

Exploring the Impact of Television on Consumer Perceptions Towards Bird Flu Disease

K. A. U. A. ABEYSINGHE and U. K. JAYASINGHE-MUDALIGE

Department of Agribusiness Management, Faculty of Agriculture Plantation Management, Wayamba University of Sri Lanka, Makandura, Gonawila (NWP), Sri Lanka.

ABSTARCT

This article focuses on factors influencing consumer decision making towards Chicken meat consumption in Sri Lanka amidst Bird Flu crisis and towards to the future. It uses data collected through a consumer survey conducted in North Western Province in Sri Lanka over the period of July to August 2006. A major focus of the study was to find out the impact of television, which has carried several negative reports about chicken consumption during January to March period. Further a knowledge test was carried out to find whether the consumers' choice to decrease is affected by actual knowledge on Bird Flu or the negative messages broadcasted over television. To Characterize and weigh up the consumer attitudes on purchasing of poultry meat was explained using Binary Logistic Model. A number of demographic consumer characteristics such as Age, Sex, Education, Having less than 12 years in the household, chicken meat consumption frequency and attention to media coverage were included as explanatory variables in the model. Chi-Square results reveals that present decrease is influenced by actual knowledge on Bird Flu, but people intend to decrease consumption towards future is highly due to the fear over the spreading disease, rather than the knowledge on the disease. Model estimation and computation of predicted probabilities of Binary Logistic Models reveal that the likelihood to cut meat consumption increases with greater attention given to television as well as higher meat frequency and increasing age.

KEYWORDS: Bird Flu, Consumer Perception, Television Communication

INTRODUCTION

The last two decades have seen a rapid and massive increase in consumption of animal products mostly in developing countries resulting in the focus of animal production moving from temperate to tropical areas. At the same time the dominant type of meat produced and consumed has changed from ruminants to poultry and swine. In South Asian region commercial production and consumption of poultry products has been expanding rapidly but remains well below world averages (FAO, 2006).

In Sri Lanka the average daily production of Chicken meat and eggs after having doubled between 1980 and 1990 has remained steady in the last few years at around 2.6 million from intensive farms and 0.4million from backyards giving a total of around 3 million eggs and 219 metric tons of Chicken meat per day. The per capita egg and chicken consumption has increased over the years and stand at 52 eggs and 4.57 kg of Chicken meat per person per annum (Anon, 2005). Eggs and chicken meat provide a versatile food of high biological value and they can be produced easily and relatively cheaply and could be considered as poor mans' protein.

In Sri Lanka currently, live stock production contribute around 2% of the GDP. This production is dominated by the poultry industry (44% of broiler meat, 26% eggs) other meat contributes 19% (mutton 3% pork 1% beef 1.5%) (Anon.2002). Apart from that livestock sector has accrued many benefits to Sri Lankan economy viz., saving foreign exchange spent on import of chicken and eggs, supplying of self employment to the people and providing protein rich nutritious food to the people and Figure 1 illustrates

the relative increment of poultry production in Sri Lanka in recent years.

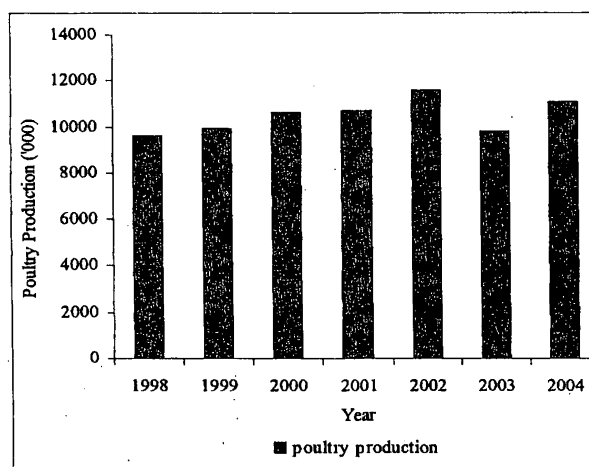


Figure 1 - Poultry Production in Sri Lanka:
Source: Department of Census and Statistics

Today the people all over the world are panicked by the news of the spreading of Bird Flu. Bird Flu, scientifically Highly Pathogenic Avian Influenza (HPAI) is a highly contagious Poultry disease that's caused by a Type-A Influenza virus, called H5N1 Stain. Avian Influenza was first identified over 100 years ago during an outbreak in Italy (FAO, 2006). It causes high mortalities in poultry. As a result of the ongoing outbreak in Asia, FAO estimate that around 20-25 million birds have been culled in the region as 28th of January 2004 (FAO, 2006). Of all influenza viruses that circulate in birds, the H5N1 virus is of greatest present concern for human health for two main reasons. First, the H5N1 virus has caused by far

the greatest number of human cases of very severe disease and the greatest number of deaths. It has crossed the species barrier to infect humans on at least three occasions in recent years: in Hong Kong in 1997 (18 cases with six deaths), in Hong Kong in 2003 (two cases with one death) and in the current outbreaks that began in December 2003 and were first recognized in January 2004. A second implication for human health, of far greater concern, is the risk that the H5N1 virus – if given enough opportunities will develop the characteristics it needs to start another influenza pandemic (WHO, 2006). Of 196 cases of infections only 92 patients have died of this avian flu so far (WHO, 2006). The failure to find an effective drug so far to cure this deadly bird flu has doubled the seriousness of the disease and the fear among people. Consumers may encounter a no of potential food hazards in their food choice decisions and consumption behaviour (Miles *et al.* 2004, Kinnucan *et al.* 2002).

The news of the deadly virus of the Bird Flu has reached the people through print media and electronic media in no time. The public frequently relies on the media for information regarding their food purchase and consumption. At the same time there is a tendency for consumer concerns about food safety issues, however to be exaggerated by media (Wade and Conley, 1999). Although the Bird flu has not touched our shores, the wide adverse publicity given by print media and electronic media about its spread in East and West and very particularly in our door step countries India and Pakistan is instrumental to the reduction of the consumption of eggs and chicken in Sri Lanka (Perera, 2006).

According to Dierks (2002) food safety crisis receive wide spread of publicity and extensive media coverage which evidently is mainly negative .Verbeke *et al.*(1991)specifies that first mass media should be aware of its social responsibilities ,which include spreading reliable and correct information to the society, this is especially the case as human health risks are involved . The statistics reveal that people highly use television as a medium of communication in Sri Lanka (Anon, 2003). According to Dodd and Morse (1994), Smith and Riethmuller (1999),Dierks. (2002), Rutledge *et al.* (2002), Verbeke and Ward (2003) there is a potential impact from media coverage on decision making related to food safety. Verbeke *et al.* (1999),Verbke. (2000), Verbeke *et al.* (2000), Harvey *et al.* (2001) have specified the special impact from negative media coverage on perception, attitude and behaviour toward fresh meat consumption in Belgium.

Here the purpose of carrying out this research is to ascertain the extent of reliance of consumers placed on the reportage of mass media with regard to safety of Chicken and consumption in North Western Province in Sri Lanka.

METHODS

Theoretical Framework

This study hypothesized that the consumers decision making behaviour on decreasing consumption of chicken meat during and towards future was associated with the demographic factors like age, sex, education, respondent having under twelve years, meat consumption frequency and media frequency.

An empirical model was constructed to find out the correlation between the considered explanatory variables over consumer behaviour on consumption of chicken meat.

The model can be expressed as;

$$Y_i = \beta_0 + \beta_1 \text{ age} + \beta_2 \text{ education} + \beta_3 \text{ children} + \beta_4 \text{ sex} + \beta_5 \text{ meat frequency} + \beta_6 \text{ media frequency}$$

Where, $Y_i = 1$; If consumer decrease

$Y_i = 0$; if consumer not decrease

Child = 1; have under 12 years, 0; Otherwise

Sex = 1; Male, 0; Otherwise

Media Frequency = 1; High, 0; Low

Meat Frequency = 1; High, 0; Low

Data Collection and Analysis

Meat consumption and demographic data were collected through a questionnaire based survey within home interviews of three hundred house holds over the period of July to August 2006 in Puttlam district.

This sample is almost equally spread over age categories and includes respondents from different education levels. Respondents were asked to report their meat consumption pattern before the Bird Flu crisis and categorized them in to two groups (low, high). Then demand changes were determined if consumer has decreased their chicken consumption during the crisis period .At the same time the intention to decrease chicken consumption in the near future, if the bird flu comes to Sri Lanka was considered. These choices dependent variable ensure that the focus is on investigating whether meat consumers are receptive to change what the impact on television coverage over it. Each consumer was asked six questions regarding bird flu and taking the average categorized in to two (high and low). By using Chi-Square test association of knowledge of Bird flu and media coverage on consumption changes for the period and towards future was examined.

Due to the dichotomous nature of the dependent variable Logistic Regression Model was used to find the influence of predicted explanatory variables over the dependent.

RESULTS AND DISCUSSION

Age of respondents ranged from 20 through 79 years of age with mean age of 40.0 years and a standard deviation of 13 . 38 years. The sample was

more or less equally distributed between two gender groups (53.7% female, 46.3% male) Approximately 51% of the respondents' experienced educational training beyond the age of 13 years. About less than half (32.7%) had children in household that were under 12 years of age. Almost 45.3% of the respondents indicated they consume chicken meat on high frequency (daily, several times) (Table 1)

Table 1 - Population descriptive statistics:

Parameters	Frequency	Percentage
Sex		
Male	139	46.3
Female	161	53.7
Meat Frequency		
High	164	54.7
Low	136	45.3
Media Frequency		
High	189	63
Low	111	32
Children Under 12 years		
Have	98	32.7
Haven't	202	67.3
Present Consumption		
Decreased	206	68.7
Not Decreased	94	31.3
Future Consumption		
Will Decrease	230	76.7
Wont Decrease	70	23.3

For attention to meat messages (considered attention to news) almost more than half of the respondents (63%) paid a high degree of attention television coverage of chicken meat issues (News more than 4 times per week), while 31.3% indicated the low level of attention to television messages. This wide range scaling the media coverage is important since it facilitated measuring the impact of television

on past and future consumption behaviour (figure 2).

Except for education and respondents having 12 years, all of the other individual parameters estimates are significant. Estimators for the parameters quantifying potential television impact are positive with a higher β value. The positive sign of the significant parameter age clearly points to and increasing decision making to cut chicken meat consumption as age increases (Table 2).

Table 2- Results of the Binary Logistic Model for the Bird Flu period:

Variables	P	Sig.	Exp (B)
Age	0.51	0.00***	1.06
Education	0.49	0.51	0.96
Child	0.61	0.15***	1.62
Sex	0.07	0.00	0.17
Meat Frequency	0.31	0.02***	0.45
Media Frequency	0.82	0.00***	4.83
Constant		0.15	0.22

***Denote statistical significance at 0.05.

Figure 3 shows the increasing probability of decreasing chicken consumption as age increases for the present as well as the in the future.

With respect to low media frequency people who got higher frequency shows a higher probability to decrease meat consumption in present and in future. Compared to female, male showed a low probability to decrease consumption in present, but they showed a 20% increase in decreasing consumption in future. People who were consuming meat on higher frequency decreased their consumption by 31% compared low meat consumers. But meat frequency was not significantly affected on decrease, on consumption in future.

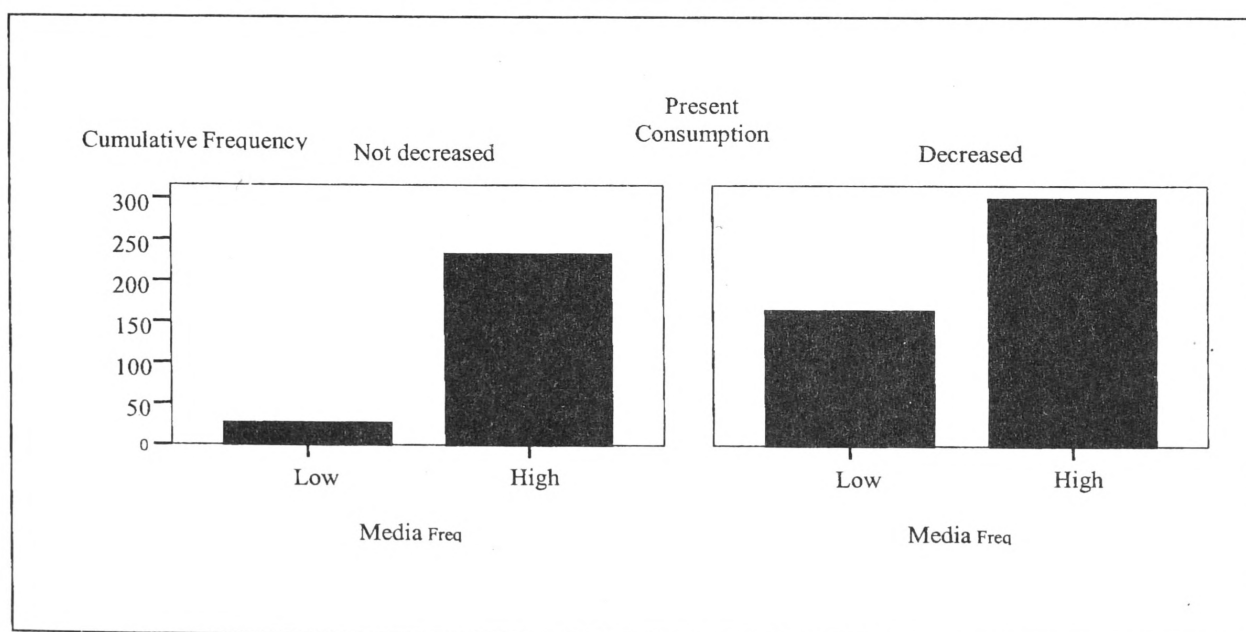


Figure 2 - Changes of present consumption towards media frequency:

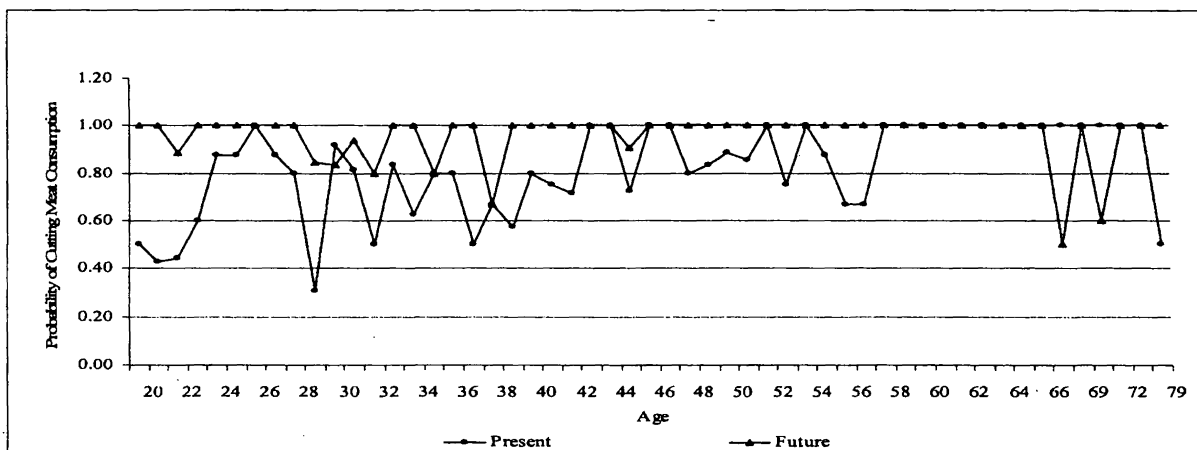


Figure 3 - Probability of decreasing fresh meat consumption across age:

People who were consuming meat on higher frequency decreased their consumption by 31% compared low meat consumers. But meat frequency was not significantly affected on decrease, on consumption in future. In future context education significantly affects on decrease consumption, but education was an insignificant variable in present situation.

Respondents having kids less than 12 years was totally a not significant variable in both situations. For the present period decrease in consumption is associated with knowledge slightly as the probability is closer to the rejection criteria ($p=0.05$) (Table 4). At the same time it shows that the association of media and knowledge is highly associated. So it shows that media has played a role on increasing consumer awareness regarding bird flu during the period.

Results of knowledge test, media frequency and consumption changes reveals that no significant effect of knowledge on bird flu, on reduction in consumption in future.

Table 4 -Results of chi-square test (For Bird Flu period):

Source	Chi-Square	Pr > Chi Square
Know	5.60	0.01***
Media	6.76	0.00***
Consumption	22.28	<0.00***
Know*Media	6.56	0.01***
Know*Consumption	4.15	0.04***
Media*Consumption	38.51	<0.00***

Notes: Likelihood Ratio: <0.05.

*** Denote statistical significance at 0.05.

Even consumers with low knowledge regarding bird flu has decreased the consumption due to negative impact of media towards to the future if he

disease comes to Sri Lanka because of the threat and the fear generated through media. Relatively higher likelihood ratio suggested that the models performed well (Table 5).

Table 5-Results of chi-square test (for future):

Source	Chi-Square	Pr > Chi-Square
Know	0.069	3.30
Media	4.00	0.79
Consumption	0.07	<.00*
Know*Media	53.18	0.00*
Media*Consumption	6.72	<.00*
Know*Consumption	50.24	0.06

Notes: Likelihood ratio: <0.05.

Denote statistical significance at 0.05.

CONCLUSIONS

This paper examined factors influencing on consume decision making towards chicken meat consumption in Sri Lanka. Mass media coverage of chicken meat has mainly reported negative association between meat consumption and human health during last January –March. With Bird Flu as a major item, the focus has specially been on the impact of television, taking demographic and behavioural consumer characteristics in to account.

Significant demographic variables include the age and sex. The large difference in probabilities show how gender issues are sensitive to and concerned about meat health issues in the era dominated by arousing potential harm from consuming meat. This shows that female consumers are in the front making more health seeking and risk avoiding decision-making in food choices. Age of consumers is also an important factor considered when taking favourable decision regarding meat consumption. To this variance it's reasonable to

suggest that changing taste and preference patterns and the concern of health awareness are some main factors.

Mass media, more specifically in this research, television coverage, is found to have a highly negative impact on consumer decision making towards consumption of chicken from the past and in the future. In addition to eventual losing appetite or changing taste and preference patterns, increasing health awareness and concern of the aging people could urge them to cut down fresh meat consumption. Research has found mass media very particularly television coverage has caused a highly negative impact on making decision regarding chicken meat consumption. The survey highlights that consumers have paid a serious attention to this unfavourable media coverage and cut down their meat consumption in present and more than three third of the refereed population intend to decrease their meat consumption in future, the disease invades Sri Lanka . There is empirical evidence to show this pessimistic reporting of mass media carry potential harm to the industry. This lacking positive attribute of reporting has hastened the young people to the levels that would have occurred naturally with the aging process.

The results of the research are purely limited to the design and the method of data collection. The reveals of the analysis shows the association between the dependent and the explanatory variables that were considered but not an act of causing.

This clearly implies that the statements are open to discussion and have a mutual relationship between the media coverage and consumption decision. The descriptive conclusion research methods as applied in this article are not unchallenged. They could be resolved and tested through future casual marketing research methods and experimental design.

REFERENCE

- Anon (2002). Annual Report of Central Bank, Colombo.
- Anon (2003). Economic and social statistics of Sri Lanka. Annual Report of Central Bank, Colombo, (pp.142).
- Dierks, L. H. (2000). "Food risk communication and consumers Trust in the Food supply chain." Effects of Media Coverage on Consumer Demand. (pp25).
- Food and Agricultural Organization (FAO, 2006) Availableat:http://www.fao.org/ag/againfo/subject/health/diseases-cards/avian____bg.html (Accessed on 19th March 2006).
- Food and Agriculture Organization (FAO, 2006). Statistical Database. Available at- <http://faostat.fao.org/faostat/serverlet/>
- Griffith, C.J., K.A.Mathieas, P.E.Price. (1994).The mass media and food hygiene education. British Food Journal.96: (pp16-21).
- Harvey, J., G. Erdos , S. Challior , S. Drew, S. Taylor , R. Ash, S .Ward, C. Gibson, C. Scar, F . Dixon , A.Hinde and C.Moffart(2001).The relationship between attitudes, demographic factors and perceived consumption of meats and other proteins in relation to the BSE crisis regional study in the United Kingdom.
- Kinnucan, H.W., K. Huixias, C.J. Asia. , D. Jackson (1997).Effects of health Information and generic advertising on US meat demand. Journal of American Agricultural Economics.79: (pp13-23).
- Miles, S., M.Brennan, S.Kuznesof, M.Ness, C.Ritson and L.J.Frewer (2004).Public worries about specific food safety issues. British Food Journal.106: (pp9-22).
- Perera,Q. (2006.March12).“ Lankan chicken farmers industry blasts the media.” The Sunday Times, (pp. 12).
- Verbeke,W. (2000). “Influence of the consumer decision making process towards fresh meat- Belgium and implication.” British Food Journal 102, 522-538.
- Verbeke,W.and P.V. Kenhove. (2002). Impact of emotional stability and attitude on consumption decision under risk: The Coca-Cola Crisis in Belgium journal of Health Communication 7, 455-472.
- World Health Organization (WHO, 2006) Fact Sheets.Availableat:http://www.who.int/medicentre/fact-sheet/avian_influenza/en/index.html/ .Accessed on 19th March 2006.