

The government and the poultry industry are both trying to introduce the concept of biosecurity for farms so as to reduce the risk of the virus spreading. Unfortunately it is a very expensive process and many of the smaller farms will not be able to survive as a result.

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are vaccines available, its effectiveness is subject to suspicion," says Karim, "because when it changes its genetic make-up it gets a newer appearance." That would make the vaccine useless. The other fear, Ahmad points out, is that if the vaccine is pushed into an already affected chicken, then it will just help the virus mutate and the vaccine will become redundant.

"If we are to make a vaccine for humans we need humans to be affected," says Karim, "after that the strain can be isolated and the haemagglutinin protein targeted. But there have been no human casualties in this region yet, so we can conclude that a threatening strain has not developed yet. And it's only after an affected human being is found that the drugs that are available can be tested and verified as to whether they are effective or not. If it's not then we will have to design a new drug."

Ahmad points out that symptoms of Avian Influenza overlap with the symptoms of the common cold. Coughing and fever are the common symptoms. But with bird flu there might be diarrhoea, meningitis, breathing difficulty and conjunctivitis. The bad news is that the drug treatment can only work if it is detected within 48 hours of the virus attacking the body. Influenza is worse in the winter because there is so little sunlight that produces a vitamin D deficiency in human bodies. Activated vitamin D has profound effects on human immunity. Our body's innate immunity, especially the production of natural antibiotics also goes up and down every year with our vitamin D levels.

Dr. Mohammad Manjurul Karim is at the moment working on a developing a new kind of vaccination that will be target the inherent properties of the avian influenza virus. "We are progressing with the idea that no matter how much an organism alters itself it has some basic properties that cannot be altered which is called the conserved region in the genetic sequence," says Karim. "We want to create a vaccine strain targeting these conserved regions but unfortunately we do not have that infrastructure or financial backing in our country to do that. We have the blueprint of the virus in our hands, from there we have been able to isolate those conserved regions that are not alterable. And targeting those conserved regions we can develop an antibody or a vaccine which can neutralise or cripple the strain no matter what changes the virus brings to itself."

Epidemics, whether in animals or humans, ultimately boil down to the lack of awareness and hygiene. The crowded conditions that exist in poultry farms in Bangladesh are the perfect condition for any virus to spread. It is very important for the poultry industry to change its practices. Poultry should be raised in smaller scale, under less stressful, less crowded and more hygienic conditions with outdoor access. Deforestation destroys the natural habitat of birds and makes them more likely to come into contact with domestic animals thereby widening its range of hosts. Consumers too, must always practice hygiene in all aspects of their lives.

Bird flu has spread to 13 of West Bengal's 19 districts resulting in the culling of more than 50,000 birds, spelling trouble for parts of India's poultry business. The poultry market in Bangladesh also faces a considerable amount of trouble. Price of chicken has already gone down by more than Tk 10 and many overcautious consumers have simply stopped buying chicken. Awareness and taking precautions will not only save the poultry market from a disaster but also keep consumers safe and avoid a human outbreak. ■