

# PREVENTION OF COMMUNICABLE DISEASES AMONGST CHILDREN IN RURAL COMMUNITIES

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- There have been FOUR major developments in the past 5 decades in our nation – several Nations a Nation State with several Nations- with considerable impact on Public Health
- There are many articles in the Journals on Public Health In India that have documented these changes Besides I have been a mute witness to this Metamorphosis as a practicing Paediatrician
- 1 Rural Urban Migration
- 2 Epidemiological transition CD to Non CD
- 3 Concentration of Medical Infrastructure with emphasis on curative medicine in the Urban areas
- 4 Progressive reduction in the Money allotted to Public Health
- These developments, in my considered judgement do have a detrimental / dilutional effect on the strategies aimed at the Prevention of Communicable diseases both in the RURAL and URBAN areas

- “The devil is in details” says an old adage .
- The consequences are there in its naked form for all of us to see and to experience : SARS CO V 2 VIRUS spread and COVID 19 disease typifies as did Small pox and Plague in 19<sup>th</sup> and 20<sup>th</sup> Centuries.
- It continues to kill , though less than the death from Road Traffic Accidents as of now, is likely to accelerate if our people do not change their behavior and adopt scientific practices as part of their daily routine.
- This brings me to the today’s topic assigned to me namely Empowering the Frontline Health Care Workers towards preventing communicable diseases in the rural communities .

- Before moving on to the definition of communicable diseases, their modes of spread, means of prevention, and usefulness of vaccines , let me emphasize that the
- HEALTH of the persons , of the families and eventually of the communities is impacted by several variables that include job security, food security , stable income, a house facility with toilet facilities , adequate water supply both to drink, and to meet the domestic needs, a clean premises, sewage and waste water disposal , literacy , and sound values .
- As health care providers to individuals and their families , it is a social contract that we enter into them with empathy and equity.
- Our front line workers must pay attention to each and every one of these variables. A few of these variables rest with the individuals and other with the local civil officials
- Indifferent individuals and corrupt administration : a recipe for downward spiral

# Three main elements of definition of a communicable disease

- MICROBIAL ORIGIN
- RAPIDITY OF THE SPREAD
- SILENCE OF THE SPRED

Opportunity and Success favour the Prepared Mind : Louis Pasteur

# Spread this message to the people

- The front line health care workers should spread this message of science and education to every one around them, since unscientific ideas and notions take even the educated people for a ride and put them on a wrong course
- It is not uncommon even in 21<sup>st</sup> century for vast segments of our population believe in powers of supernatural forces , demons, evil spirits , Gods and Goddesses, Divine elements , astrology et cetera
- They form a formidable barriers to the control and elimination of Communicable diseases
- During Louis Pasteur's days , those afflicted with Rabies were demonized and committed to mental asylums

# Modes of Spread

- AIR
- WATER
- CONTACT
- VECTOR : ANIMALS

# Droplet Transmission

- Relatively large size
- Less than 3 feet
- Close contact
- Pertussis
- Diphtheria
- Streptococcal pharyngitis
- Pneumonia
- H influenza
- Meningococcal



# Air borne

- Smaller evaporated droplets containing micro organisms
- Spread by air currents
- Relatively long distances: i.e., adjacent room or another area in the floor

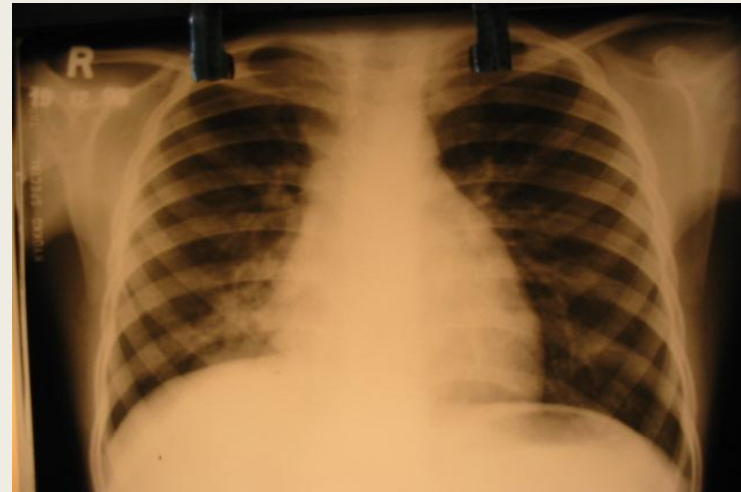
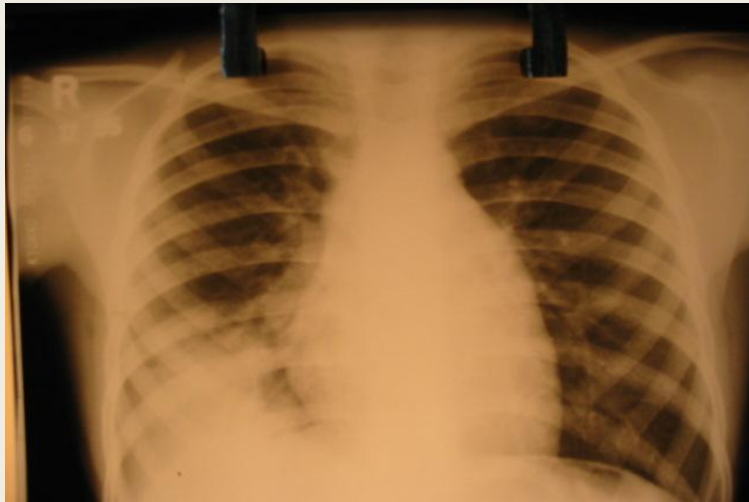
# Contd

- There are several diseases **mostly of viral origin** , including the currently prevailing zoonotic SARS CO V 2
- They are much **smaller than bacteria** .Unlike the bacteria which can be seen by light microscope , **ELECTRON MICROSCOPE** is required to see them
- Because of their extremely small nature they can be carried **by air** **current to longer distances** . We have already known this with Varicella Virus and Tb bacilli .
- What is most disconcerting with this Novel virus is its propensity to remain silent in the airways for nearly 2 weeks ( average 5 to 7 days) before giving rise to the DISEASE

# WHOOPING COUGH



# Pneumonia



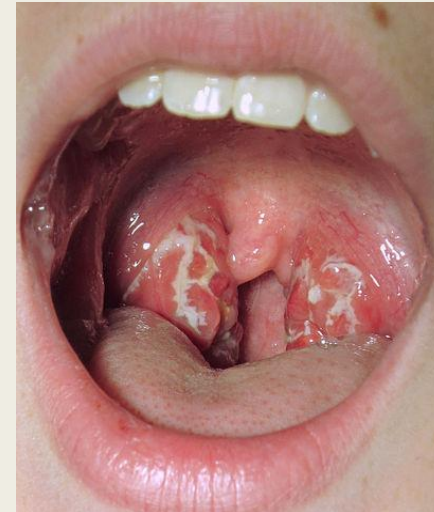
# Tuberculosis Miliary



# Tuberculosis disseminated



# Streptococcal tonsillitis



- Face cover
- Distance
- Hand wash
- Clean the premises with 5% sodium hypochlorite
  
- Avoid crowds
- Get tested the moment you are unwell
- If positive , stay isolated , call your contacts by phone and inform them and call your doctor or health care provider
- Stay positive and do not panic .



- **Condom for Sexually Transmitted diseases including HIV .**
- **Face Mask for all Respiratory pathogens**

# Respiratory hygiene

- Sneeze and cough into your armpit
- Cover your face if you happen to cough or sneeze
- Wear a mask while outdoors
- Keep a distance of 6 feet from other persons
- Avoid a crowd of any kind of more than 5 persons
- Stay in an airy and well ventilated areas
- Avoid tobacco, smoking and alcohol
- Do not hesitate to yourself vaccinated

# Contact transmission

- Direct body surface to body surface
- Indirect through the articles in use called fomites

- SCABIES
- PEDICULOSIS
- TINEA
- IMPETIGO
- HAND FOOT MOUTH DISEASE COX SACKIE
- SYPHILIS
- LEPROSY



Pustules



Eschar



Impetigo





Syphilis





Syphilis





Varicella /  
Chickenpox





Chickenpox



Chickenpox

# WATER BORNE & FOOD BORNE

- CHOLERA
- DIARRHOEA &
- DYSENTERY
- POLIOMYELITIS
- HEPATITIS A
- FOOD POISONING

Vast majority of rural folks use the right hand to eat & the left hand to wash the bottom.

Let not the hands come together without a thorough wash

# Infant with dehydration





# Hand Hygiene

- Replaces the word Hand Wash
- The most important single measure to prevent the spread of infection in the hospital setting : AAP Red Book 2003
- Forms part of standard precautions regardless of the diagnosis.

- **Washing the hands : universal preventive measure**
- **Drink only boiled and cooled water**
- **Est the food within 2 hours of cooking . East it when it is feesh and warm**
- **Make sure the meat is well cooked**
- **Use Sanitary toilets and latrines for attending to calls of nature**
- **W H O oral replacement ( salt and sugar solution ) for infants with diarrhoea**
- **Periodic deworming**

# From the animal kingdom

- RABIES,
- TETANUS
- MALARIA
- DENGUE
- CHIKUNGUNYA
- FILARIASIS
- SCRUB TYPHUS

# An Infant with DHSS



# DHSS: Pleural effusion



# VECTOR BORNE

- Wash the clothes well , dry and launder them
- Wear a glove in case of open wounds sores and body fluids.
- Wash all wounds with copious amounts of water especially after a dog bite.
- Illuminate the areas of foot path.
- Do not walk bare footed.
- Use mosquito repellents : Citronella oil for external use.
- Use mosquito net regularly .
- Do not let water stay in your premises.
- Let your pets be vaccinated and let them have ownership.

# Doable & Preventable

- All the preventive measures mentioned under different headings for the ease of remembrance and for convenience are DOABLE and EFFECTIVE in reducing the transmission risk and consequently the risk of contracting the disease.
- To reduce the transmission risk called R NOUGHT by the Epidemiologists , > 80 percent of the population should practice these measures

# Efficacy of vaccines : Percentage Reduction in Morbidity in the past 50 years

- 100 % REDUCTION IN SMALL POX, POLIO, DIPHTHERIA & CONGENITAL RUBELLA SYNDROME
- 99 % REDUCTION IN MEASLES, MUMPS RUBELLA AND HAEM INF TYPE B
- 97% REDUCTION IN TETANUS
- 82 % REDUCTION IN WHOOPING COUGH

AAP RED BOOK 2016



- **All must take the vaccines unless medically contraindicated**

- **Your Health Is In Your Hands**
- **During this Corona Pandemic, the Health of Others is also in Your Hands**