is the immune response
- Booster doses : After 1 yr and Every 10 yrs
- Older teen Years and adults who have sustained injuries, especially puncture-type wounds, should receive booster immunization for tetanus if more than 10 years have passed since the last booster.

CONT...

PASSIVE IMMUNIZATION

HUMAN TETANUS IMMUNOGLOBULIN /ATS

It is the best prophylactic to use the dose for all age 250-500 IU .

- ⊙ Longer passive protection compared to horse ATS(30 days)
- ⊙ 1500 IU s/c after sensitivity testing 7 – 10 days
- ⊙ High risk of serum sickness .

ACTIVE & PASSIVE IMMUNIZATION

- In non immunized persons
- 1500 IU of ATS / 250-500 units of Human Ig in one arm & 0.5 ml of adsorbed tetanus toxoid into other arm /Gluteal region
- 6 wks later, 0.5 ml of tetanus toxoid
- 1 yr later , 0.5 ml of tetanus toxoid

ANTIBIOTICS :A single interamuscular injection of 1.2 mega units of a long -acting penicillin .

Hansen's disease



LEPROSY

INTRODUCTION :Leprosy is widely preventable in India .Leprosy case load has come down from 57.6 cases per 10,000 population in 1981 to less than one case 10,000 population at national level in December 2005 and the country achieved the goal of leprosy elimination at national level .

- ❑ A total of 1.35 lac new cases were detected during 2014-15.
- ❑ Multibacillary cases were 49.92 percent
- ❑ Female cases were 37.72 percent, children 9.93 percent
- ❑ 3.45 percent cases were with visible deformity

DEFINITION

Leprosy (Hansen's disease) is a chronic infectious disease caused by *Mycobacterium leprae* (*M. leprae*) it affect mainly peripheral system and also affect the skin ,muscles ,eyes , bones, and internal organs .

EPIDEMIOLOGY DETERMINANTS

AGENT FACTOR

AGENT : *Mycobacterium leprae* (*M. leprae*)

SOURCE OF INFECTION : *M. leprae* are present in wild animal ,e.g .armadillos , monkeys and chimpanzees.

HOST FACTOR :

AGE : Leprosy affects all age groups but incidence generally rises to a peak between 10 to 20 years of age and then fall

SEX : Both the incidence and prevalence of leprosy appear to be higher in males than females most region of the world .

ENVIRONMENT :Humidity favors survival of *M. leprae* in environment Overcrowding & lack of ventilation within households

SOCIAL FACTORS: Poverty, related circumstances, Overcrowding, Poor housing, Lack of personal hygiene



SYMPTOMS

- **Pain areas:** In the joints
- **Skin:** Blister, loss of colour, rashes, ulcers, or redness
- **Sensory:** Reduced sensation of touch, pins and needles, or loss of temperature sensation
- **Also common:** Nerve injury or weight loss



MODE OF TRANSMISSION

Transmission by inhalation

Droplet infection (most common)

Transmission by contact

Skin to skin contact with Infectious cases Contact with soil or fomites

Other Routes

Insect Vectors e.g., Mosquito, Bedbugs

Tattooing needles

NB : Breast feeding and Trans placental infection do not occur.

INCUBATION PERIOD

Long incubation period

- Ranged: 2 to 40 years or more

- Average: 3-5 years

Generation time : 12 days.

- **Infectivity** : Leprosy is a highly infectious disease with low pathogenicity. Among household contacts of lepromatous cases about 5 to 12 percent is expected to show signs of leprosy within 5 yrs.

CLASSIFICATION

The Indian classification (1981) is the official classification of the Indian leprosy association (HIND KUSHT NIVARAN SANGH)

INDETERMINATE TYPE :- This denoted those early cases with one or two vague hypopigmented macules and definite sensory impairment .

TUBERCULOID TYPES : This denoted those cases with one or two well -defined lesion may be flat or raised ,hypopigmented .

BORDERLINE TYPES : This types denote those case with four aur more lesion which may be flat aur raise .

LEPROMATOUS TYPES: This types denotes those case defined ,shiny ,smooth ,symmetrically distribute lesion





Tuberculoid Leprosy



Journal: Longo DK, Fauci AS, Kasper DL, Hauser SL, Jameson JL, Harrison TR. Principles of Internal Medicine, 2008 Edition. www.accessmedicine.com
Copyright © The McGraw-Hill Companies, Inc. All rights reserved.



Borderline leprosy: A solitary anesthetic annular patch with a scaly border on the trunk.

Lepromatous leprosy



Lepromatous leprosy



DIAGNOSIS

- **HISTORY** : Family history of leprosy
- **CLINICAL EXAMINATION** : Loss of sensation : heat, cold, pain, touch skin. Paresis or paralysis of muscles of hands and feet.
- **BACTERIOLOGICAL EXAMINATIONS** : Skin Smears ,Nasal Smears or blows ,Nasal Scrapings
- **FOOT-PAD CULTURE** Only certain way of identifying *M. Leprae*.
- **HISTAMINE TEST** . carried out by injecting 0.1ml of a 1:1000 solution of histamine phosphate into hypopigmented patches or in areas of anesthesia.
- **IMMUNOLOGICAL TEST** ELISA

LEPROSY CONTROL

MULTIDRUG CHEMOTHERAPY

- In the absence of effective of primary prevention by a leprosy vaccine leprosy control is based on effective multidrug chemotherapy(secondary prevention).

OBJECTIVES :

- To interrupt transmission of infection
- Early detection and treatment of cases to prevent deformities
- To prevent drug resistance

IN MULTIDRUG REGIMENS ONLY BACTERICIDAL DRUGS ARE USED :

FIRST LINE DRUGS : Rifampicin, Dapsone, Clofazimine, ethionamide and prothionamide.

SECOND LINE DRUGS : Quinolones, Minocycline, Clarithromycin.

CONT...

WHO RECOMMENDED REGIMENS OF CHEMOTHERAPY MULTIBACILLARY LEPROSY

- ⊙ **Rifampicin** : 600mg once monthly under supervision
- ⊙ **Dapsone** : 100mg daily self administered
- ⊙ **clofazimine** : 300mg once monthly under supervision 50mg daily self-administered

- ⊙ Where clofazimine is unacceptable due skin coloration it may be substituted by 250 to 375mg daily dose of ethionamide or prothionamide. The above regimen needs to taken for 12 months within 18 months

CONT...

WHO RECOMMENDED REGIMENS OF CHEMOTHERAPY :
PAUCIBACILLARY LEPROSY :

Rifampicin : 600gm once month under supervision

Daspone : 100 mg daily self administered

The above regimen needs to be taken for 6months within 9 months

TREATMENT REGIMEN FOR CHILDREN 10-14 YEARS : MULTIBACILLARY LEPROSY

Rifampicin : 450mg once monthly under supervision

Dapsone : 50mg daily self administered

clofazimine : 150mg once monthly under supervision

50mg every other day self-administered

PAUCIBACILLARY LEPROSY

Rifampicin : 450mg once a month under supervision

Dapsone : 50mg daily self administered.

NLCP



The NLCP was launched in 1954 later converted to NLEP in 1983

- The prevalence rate was 57cases/10000 population in 1981 which declined to 5.7/10000 in 2000
- In Dec 2005 India achieved the target of leprosy elimination envisaged in NHP 2002, when PR was brought down to <1/10000.
- Chhattisgarh and Dadra & Nagar haveli are yet to reach the target.

OTHER

- Health education
- Social support

4. SEXUALLY TRANSMITTED

DISEASE

The Sexually Transmitted Disease (STD) Are A Group Of Communicable Disease There Are Transmitted Predominantly By Sexual Contact And Caused By A Wide Range Of Bacteria , Viral ,Protozoa And Fungal Agent And Ectoparasites .

INDIA

Sexually Transmitted Diseases Are Becoming A Major Public Health Problem .

SYPHILIS :

Rare sexually transmitted bacterial infection Can cause serious damage to the body if not cured, including death Passed along by having unprotected oral, anal or vaginal sex Condoms can help prevent the spread of syphilis during vaginal or anal sex Condoms or dental dams can be used for protection during oral sex .Some people have no symptoms at all The infection can be cured antibiotics A person can get the infection again, so their partners should also be tested .

CONT...

EPIDEMIOLOGY

- During 2014 about 37,269 cases of syphilis (18,417 male and 18,852 female) were reported in the country with 1 death
- In 2015, about 45.4 million people were infected with syphilis, with 6 million new cases. During 2015, it caused about 107,000 deaths,

TREATMENT

Early Syphilis:

- ❑ Benzathine Penicillin 2.4 Million Units Intramuscularly Once
- ❑ Procaine Penicillin 600,000 Units Intramuscularly Daily For 10 Days
- ❑ If The Patient Is Unable To Take Penicillin, Then Give Tetracycline Or Erythromycin 500 Mg 4 Times A Day By Mouth – Or Doxycycline 100 Mg X2- For 15 Days. Ceftriaxone, 2 Gm Qd IM/IV For 10-14 D Is A New Alternative Treatment

Late Syphilis:

- ❑ Benzathine Penicillin 2.4 Million Units Intramuscularly Weekly For 3 Weeks.
- ❑ Procaine Penicillin 1.2 Million Units Intramuscularly Daily For 21 Days Tetracycline Or Erythromycin 500 Mg 4 Times A Day – Or Doxycycline 100 Mg X2- By Mouth For 30 Days

GONORRHOEA

- Sexually Transmitted Bacterial Infection Passed Along By Having Unprotected Oral, Anal Or Vaginal Sex Condoms Can Help Prevent The Spread Of Gonorrhoea During Vaginal Or Anal Sex Condoms Or Dental Dams Can Be Used For Protection During Oral Sex Most People Have No Symptoms The Infection Can Be Cured With Antibiotics A Person Can Get The Infection Again, So Their Partners Should Also Be Tested.

EPIDEMIOLOGY

DURING 2014 ABOUT 74,380 GONORRHOEA CASE (23,825 MALE AND 50,565 FEMALE WERE REPORTED IN THE COUNTRY

TREATMENT

Single dose of Tab. cefixime 400mg, Inj. Ceftriaxone 125 mg IM, tab. Ciprofloxacin 500mg, tab. Ofloxacin 400mg, or tab. Levofloxacin 250mg
Single dose of Inj. Ceftriaxone 125 mg IM, or tab. Ciprofloxacin 500mg

CHANCROID

Among the most common bacterial STIs in the world Passed by having unprotected oral, anal or vaginal sex Condoms can help prevent the spread of Chancroid during vaginal/anal sex Condoms or dental dams can be used for protection during oral sex

INCUBATION PERIOD 2 to 3days

TREATMENT

- ❑ Medical Education, Demonstration with condom.
- ❑ Sex Partners should be referred for evaluation and treatment
- ❑ HIV testing is recommended in any Patient with Chancroid and Syphilis.

CONT...

Antimicrobial therapy

- ❑ Tab. Azithromycin 1gm PO in a single dose
- ❑ Tab. Ciprofloxacin 500 mg PO bd/3 days
- ❑ Tab. Erythromycin base 500 mg PO /7 days
- ❑ Inj. Ceftriaxone 250mg IM in a single dose

DONAVANOSIS

Donovanosis (Granuloma Inguinale and *Calymmatobacterium*) is a sexually transmitted (Venereal), bacterial infection that affects skin and mucous membranes of anal and genital areas.

EPIDEMIOLOGY

It occurs worldwide but is most common in tropical or subtropical countries, where it is associated with poverty and poor hygiene.

As many as 20% of male patients with sexually transmitted diseases (STDs) in tropical countries have granuloma inguinale.

TREATMENT

- ❑ Azithromycin 1gram oral/iv once per week,
- ❑ Alternatively doxycycline 100 mg orally twice a day or
- ❑ Ciprofloxacin 750 mg orally twice a day or
- ❑ Erythromycin 500 mg orally four times a day or trimethoprim-Sulfamethoxazole one double-strength (160 mg/800 mg) tablet orally twice a day.

EPIDEMIOLOGICAL DETERMINANTS

AGENT FACTOR : Over 20 pathogens have been found to be spread by sexual contact *Neisseria Gonorrhoeae* , *haemophilus* (chancroid) *Calymmatobacterium granulomatis* (donovanosis)

HOST FACTOR :

AGE :The highest rates of incidence are observed in 20-40 year old ,followed by the 25-29 and 15-19 year age group .

SEX : for the STDS the overall morbidity rate is higher for men than for women .

MARITAL STATUS :STD Is higher among single ,divorced and separated person than among married couple .

DEMOGRAPHIC FACTOR :These Include Population Explosion And Marked Increase In The Number Of Young People ,The Group At Highest Risk STD In The Population ,Rural To Urban Migration ,Increasing Education Opportunity For Women Delaying Their Marriage And Increasing STD Risk.

SOCIAL FACTOR :

- ❑ **PROSTITUTION ; THIS IS THE MAJOR FACTOR IN THE SPREAD OF STSs**
- ❑ **BROKEN HOME**
- ❑ **SEXUAL DISHARMONY**
- ❑ **EASY MONEY**

CONTROL OF STDs

- Initial planning
- Intervention strategies
- Support components
- Monitoring and evolution

□ INITIAL PLANNING :

- I. PROBLEM DEFINITION : The diseases problem must be define in term of prevalence .
- II. ESTABLISHING PRIORITIES :Rational planning requires establishment of priority . This is the depend on the health problem consideration .eg (magnitude consequences)
- III. SETTING OBJECTIVE :To reduce the magnitude of the problem .
- IV. CONSIDERING STRATEGIES : A variety of intervention strategies are available .

□ INTERVENTION STRATEGIES :

CASE DETECTION : Early detection disease by screening testing of special group pregnant women ,prostitution ,industrial worker restaurant and hotel staff .

CONT...

CASE HOLDING AND TREATMENT : Adequate Treatment Of Patient And there contacts is the mainstay of STD control .

❑ PERSONAL PROPHYLAXIS

Contraceptives : Mechanical Barriers (Condoms And The Diaphragms.)

vaccines : the development of a vaccine for hepatitis B has raised hopes that vaccines will be found for other STDs

❑ HEALTH EDUCATION

- I. Promotion of safer sex and risk reduction
- II. Information campaigning regarding association of HIV and STDs
- III. Promotion of condom

❑ SUPPORT COMPONENT

STD clinic

Laboratory service

Primary health care

Legislation : The immoral traffic prevention act 1986 which replace the earlier suppression of the immoral traffic act 1956 cover all person whether male and female who are exploited sexually for commercial purposes





YAWS

INTRODUCTION

A chronic bacterial infection that affected the skin bone and cartilage India have reported no case of yaws since 2003 .A WHO international verification team (IVT)visited India in October 2015 to assess the status of interruption of transmission .Based on the report of the IVT and endorsed by the WHO Strategic and Technical Advisory Group (STAG) who declared India free of yaws in may 2016.

EPIDEMIOLOGICAL DETERMINANTS :

AGENT : *Treponema pertenue*

HOST FACTOR :

AGE : Yaws is primarily a disease of childhood and adolescence .Over 75 %case occur before the 15 year .

SEX : Male is greater than female

MODE OF TRANSMISSION

- 1. **DIRECT CONTACT** : That is by contact with secretion from infectious lesion .
 - 2. **FOMITES** : Yaws may also be transmitted by indirect contact
- TRANSPLACENTAL , CONGENITAL TRANSMISSION DOES NOT OCCUR**

INCUBATION PERIOD : 9 to 90 days (average 21 days)

CLINICAL FEATURE :

EARLY YAWS : After incubation period of three to five weeks the lesion extra –genital and is seen on expose part on the body such as legs ,arms, buttocks or face and within the 3 to 6 week yellow, cruste .

LATE YAWS : This occur after about 5 year characterized by destructive deforming and disabling lesion

CONTROL OF YAWS

The control of yaws is based on the following principles

SURVEY : A clinical survey of all the families in endemic area is made .The survey cover not less than 95 %of the total population during the persons suffering from yaws and their contact are listen.

TREATMENT Treatment based on the following observation

- a) Single dose of Azithromycin oral 30 mg
- b) Single injection penicillin

THE WHO HAS RECOMMENDED THREE TREATMENT POLICIES.

- ❑ **TOTAL MASS TREATMENT :** In area where yaws is hyperendemic (i.e.more than 10 %prevalance of clinically active yaws a great of the population is at risk .
- ❑ **JUVENILE MASS TREATMENT :** Treatment given to all cases and to all children under 15 year of age .
- ❑ **SELECTIVE MASS TREATMENT:** Treatment is confined to case , their household and other obvious contacts of infectious case

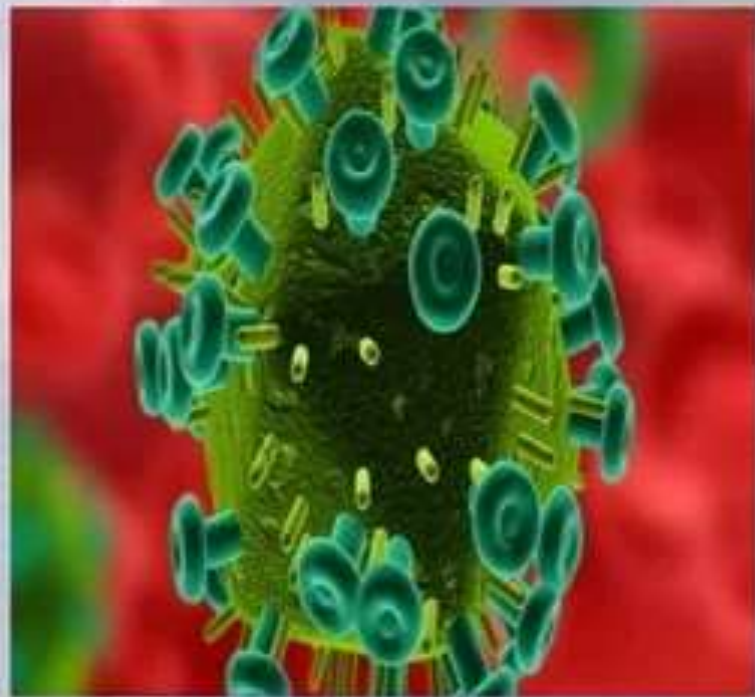
CONT...

RESURVEY AND TREATMENT .Resurvey should be undertaken every 6 to 12 month .several such follow-ups may be needed before eradication is achieved

SURVEILLANCE :With the decline of yaws to very low level ,emphasis has shifted to “surveillance and containment “ the surveillance and containment measures would be concentrated of affected villages ,households and other contacts of known yaws cases .

EVALUTION .

SLIM DISEASES



AIDS

Human Immunodeficiency Virus, Acquired Immunodeficiency Syndrome Some Time Called **SLIM DISEASES** Is A Fetal Illness Caused By Retrovirus Also Known As Human Immunodeficiency Virus Which Break Down The Body Immune System living In The Victim Vulnerable To A Host Of Life Opportunist infection Neurological Disorder Malignancies .

In 2016, about 36.7 million people were living with HIV and it resulted in 1 million deaths.

There were 300,000 fewer new HIV cases in 2016 than in 2015. Most of those infected live in sub-Saharan Africa From the time AIDS was identified in the early 1980s to 2017, the disease has caused an estimated 35 million deaths worldwide.

WHAT IS HIV

HUMAN: Infecting human beings

IMMUNODEFICIENCY: Decrease or weakness in the body's ability to fight off infections and illnesses

VIRUS: A pathogen having the ability to replicate only inside a living cell.

WHAT IS AIDS

ACQUIRED: To come into possession of something new

IMMUNE DEFICIENCY: Decrease or weakness in the body's ability to fight off infections and illnesses

SYNDROME: A group of signs and symptoms that occur together and characterize a particular abnormality

CONT...

- According to National AIDS Control Organization of India, the prevalence of AIDS in India in 2015 was 0.26%, which is down from 0.41 in 2002. While the National AIDS Control Organization estimated that 2.11 million people live with **HIV/AIDS in India** in 2015, a more recent investigation by the Million Death Study Collaborators in the British Medical Journal (2010) estimates the population to be between 1.4–1.6 million people.
- The last decade has seen a 50% decline in the number of new HIV infections. According to more recent National AIDS Control Organisation data, India has demonstrated an overall reduction of 57 percent in estimated annual new HIV infections (among adult population) from 0.274 million in 2000 to 0.116 million in 2011, and the estimated number of people living with HIV was 2.08 million in 2011

EPIDEMIOLOGICAL FEATURES

AGENT FACTOR

AGENT : When the first virus identify it was called "lymphadenopathy "- associate virus (LAV) by the french scientist researcher in USA called it human T cell lymphotropic virus III (HTLVIII) in may 1986 the international committee on the taxonomy gave it a new name human immunodeficiency virus(HIV)

SOURCE OF INFECTION:- Blood, semen ,and CSF saliva tear , urine and cervical and vaginal secretion.

HOST FACTOR

AGE :Most Case Have Occurrd Among Sexually Active Person Aged 20 -49 Years.

SEX : Higher Rate Of HIV Infection Is Found In Prostitution .

HIGH RISK GROUP : Male Homosexual And Bisexuals heterosexual partners .

TRANSMISSION

- HIV is transmitted by three main routes: sexual contact, significant exposure to infected body fluids or tissues, and from mother to child during pregnancy, delivery, or breastfeeding (known as vertical)transmission There is no risk of acquiring HIV if exposed to feces, nasal secretions, saliva, sputum, sweat, tears, urine, or vomit unless these are contaminated with blood.

Exposure route	Chance of infection
Blood transfusion	90%
Childbirth (to child)	25%
Needle-sharing injection drug use	0.67%
Percutaneous needle stick	0.30%
Receptive anal intercourse	0.04–3.0%
Insertive anal intercourse	0.03%
Receptive penile-vaginal intercourse	0.05–0.30%
Insertive penile-vaginal intercourse	0.01–0.38%
Receptive oral intercourse	0–0.04%
Insertive oral intercourse	0–0.005%

- INCUBATION : (Approximately 10 Years For Young Adults even more)

SIGNS AND SYMPTOMS : BY CHART

CLINICAL MANIFESTATION

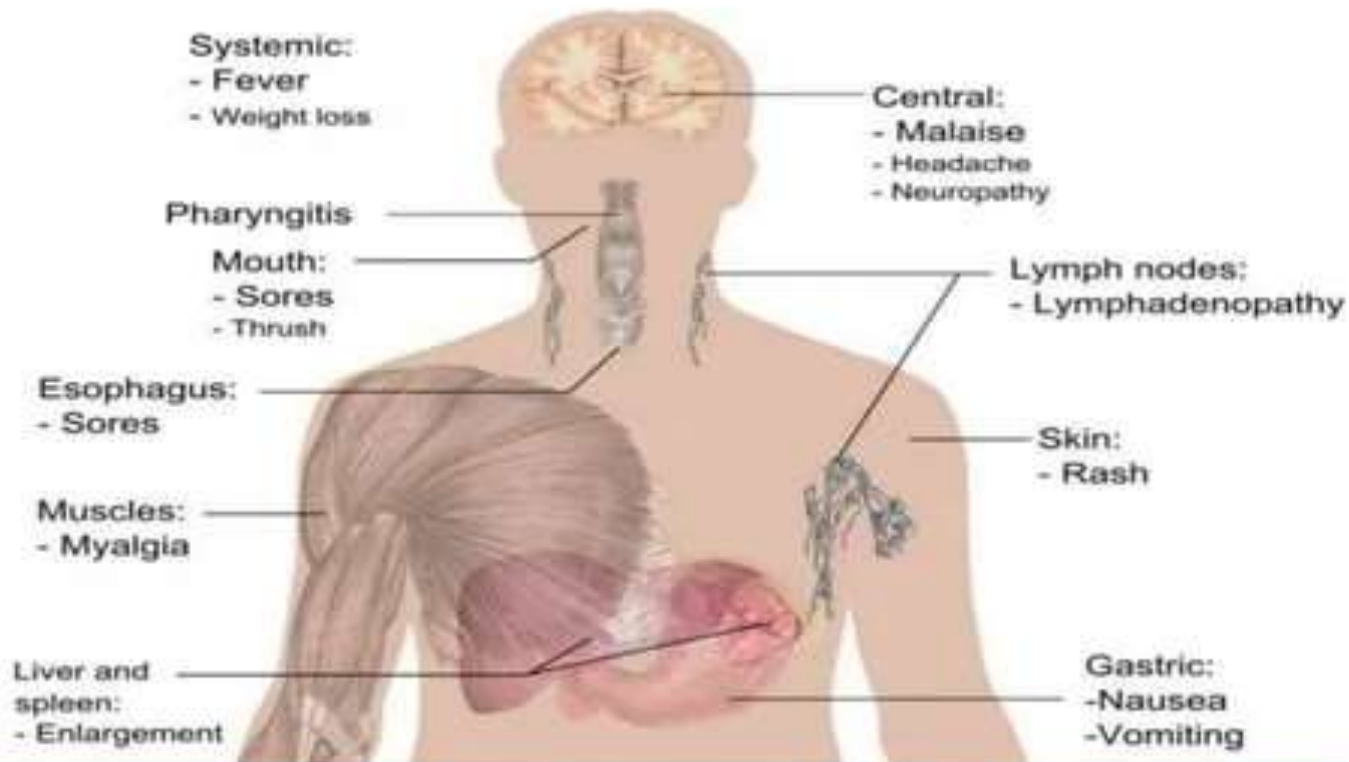
SIGNS AND SYMPTOMS :

- ❖ Oral manifestations
- ❖ Opportunistic Infections ,
- ❖ Neuro-psychiatric illnesses ,
- ❖ Fever 96%
- ❖ Pharyngitis 70%
- ❖ Rash 70%
- ❖ Diarrhea 32% ,
- ❖ Headaches 32% ,
- ❖ Nausea/Vomiting 27%
- ❖ Hepatomegaly 14%



1. The acute HIV syndrome

Main symptoms of Acute HIV infection



DIAGNOSIS

Adult or Adolescent >12 year diagnoses .

Major signs

- ❑ weight loss <10% of body weight
- ❑ chronic diarrhea more than one month
- ❑ prolonged fever for more than 1 month

Minor signs.

- ❑ Persistent cough for than 1 month
- ❑ generalized pruritic dermatitis

LABORATORY DIAGNOSIS

SEROLOGICAL METHOD FOR DETECTION OF ANTIBODY

- ❑ Rapid Tests , ELISA ,Western Blot

ANTIGEN DETECTION METHODS

- ❑ P24 Antigen Capture Test, Polymerase Chain Reaction, Rapid Immuno -Precipitation Assay

CONTROL OF AIDS

There Are Four Basic Approaches To The Control Of Aids.

1. PREVENTION

EDUCATION :About (avoiding indiscriminate sex using condom) avoiding the shared razor and toothbrushes needle and syringe should avoiding becoming pregnant ,since infection transmitted to the unborn and newborn .

PREVENTION OF BLOOD-BONE HIV TRANSMISSION:People High Risk Group Should Be Urged To Refrain From Donating Blood ,Body Organs ,Sperm Or Other Tissues All Blood Should Be Screened For Hiv1 &Hiv2 Before Transfusion

2 ANTIRETROVIRAL TREATMENT

TAB.	Abacavir (ABC)	(600 mg PO qd or 300 mg PO bid)
CAPSULE;	Didanosine (ddI)	>60 kg: 400 mg PO qd < 60 kg: 250 mg PO qd
CAPSULE	Emtricitabine (FTC)	200 mg PO qd or 240 mg (24 mL) oral solution PO qd

TAB Lamivudine (3TC) 300 mg PO qd or 150 mg PO bid

TAB Stavudine (d4T) 60 kg: 40 mg PO bid

< 60 kg: 30 mg PO Bid

3.PRIMARY HEALTH CARE

- Because Of Its Wide –Ranging Health Implication Aids Touch All Aspects Of PHC Including Child Health ,Family Planning And Education .

4. NATIONAL AIDS CONTROL PROGRAMME

The National AIDS Control Programme was launched in the year 1987. The Ministry of Health & Family Welfare has set up National AIDS Control Organization (NACO) as a separate wing to implement & closely monitor the components of the programme.

MILE STONES OF NACP

- ❑ 1992 - NACP-I launched.
- ❑ 1999 - NACP-II launched.
- ❑ 2002 - National Aids Control Policy adopted.
- ❑ 2004 - Anti retroviral treatment initiated.
- ❑ 2006 - National Council on AIDS constituted.
- ❑ 2007 – NACP III launched.
- ❑ The aim of the programme is to prevent further transmission of HIV infection & to minimize the socio economic impact resulting from HIV infection.



TRACHOMA

INTRODUCTION :Trachoma is a major preventable cause of blindness in developing countries .about 1.9 million people currently suffer from visual impairment due to trachoma .

DEFINITION :Trachoma is a chronic infectious disease of the conjunctiva and cornea caused by *chlamydia trachomatis* trachoma inflammation may undergo spontaneous resolution or may progress to conjunctival scarring which can cause inward deviation of eyelashes (trichiasis) or the lid margin (entropion)

CAUSE : chlamydia trachomatis

SIGN AND SYMPTOMS :

Mild itching and irritation of the eyes and eyelids, Discharge from the eyes containing mucus or pus ,Eyelid swelling, Light sensitivity (photophobia), Eye pain

EPIDEMIOLOGY DETERMINANTS

AGENT FACTOR

Agent chlamydia trachomatis

HOST FACTOR:

AGE :Children may show sign of the disease at the age of few month .children from the age of two five year .

SEX :females have been found to be affected more than male.

PREDISPOSING FACTOR :-Direct sunlight ,dust, smoke.

ENVIRONMENTAL FACTOR

SEASON :The incidence of active Trachoma is found generally high in India during April may and during July -September .

QUALITY OF LIFE :Trachoma is associated with poor quality of life poverty ,poor housing ,crowding ,ignorance ,poor personal hygiene.

CUSTOMS :- The custom of applying *Kajal* or *Surma* to the eye positive risk factor

MODE OF TRANSMISSION : Eye to eye content , this may occur direct and indirect contact .



CONT..

INCUBATION PERIOD : 5 TO 12 DAYS.

CONTROL OF TRACOMA :

- ❑ Assessment of problem
- ❑ Chemotherapy –Mass treatment –Selective treatment
- ❑ Surveillance
- ❑ Health education
- ❑ Evaluation

NEED OF ASSESSMENT PROBLEM

- ❑ Primary objective of programme for trachoma control is prevention of blindness
- ❑ Focus on communities with high prevalence of 'blinding trachoma'

Indicated by –

- I. Corneal blindness
- II. Trachomatous trichiasis and entropion
- III. Moderate and severe Trachomatous inflammation

Such communities have blindness rates of $>0.5\%$

Also required – Information on local conditions and existing resources

CHEMOTHERAPY

- i. Antibiotic of choice – 1% ophthalmic ointment or oily suspension of tetracyclines
- ii. Erythromycin and Rifampicin also used
- iii. Treatment can be Mass or Selective
- iv. Blanket treatment –Prevalence of moderate or severe trachoma is $>5\%$ in children under 10 years
- v. Application of 1% tetracycline ointment to all children

SURGICAL CORRELATION :

Antibiotic Ointment Is Just One Component Of A Trachoma Control Programme. Individual With Lid Deformities (Trichiasis ,Entropion)Should Be Actively Sought So That Necessary Surgical Procedure Can Be Performed And Follow Up It Has Been Immediate Impact On Preventing Blindness.

HEALTH EDUCATION

- ❑ Mothers of young children should be target
 - ❑ Measures of personal and community hygiene
 - ❑ Permanent change in behavior patterns and in environmental factors
 - ❑ Final solution – improvement of living conditions and quality of life.
- NATIONAL TRACHOMA CONTROL PROGRAMME – Launched in 1963
Incorporated with National Programme for Control of Blindness in 1976

“Trachoma is no longer a public health problem in India. We have met the goal of trachoma elimination as specified by the WHO under its GET2020 programme. There is need for constant surveillance by the states to report any fresh cases of trachoma and trachoma sequelae and to treat them promptly to finally be completely free of trachoma,”

J.P. Nadda, Union health minister

ROLE OF NURSE AS AN EPIDEMIOLOGIST

- ✓ Maintain Surveillance Of The Occurrence Of Notifiable Disease.
- ✓ Coordinates With Other Members Of The Health Team During A Disease Outbreak.
- ✓ Participates In Case finding And Collection Of Laboratory Specimens.
- ✓ Isolates Cases Of Communicable Disease.
- ✓ Renders Nursing Care Teachers And Supervises Giving Care
- ✓ Conducts Surveillance Of Infection Outbreak
- ✓ Conduct Study To Determine Risk Factors Leading To Infection
- ✓ Health Education

THANK YOU