

EDITORIAL

SWINE FLU

The world had just relaxed a bit from the dreads of bird flu, when Swine flu made its appearance. The current swine flu is the epidemic spread of a new strain of influenza virus that was clinically identified in April 2009. This outbreak has been given many names other than swine flu, like the H1N1 Influenza, 2009 H1N1 flu, Mexican flu or the Swine - origin flu.

Thanks to the moderate nature of the H1N1 strains of the influenza virus causing the current pandemic of swine flu that the mortality and morbidity remained lower than what was feared last year.

A member of Orthomyxoviruses, the influenza virus has the key reservoir in the migrating water fowl and infects other hosts such as pigs and humans, intermittently. It is now well established that eight RNA segments and their gene products are a mixture of components from avian, pig and human influenza viruses, the result of a series of viral coinfections and the process called - gene reassortment, a phenomenon that happens if two different types of influenza virus infect a single cell and can produce a new strain of virus [1].

The designates H and N denote Haemagglutinins and Neuramidase respectively, which are the two types of proteins these viruses possess. There are 16 types of H and 9 types of N giving rise to various combinations like the H1N1 the classical influenza virus and the H5N1 - responsible for the bird flu or the avian influenza [2].

This pandemic did indeed cause certain upsets and proved the epidemiologists wrong in many ways, e.g. it was expected to have originated from Asia whereas it appeared from Mexico. It was supposed to be a new strain like the avian (bird) flu H5N1: it turned out to be simply another form of H1N1. It was predicted to be severe with high lethality; it was severe in some unpredictable populations such as children and pregnant women - but the overall

mortality was about 0.04 - 0.2%. It was supposed to cause catastrophe instead it caused confusion.

The down side of globalization saw this virus being reported from more than 200 countries of the world in a matter of few months.

In Pakistan the first case was confirmed towards December 2009. With this many limitations of our health care system were exposed e.g. only one centre had been established at the National Institute of Health, Islamabad to test samples from all over the country. Secondly the seemingly simple fundamentals like collection of the correct clinical sample, availability of the viral transport medium and arrangements to transport these specimens at 4^o C without the use of dry ice, from various parts of the country turned out to be major problems. Under such circumstances it is understandable that the national figures were understatements.

Although the World Health Organization (WHO) raised the pandemic level from 5 to 6 in June 2009, meaning thereby the spread across two countries or more in one of the WHO regions plus spread to another WHO region, the problem remained controlled naturally - and this spared many of our systems from being put to test [3]. Despite much international concern we have not been fully prepared to face the problem in terms of definite diagnosis, designating beds in wards or wards in bigger hospitals, alleviate anxiety, continue surveillance and arranging for effective treatment in terms of antiviral drugs and other support facilities on a large scale - what to talk about managing a big outbreak by closure of schools and avoiding mass gatherings at a short notice.

Apart from the inadequate public awareness more worrying was the fact that the basics of the problem were not fully known to all concerned in our medical set up. As highlighted by our students in an awareness survey at the Army Medical College and its affiliated hospitals, the senior consultants had

adequate knowledge but the junior doctors who usually make the first contact with the patients mostly were found to possess suboptimal knowledge of some basic facts. Although clinically indistinguishable from the seasonal flu with which its timing coincided in Pakistan, this particular strain lead to more severe symptoms in the gastrointestinal system.

This aspect warrants immediate attention and we need to bridge this gap immediately. The junior doctors and all the nursing staff should be trained with very clear SOPs and explicit workups made for all cases suspected clinically to be suffering from swine flu.

The electronic media did make efforts to educate the general public about the clinical features and general measures to be adopted e.g., to stay away from work if unwell, take plenty of fluids and use of medicines like paracetamol, it did not actually emphasize enough to get these basic facts get fully registered in the minds of people. Also the transmission of the virus was also not addressed adequately as there are still many important unknown like if one person gets infected, how many people on average would

that person infect in turn? Another puzzle is why the severity of the disease has been so much greater in Mexico than elsewhere where 150 deaths occurred from 1600 cases.

The virus is not a hardy one and can be killed by a number of ways including heat around 75–100 C⁰, chlorine, hydrogen peroxide, simple detergents like ordinary soap, iodine based antiseptics (iodophors) and alcohol.

The simple prevention required for the general public is in the form of a very basic and simple advice, i.e. “sneeze into a tissue, destroy the tissue and wash hands”.

REFERENCES

1. Wenzel RP Edmond MB. Preparing for 2009 H1N1 Influenza. Editorial. NEJM. 2009. 361; 20: 1991-2.
2. Levinson W. In: Review of Medical Microbiology and Immunology. 10th ed McGraw Hill New York. 2008; 267-83.
3. Chan M. World now at the start of 2009 influenza pandemic. In: Letter, World Health Organization (WHO), Publication (11th June 2009).

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