

## Bird Flu Knowledge among Veterinary Medicine Students in Iran

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**Abstract:** Since 1998, H9N2 AI outbreaks have been one of the major problems in Iranian poultry industry. But H5N1 subtypes had been reported in wild birds in Iran, but no official report of H5N1 report in commercial flock and human. For evaluation of Knowledge among Veterinary medicine Students about bird flu in Iran, we analysis their Knowledge by Improved questionnaire that be used a similar study in medical students in Iran. The results indicated level of Knowledge is in good level and higher from medical students. So, faculty courses in veterinary faculty in Iran is the major of their source information.

**Key words:** Birds flu, veterinary medicine, wild birds, RNA, AI

### INTRODUCTION

Avian influenza has emerged as a disease with significant potential to disrupt commercial poultry production often resulting in extensive losses (Alexander, 2000). Influenza is caused by a zoonotic virus that occurs in lower animals and birds as well as in humans. Influenza viruses belong to the Orthomyxoviridae family of RNA viruses and are divided into 4 genera: Influenza A, B and C virus and Thogovirus. Avian Influenza (AI) is a highly contagious disease caused by type A influenza viruses, which have segmented negative-strand genomes (Lamb and Krug, 2001). Since, January 2004. Thailand and several other Southeast Asian countries have experienced outbreaks of avian influenza in poultry and >100 million poultry have been culled or have died ([www.who.int/csr/disease/avian\\_influenza/en](http://www.who.int/csr/disease/avian_influenza/en)). The prevalence of severe and fatal cases involving bird-to-human transmission is increasing (Perdue and Swayne, 2005). Experts fear that the avian influenza virus now circulating in Asia will mutate into a highly infectious strain and pass not only from animals to humans, but also among humans, which would lead to a pandemic (Ho and Parker, 2006). Since 1998, H9N2 AI outbreaks have been one of the major problems in Iranian poultry industry (Vasfi Marandi and Bozorgmehrfard, 1999). Last H9N2 influenza virus outbreak in broilers in chicken farms during 1998-2001 in Iran, the mortality rate was 20-60% (Nili and Asasi, 2002). But H5N1 subtypes had been reported in wild birds in Iran (WHO, 2008) but no official report of H5N1 report in

commercial flock and human. During a pandemic, public health agencies and medical and veterinary students will play critical roles in controlling the spread of disease (Butler-Jones, 2007). In one study in Iran on Knowledge of medical student, shows a relatively low level of knowledge of avian influenza among a group of Iranian veterinary medicine students (Ghabili *et al.*, 2008). Therefore, we design a similar and improved study on veterinary Medicine student at faculty of veterinary medicine, university of Tehran for comparing these 2 educational groups.

### MATERIALS AND METHODS

For exactly comparison, our study designed according to pervious study in this field in medical student population (Ghabili *et al.*, 2008). The study population comprised 5 and 6-year veterinary medicine at faculty of Veterinary medicine, university of Tehran, in February 2008. We used a self-administered questionnaire that was based on information obtained from a review of the literature on avian influenza. This questionnaire (Table 1) comprise 3 sections:

- Demographic information, including age and sex of participants (2 items).
- Avian influenza-related questions covering general information, history, modes of transmission, clinical symptoms and prevention. In this study, we improved items according to Veterinary field and complete types of questions.

**Table 1: Respondents' knowledge of bird flu (n = 100)**

		Correct answer	Yes(%)	No(%)	Don'tknow(%)
History	The first case of human infection with bird flu virus occurred in Hong Kong in 1997.	Yes	12	10	78
	Most fatal cases of bird flu have been reported in Indonesia.	Yes	19	25	56
	The first case of infection in wild bird in Iran with bird flu virus occurred in 2002.	No	26	23	51
General information	Influenza virus occurs naturally among wild birds.	Yes	57	11	68
	Bird flu may be transmitted into other mammals such as dogs and pigs.	Yes	17	42	41
	Current bird flu in Asian country have been caused by H7N1.	No	22	44	34
Transmission	Transmission of the disease from person to person is possible.	Yes	50	17	33
	Main modes of transmission are through saliva and nasal secretions.	Yes	58	13	29
	Bird flu virus can be transmitted into persons through the alimentary tract.	No	16	37	47
	Bird flu is transmitted into humans through handling and cleaning of contaminated game.	Yes	43	9	52
	The consumption of contaminated chicken as broiler would have the risk of affliction.	Yes	62	10	28
	Cooking eggs as soft-boiled eliminates the virus.	No	12	64	24
	AI is an air born disease among commercial flock. Egg pasteurization could be destroyed virus.	No Yes	56 41	18 17	26 42
Diagnosis	A laboratory test is needed to confirm bird flu in humans.	Yes	76	13	11
	HI is the gold test for confirming Bird flu disease.	No	11	56	33
	The best sample for Virus isolation from broilers is serum	No	35	34	31
Clinical presentations	Respiratory tract is the main infected system in the body in humans.	Yes	51	12	63
	Symptoms of bird flu in humans are similar to seasonal influenza.	Yes	34	31	35
	Bleeding from the nose and bleeding from the gums are early symptoms of bird flu.	Yes	12	50	38
	Necrosis in dermal organs such as comb and wattle is a major clinical sign.	Yes	30	23	47
	Clinical presentations of bird flu that caused by H9N2 is similar by H5N1 in Broilers.	No	56	38	6
Prevention	Bird flu is a preventable infection.	Yes	69	11	20
	There is a vaccine to protect humans from bird flu virus.	Yes	54	19	27
	We should use live vaccine in poultry flock.	No	24	33	43
	Bird flu vaccine is the same of human seasonal flu vaccine.	No	24	34	42

- A multiple-choice question regarding the students' source of information about avian influenza (1 item).

Our sample size was been detected by a statically expert according to faculty student population (N = 100). Possible responses for section 2 included "yes," "no," and "I don't know." The knowledge score was calculated by giving +1 for a correct answer, -1 for an incorrect answer and zero for "I don't know" responses. A total of 26 points could be achieved if all questions in section 2 were correctly answered. Higher scores indicated a greater level of knowledge. Statistical analysis was performed by SPSS Windows version 12.0 (SPSS Inc., Chicago, IL, USA) using the  $\chi^2$  test; p value was set at 0.05.

## RESULTS AND DISCUSSION

The mean age of the respondents was 24±0.67 years (range 22-27). About 33% of the students were male and 67% were female. The mean knowledge score was 19.5 of 26 (75% of entire score). Students comparably responded to 26/26 questions ( $\chi^2$  test). A list of questions and the percentage of students' responses are provided in the Table 1.

Veterinary students have a gap in historical and human aspect of this disease knowledge but their knowledge about general information and diagnosis is in good level.

Most of the respondents (60.2%) indicated that faculty courses was their major source of information about avian influenza, followed by scientific mass media (18.5%), the Internet, (11.4%), Friends (5.7%) and news papers and journal 4, 2. Interestingly, in this regards that faculty courses in compare with medical student study show a significant role (Ghabili *et al.*, 2008). We don't forget that mass media in each study play a major role for increasing both group students knowledge.

### CONCLUSION

We believe that the good level of knowledge about avian influenza among these veterinary students indicated that because bird flu is a disease that related to veterinary filed the veterinary students have higher situation in this field in comparing with medical student. We strongly recommend improving the quality of education on this topic in related to bid flu aspect in human for veterinary medicine student through access articles, seminars and specific courses. So, we concluded that Faculty courses in finally years in DVM are a good information source for increasing Knowledge among Veterinary medicine Students in Iran although in virology course applied information is insufficient.

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