

Plague in India - A Review

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ABSTRACT

Plague, a disease of great antiquity was a major public health problem throughout India till the mid twentieth century AD. The authenticated plague epidemic started in the year 1895-1896 and reached its peak in 1907. During the periods there were over 25 million deaths in India. The decennial death rate due to plague in India per 1,00,000 population were 183.3 and 133.8 respectively. During 1949-1958, mortality rate was calculated to be 1.8 per 1,00,000 population. Mortality rate reached zero level during 1967. The reasons for dramatic reduction in plague incidence in India since 1948 and a sudden recrudescence in certain areas can only remain in speculation. However, two important anti-plague measures to combat the disease were made available immediately after the Second World War. Streptomycin and Sulphanomides were found to be very specific for plague treatment and universal use of DDT in rural areas in India since 1958 intercepted plague transmission. The resurgence of plague in peninsular India during 1959 to 1966 was due to discontinuation of DDT spray in the area.

In India sporadic cases of suspected human plague were reported from Himachal Pradesh during 1966 and 1983 and Karnataka during 1984. During 1994 a bubonic plague outbreak in Maharashtra and pneumonic plague outbreak in Surat, Gujarat were recorded. A pneumonic plague outbreak in Himachal Pradesh in 2002 and a bubonic plague outbreak in 2004 in Uttarakhand were also recorded.

Plague continues to exist as a major public health problem in many countries of the world. In several countries plague has remained quiescent for years together before reappearing all of a sudden. According to notification received by WHO during the period 1987 to 2009, plague affected 26 countries with 53,417 cases and 4060 (7.6 percent) deaths. Under reporting of plague case may be attributed to lack of diagnostic facilities for the confirmation of the cases and cessation of plague surveillance work by number of erstwhile plague endemic countries.

Plague is a zoonotic disease therefore, absence of human plague cases in a particular ecozone would not justify the conclusion that plague has disappeared from the area. Many biotic and abiotic factors influence the persistence of the disease in wild population and causing epizootic plague. Since the natural foci of plague are known to be completely independent of man, have a cyclic pattern of activity and can transmit the disease to man, a continuous surveillance and vigil has been maintained in India since 1963. Of the 128 species of rodents belonging to 46 genera in India 4 are considered to be the important zoonotic reservoirs of plague. Plague fulfils all the criteria and hence is a priority. It has impact on health (mortality and morbidity caused), capability of the agent to cause epidemic, potential for prevention and cure, international importance and economic impact. *Yersinia pestis* bacterium is widely available in microbiology banks around the world, making a biological attack a potential problem.

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