

Public Health endangering Pandemic Viral, Bacteria and Chemical, Nuclear and Bio Warfare Episodes, Impacts and Lessons Learnt ;

Sl No	Episode	Year/Location	Source/Symptoms	Impact Global, India,	Diagnosis/Preventive- Control measures/Lessons learnt
01	Covid-19 Corona Virus	Nov 2019/Wuhan, China	BAT, Wet Market Unhygienic Cold, Fever, Sore throat, Running nose Respiratory difficulties, dry Cough, Infectious.	Wuhan city, in 45 days infected 45,638 killed 1018 in 27 countries, WHO declared Pandemic.	Infection through contact , Lock down for 3 weeks, Individual social isolation enforced, preparedness and health care reinforced, disaster status announced. Livelihood schemes announced. Indian Traditional Food habits having good immunity realised
02	H1N1 Influenza A Virus Swine Flu	April 2009/ Mexico and USA	Virus that infect the respiratory tracks of Pigs cause Swine Flu/ Barking Cough, respiratory illness, in human since 1977, First global flu Pandemic	4000 deaths in USA, 2009-10.	Swab from throat/Rest, Pain reliever, fluids, anti-viral medicines, IV fluids. Public Health Architecture totally a lowered priority all over the world. No preparedness for Pandemic.
03	SARS Severe Acute Respiratory Syndrome	Nov 2002/Yunnan China	Intermediary of civets to cave dwelling horseshoe bats in Yunnan province, Pneumonia like.	Travelled across 24 countries 800 people killed and infected over 8000 in 27 countries. No known transmission has occurred anywhere in the world since 2004.	SARS showed how quickly infection can spread in a highly mobile and interconnected world. Surgical masks will provide barrier protection against large droplets that are considered to be the primary route of SARS.
04	Spanish Flu/ Deadly plague	1918/ Spain Pandemic	H1N1 Virus with genes of avian origin. It spread worldwide during 1918-19,it was identified in US military personnel in Spring 1918,	500 million people or one third of the world's population got infected and deaths estimated to be at least 50 million world wide	1918 H1N1 virus has been synthesized. With no vaccination to protect against influenza infection and no antibiotics to treat secondary bacterial infections, control efforts worldwide were limited to non-pharmaceutical interventions such as isolation, quarantine, good personal hygiene , use of disinfectants, and limited gatherings
05	Plague Infectious fever	Oct 1347/ 12 ships from the Black Sea docked at the Sicilian port of Messina, Europe	Bacteria-Yersinia Testes/Bitten by infected Rodent Flea, Cause for 14 C century Black Death one-third of Europe's population died.	100 M deaths in Asia/Africa/ Europe, 6 M deaths in India.	1994 plague in India was an outbreak of bubonic and pneumonic plague in south-central and western India from 26 August to 18 October 1994. 693 suspected cases and 56 deaths were reported from the five affected Indian states. Isolation Camps.
06	Malaria /origin primates	Prehistory, to 21 Century,	Humans may have originally caught Plasmodium falciparum from Gorillas.	200M Patients per year, kills 600,000 per year, Endemic in 100 countries.	1000s of years, traditional herbal remedies. The first effective treatment for malaria bark of the cinchona tree, quinine. Early twentieth century, mosquito control measures such as widespread use of the insecticide DDT, Biological control.
07	Bio-Warfare Bacteria, Viruses, Insect and Fungi	1155, 1346 1495, 1763, 1863/ Italy, Japan, Spain, UK,USA	Military action by Countries/Water wells poisoned In China by Japanese), Wine with blood of Leprosy patients In Spain by Italy, Blankets from Small Pox Patients by UK in Native Americans..	Infection technology using abused in Wars against enemies. Eliminated soldiers in Wars in America, Europe and Asia.	Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks. www.cdc.gov/niosh.
08	Nuclear War and Testing	Little Boy, Hiroshima, Japan 6 Aug,1945 Fat Man, Nagasaki, Japan 9 Aug, 1945	Military action by USA on Japan/ Nuclear Technology, 80,000 Killed 10000s maimed in 5 Sq Km area. And 40,000 Killed.	2000 Nuclear explosions made on Land, In Ocean and in Air. 9 countries own 14,500, it was 70,300 in 1986.	Anti-Nuclear movement : 1970-80s : 50,000 women activists in 60 cities in the USA. 1982 One Million people marched in new York city.

Source : On Line WHO, global, national references.

“Hand washing is one of the most effective ways to prevent the spread of disease “

+ Dr. Ignaz Schemmelwels, Hungarian Physicist, Father of Infection Control, 1847