

## Research Article

**Knowledge and Practices towards Avian Influenza among Poultry Workers in Pokhara**

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**Abstract**

Avian influenza is currently a threat to global health. Prevention and control of Avian influenza depends on the knowledge and preventive practices of the poultry workers as well as general population. This article aims to assess the knowledge and preventive practices related to Avian influenza among poultry workers in Pokhara. Descriptive cross sectional study was conducted among 108 poultry workers in Pokhara using purposive sampling. Data was collected through face to face interview using structured interview schedule. The obtained data was analyzed by using descriptive (frequency, percentage, mean and standard deviation) and inferential statistics (Pearson correlation). The findings revealed that only 11.1 percent of the respondents had good knowledge. Only 26.9 percent gave correct answer about causative agent and three out of four gave correct definition of Avian influenza. Nearly two-third of the respondents had good practice of preventive measures. There was no significant relationship ( $r= 0.117$ ,  $p= 0.226$ ) between knowledge and practice score. The study concludes that the knowledge of Avian Influenza among poultry workers was low and the Practice was found relatively better. The groups should be targeted for appropriate intervention based on knowledge.

**Keywords :** Avian influenza, knowledge, Pokhara, poultry workers, practice

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**Introduction**

Avian Influenza (AI) or "Bird Flu" is a highly contagious viral infection which can affect all species of birds as well as humans and can manifest itself in different ways depending mainly on the ability of the virus to cause disease (Beigel et al., 2009). It transmit from bird to human probably environment to human and limited or rarely from human to human. The most well-known of these are Avian Influenza viruses circulate in poultry. The global mortality rate for human with Avian Influenza is 60 percent. Globally, it is one of the emerging problem that has been in developed as well as developing countries.

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Poultry farmers are on the first line when it comes to risk of contracting AI. A cross sectional study on knowledge, attitude and poultry handling practices of poultry workers in India revealed that knowledge regarding AI was acceptable but poorly correlated with actual biosecurity practices (Kumar, Sreevastan, Joseph, Alle & Belanik, 2013). Similarly, a study conducted in Kathmandu, Nepal on social determinants that lead to poor knowledge about and inappropriate precautionary practices towards Avian Influenza among Butchers revealed that 38.7 percent had some knowledge while 44.6 percent had satisfactory practices. None of the respondents had adequate knowledge or displayed practices (Poudel, Acharya & Adhikari, 2013).

In the developing country like China, the cases on human death was 100 percent in 2003 which has been declined to 50 percent in 2010. Similarly in Egypt, the case on human deaths was 56 percent in 2003 and declined to 45 percent in 2010. Since 2005, a number of other Asian countries have reported cases of H5N1 including Afghanistan, Bangladesh, India, Myanmar and Pakistan and most recently Bhutan and Nepal (WHO, 2018). Avian influenza virus spreads in the air and in manure and there is no evidence that the virus can survive in well cooked meat. The most well H5N1 hits Nepal for first time on January 16, 2009. The first outbreak was confirmed in Kankarbhitta on January 16. 28,000 chickens were killed in the area to control the virus (Manandhar, Chatau & Shrestha, 2013). To identify Knowledge and Practices among Poultry Farmers is very much essential. Hence this article aims to explore Knowledge and Practices regarding Avian Influenza among Poultry Workers in Pokhara.

### **Data and Methods**

A quantitative descriptive cross sectional study design was used to conduct this study. The study was conducted at Pokhara Lekhnath Metropolitan City-32 because of its feasibility. Purposive method was used to select 108 sample which was calculated on the basis of prevalence of similar study done at Kathmandu, Nepal (Poudel, Acharya & Adhikari, 2013). In this research, structured interview schedule was used as research instrument to collect data. The instrument was developed through literature review and consultation with research advisor and subject expert. The instrument consisted three part : part I related to socio-demographic information like age, sex, educational level etc.(QNo.1 to 12) Part II, questions related to knowledge of avian

influenza (QNo.13 to 22) and Part III, related to practice of avian influenza (QNo.23.1 to 23.9). Pretesting of the developed instrument was done at Bhattarai Poultry farm on 11 poultry workers meeting the similar criteria. Validity and reliability of the tool as ascertained by consulting with research advisor and experts. The study was carried out after approval of research proposal from the research committee of Novel Academy, formal permission was taken from ward number 32 of Pokhara Lekhnath Metropolitan City. Verbal informed consent was taken from respondents prior to the data collection. Respondents were assured that all the information given during the data collection was used only for the research purpose and confidentiality was maintained by taking interview separately and anonymity was maintained by writing only the serial numbers but not their name. After the data collection, the researcher provided information on queries of the respondents.

After the collection of data, the data was checked for completeness and error. Then, it was edited, organized, coded, classified and was entered in SPSS version 20. Interpretation was done by using descriptive statistics (i.e. frequencies, percentage, mean, median, standard deviation) and inferential statistics (Pearson correlation) was used to show the relationship between Knowledge and Practice score.

## Results and Discussion

Table 1

*Socio Demographic Characteristics of Respondents* (n=108)

Characteristics	Frequency	Percentage
Age		
15-24		20.4
25-34	42	38.9
35-44	36	33.3
45	08	7.4
Sex		
Male	78	72.2
Female	30	27.8
Religion		
Hindu	97	89.8
Buddhist	11	10.2
Ethnicity		
Brahmin/Chhetri	40	37
Janajati	30	27.8
Dalit	38	35.2
Educational Status		
Uneducated	09	8.3
Primary	27	25.0
Secondary	31	28.7

SLC or above	41	38.0
Type of family		
Nuclear	81	75
Joint	27	25
Working Status		
As a poultry worker and owner both	21	19.4
As employees only	87	80.6
Type of medias		
Mass media	78	72.2
Health personals	09	8.3
Family/Friends	21	19.4
Involvement in this occupation		
Less than 3years	67	62.0
More than 3years	41	38.0

Source: Field survey 2017

Table 1 shows that more than one third (38.9%) of the respondent were of 25-44 years. More than three quarters of the respondents (72.2%) were male. Regarding the religion, majority of them (89.9%) were Hindu religion followers. More than one third (38.0) of the respondents were educated up to SLC and above . Three out of four respondents were living in nuclear family.

Table 2

*Knowledge of Avian Influenza among Respondents*

(n=108)

Variable (Question)	Frequency	Percentage
Avian influenza is disease of birds and transmitted to humans	81	75
Avian influenza is caused by bacteria	79	26.9
Avian influenza is communicable	100	92.6
How avian influenza is transmitted		
Contact with infected birds animals	100	34.8
Contact with virus caused by slippers , clothes	86	30.0
Human to human	54	18.8
Contact with infected manure and equipments	47	16.4
Signs and symptoms in birds		
Sudden death without any signs	90	20.4
Lack of coordination	62	14.4
Swelling of eyelids	57	12.9
Purple discoloration of comb, hooks	55	12.5
Decreased eggs	47	10.7
Soft shelled eggs	37	8.4
Measures to take if avian influenza is suspected*		
Keep in separate room	93	27.7
Precautions taken	77	22.9
Report to the respective authority	70	20.8
Provide food to different place	65	19.3
Kill them	31	9.2

Signs and symptoms in humans		
Cough	85	20.9
Respiratory distress	79	19.5
Common cold	72	17.7
Diarrhea	49	12.1
Swollen eyes	43	10.6
Fever	40	9.9
Headaches	38	9.4
Prevention of avian influenza in human		
Wear gloves ,boots and masks	100	25.8
Restrictions of people	77	19.9
Dispose waste properly	73	18.9
Use separate clothes	71	18.3
Wash hands properly	66	17.1
Transmission to human*		
Eat raw meats and products	98	29.3
Breathes through air	86	25.7
Contact with infected equipments	80	24
Contact with infected chickens	70	21.0

Source: Field survey 2017

Table 2 shows that three out of one respondents could define the avian influenza correctly. As regard to the transmission, 34.8 percent were well known about contact with infected birds and animals and 16.4 percent said that contact with infected manure and equipment can transmit disease. Regarding signs and symptoms in bird, 20.4 percent mentioned sudden death without any signs and eight percent mentioned soft shelled eggs. Only 27.7 percent correctly answered to keep in a separate room and nine percent mentioned to kill them as a measure to take if avian influenza is suspected. Regarding signs and symptoms in human, 20.9 percent answered cough and nine percent answered headache. Similarly, 25.8 percent mentioned to wear gloves, boots and masks and 17.1 percent answered to wash hands as preventive measures. Less than one third (29.3%) mentioned that eating raw meats and products can transmit disease. Similarly, 21.0 percent answered that contact with infected chickens as the transmission to human can transmit disease.

Table 3

*Knowledge about Avian influenza among respondents*

(n=108)

Knowledge level	Frequency	Percentage
Good(>80%)	41	11.1
Fair(50-80%)	64	80.6
Poor(<50%)	09	8.3

Source: Field survey 2017

Table 3 illustrates that majority (80.6%) of the respondents has fair knowledge level on Avian Influenza.

Table 4

*Practice towards the Prevention of Avian Influenza*

(n=108)

Practices	Always (%)	Sometimes (%)	Never (%)
Use of separate clothes	85 (78.7)	16 (14.8)	7 (6.5)
Contact with bird cages	96(88.9)	7 (6.5)	5 (4.6)
Keep in separate farms	81 (75)	21 (19.4)	6 (5.6)
Put lime	57 (52.8)	37 (34.3)	14 (13.0)
Consult doctors	24 (22.2)	44 (40.7)	40 (37.0)
Treat separately	81 (75.0)	19 (17.6)	8 (7.4)
Inform to livestock offices	78 (72.2)	17 (15.7)	13(12.0)
Dispose dead body properly	76 (70.4)	27 (25.0)	5(4.6)

Source: Field survey 2017

Table 4 shows the respondent's practice on Avian Influenza in which 78.7 percent always use separate clothes ,while 88.9 percent always contact with bird cages .Similarly , 75 percent always keep in separate farms. Regarding to the putting lime ,52.8 percent always does . In the same way 40.7 percent sometimes consult doctors. Similarly, 75 percent always treat separately. Regarding the information to live stock offices, 72.2 percent always does. Whereas, 70.4 percent always disposes dead body properly.

Table 5

*Practice on Avian Influenza*

(n=108)

Practice	Frequency	Percentage
Good (75-100%)	64	59.3
Fair (50-75%)	41	38.0
Poor (<50%)	03	28

Source: Field survey 2017

Table 5 illustrates that 59.3 percent of respondents has good practice on Avian Influenza.

## Discussion

The primary aim of this study was to investigate the knowledge and practice of avian influenza among poultry workers in Pokhara, Nepal which was done by using unstructured interview schedule. In present study, 8.3 percent had poor knowledge and 59.3 percent had good preventive practices

which are contrast to the findings to the study conducted in Sindhuli district of Nepal. It might be due to the reason that the researcher had conducted the study in the setting where all the workers follows similar kind of practice even they have lack of knowledge (Kumar et al., 2013).

In present study, 75 percent gave correct definition of bird flu. Regarding the transmission of bird flu, 29.3 percent from uncooked raw meat, 41.8 percent from human to human was answered by respondents. This result is not consistent with the result of the study conducted in Ikorodu, Lagos State, Nigeria where 38.1 percent defined correctly as a disease of bird and transmitted to human and transmission from 54.5 percent uncooked raw meats , 41.8 percent from human to human (Elelu, 2017). In present study signs and symptoms in birds includes, (20.4%) sudden death, (12.5%) purple discoloration of comb, hooks, (17.7%) difficulty breathing and 12.1 percent diarrhea. Whereas, varied result was found in a study conducted in Bangladesh, in which the signs and symptoms present in birds were: 77.3 percent sudden deaths, 18.79 percent purple discoloration of comb, hooks, 2.09 percent difficulty breathing and 1.13 percent diarrhea. Regarding practices of using separate clothes in present study, 78.7 percent always does. Similar findings was concluded in a study conducted in Italy i.e. 82.9 percent always use separate clothes (Islam, Kabir & Begum, 2013).

In present study, signs and symptoms indicated by the respondents were fever by 9.9 percent, cough by 20.9 percent and diarrhea by 12.1 percent. Contradictory finding was found in a study conducted in Cambodia in which signs and symptoms indicated by respondents were fever by 64.6 percent, cough by 34.6 percent and diarrhea by 6.1 percent. But in the same study the good practice percentage (59.3) of present study founds to be similar i.e. 58.9 percent (Khun, Heng & Hideki, 2012).

In this study 11.1 percent has good knowledge level, 80.6 percent has fair and 11.1 percent has poor. The result is not similar to the study conducted in Egypt, which revealed that 8.1 percent had good knowledge level, 42.9 percent had fair level and 49.0 percent had poor level of knowledge. Similarly the practice level is also contradictory to the finding of the same study. In present study, 59.3 percent has good practice, 38 percent has fair and 28 percent has poor practice level and ,good 31.3 percent fair 53.3 percent and poor 15.4 percent which are contrast to each other (Ally, Oveda, Hellal & Madian, 2007).

## Conclusion

It can be concluded that majority of the poultry workers had fair knowledge about avian influenza and the practice was good among them. The overall practice level was found relatively better than the knowledge of poultry workers. There was no significant relationship between Knowledge and Practice of Avian Influenza among Poultry Workers. There is still a place for improvement of Knowledge and Practice of Avian Influenza among Poultry Workers in Pokhara.

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