Swine Flu Epidemic in India. Is it really over?

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Swine Flu pandemic swept the world in 2009-10 and caused considerable panic than death or disability, mainly due to the initial, irresponsible media hype. A new viral fever - caused by a new mutated strain of Influenza A subtype H1N1, which infected humans, was formed by quadruple genetic reassortment or Gene swapping of four influenza viruses: North American Swine, North American Avian, Human Influenza and Eurasian Swine - a genetic mixture of viruses that have been seen in pigs, birds and people. Initially called 'swine flu' because the overall structure of the virus is of the type that affects pigs and it probably originated in pigs of Mexico. It was rechristened by WHO as: "Influenza A virus H1N1" to avoid confusion over the danger posed by pigs, since the disease is neither spread by contact with pigs nor by eating ham or pork (pig meat). This RNA virus from the viral family of Orthomyxoviridae has 2 glycoprotein surface antigens: Hemagglutinin and Neuraminidase. The pandemic originated in Mexico on 18th March, 2009 and spread globally rapidly, and was highly infectious, as humans neither had natural immunity nor were they vaccinated. WHO declared it as a pandemic on June 11, 2009. The Government of India started screening people coming from the affected countries at airports for swine flu symptoms and the first case of the flu in India was found on the Hyderabad airport on 13 May, when a man traveling from US to India was found to be H1N1 positive. The first death in a 14 year old girl from Pune on 3rd August 2009 triggered the panic.

As Swine Flu pandemic spread so did the rumours and fear fuelled by media hype causing panic in the common man, since when there's something that's new and unknown, it scares people. Schools, multiplexes, theatres were closed in Mumbai, Pune during the peak of the epidemic in 2009. However, the behavior of the virus is now known – it usually caused a mild disease in majority of cases with full recovery in 5-7 days, medicines (oseltamivir) and now vaccines are available. Moreover, unlike Chikungunea, it does not cause long term complication, has a low case-fatality rate of less than 1% and also imparts immunity to second attack.

Influenza A/H1N1 is sometimes confused with 'common cold' which can be caused by a variety of viruses like rhinovirus, respiratory syncitial virus. It is important to differentiate the two diseases. The typical presentation of H1N1 fever is abrupt onset of high fever, associated with bodyache, headache and severe fatigue. Cough is the commonest symptom, which can be very severe and intractable and sometimes vomiting and diarrhea can occur. On the other hand, in common cold, nasal stuffiness, sneezing, sore throat are common and fever is usually mild.

Influenza A virus is historically known to cause pandemics due to antigenic shifts and drifts. In 1918, it caused the "Spanish Flu" in which 50 million deaths occurred caused by A/H1N1. In 1957, it caused "Asian Flu" with 1 - 4 million deaths due to A/H2N2. In 1968, the "Hong Kong Flu" caused 1 - 4 million deaths and was due to A/H3N2.

The response of the Government of India to control the pandemic in India is commendable. The MOHFW, GOI continued to publish guidelines to prevent, control the pandemic on a regular and periodic basis. Screening Centres, Sample Collection Centres, Isolation Wards were identified and started, in all districts. Guidelines on categorization of patients into mild, moderate and severe cases were issued. Ventilators were made available to treat the dreaded but rare complication of respiratory failure. Initially, the focus was to test the patients with RT-PCR, in order to confirm the diagnosis and then treat the patients. Subsequently when the epidemic matured and the epidemic was established in India, the focus shifted to

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presumptively treat the patients empirically without testing which was reserved for patients with more severe form of disease and needed hospitalization. Widespread media campaign to mitigate the fears of the disease, and health education on the preventive measures, were launched through the media and posters. Cough and respiratory hygiene was emphasized. Standard Operating Procedures for the use of Personal Protection Equipment by the health professionals were issued, which included the use of gowns, goggles, N -95 masks, gloves shoe cover etc. Adequate supply of the only known anti-viral drug to work against H1N1, oseltamivir was made available in government hospitals and selected medical stores and was not allowed to be sold in all general medical stores, to prevent the virus from developing antibiotic resistance due to excessive and unnecessary use. Similarly, guidelines on contact tracing, post-exposure prophylaxis, the use of masks and on home care (voluntary home quarantine) were issued. The state government and municipal corporation machinery were fully roped in to comply with the guidelines. India's first home made swine flu vaccine was launched by Health Minister Ghulam Nabi Azad on 3-6-2010, which is considered a major medical breakthrough, since this is the first indigenous influenza vaccine in India since Independence. Pune's Serum Institute of India launched its much awaited "cheaper" and "painless" solution against the virus -- a ready-to-sniff intra-nasal vaccine, Nasovac, on July 15, 2010, across the country. In government set-up, Panenza, an injectable vaccine produced by Sanofi Pasteur is available for health care workers. Its side effects are minor which include fever, aches, and mild soreness. However, one in a million could be exposed to the risk of the Guillain Barre Syndrome.

On August 10, 2010, WHO has declared the pandemic to be over. However, India continues to witness considerable number of cases of swine flu which has re-emerged in monsoon of 2010. In India, as of October 31, 2010, samples from 1,97,622 people have been tested for Influenza A H1N1 in government laboratories and a few private laboratories across the country and 45,101 (22.8%) of them have been found positive and 2679 deaths have been reported in laboratory confirmed cases, while in Maharashtra of the 9952 laboratory confirmed cases, 926 deaths have been reported till October 31, 2010[1]. The disease is no longer an imported disease, but an indigenous one. In this issue, the article by Pandharipande[2] and others have analyzed the data of H1N1 patients from a large teaching hospital of Nagpur.

The pandemic of influenza A H1N1 has taught us some lessons. We have learnt that it is possible to combat, control and conquer such major public health outbreaks through appropriate strategies. However, we must not forget that we will continue to be baffled by the emergence of outbreaks of such new infectious diseases, which we should expect in future. The challenge is to prevent such epidemics and to be prepared to tackle them in future.

1) www.mohfw-h1n1.nic.in

2) Pandharipande et al

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http://www.ndtv.com/news/india/indias-first-swine-flu-vaccine-29680.php?cp

^ http://pib.nic.in/release/release.asp?relid=56719

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