ECONOMIC EFFECTS OF MEDIA CAMPAIGN AGAINST PANDEMIC DISEASES: THE CASE OF BIRD FLU (H5N1) ON POULTRY BUSINESS IN OGUN STATE, NIGERIA

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Abstract

This paper analyzed the economic impact of media campaign against Highly Pandemic Avian Influenza (HPAI), popularly called bird flu, on poultry business in Ogun state. Eighty four farmers were randomly sampled from the four poultry zones identified by the state's veterinary department. Descriptive statistics and the Gross Margin analysis were used to analyze the data collected. The Results showed that average market price of all poultry birds and eggs dropped by more than 50% except for day old broilers and day old pullets which dropped by 41% and 42% respectively. The fall in price was adduced to the reported outbreak of HPAI. The paper recommended that strict policy guiding the reporting of infections, campaign regarding the pandemic should employ collaborative effort of professionals such as communicators, information scientists, veterenary doctors etc especially in the rural areas

Key words: Information; Highly Pandemic Avian Influenza; Gross Margin; Mass Media; Ogun

Introduction

Information by nature has the ability to create awareness and reduce uncertainty about the state of affairs in its recipients. However; information can also increase uncertainty and weaken an individual's ability to make decisions depending on how it is presented therefore, accurate and unbiased information is critical to rational human behaviour. The mass media constitutes the most accessible source of public health information for most people, especially in the developing countries. They enlighten the public about risk factors, methods of preventing diseases and available treatments through news broadcast, editorials and other programs (Marks, Kalaitzandonakes, Wilkins and Zakharova, 2007). The mass media has been successfully used as a tool for communicating health information globally and have often provided the link between

the government, scientists and the general public because of their ability to reach larger and more diverse audience.

Studies have established the media's capacity to influence not only the perception but also the behaviour of consumers (Kalaitzandonakes, Marks and Vickner, 2004; McCarthy and Brennan, 2009). Most times, as consumers of information, the public is completely dependent on the mass media for the opinions, perceptions and judgments upon which form the basis of their decisions (Blaine & Powell, 2001). However, as commercial enterprises, the mass media sometimes places the need to attract wider audience above the need to educate for public good; they resort to sensational reportage of risks in the bid to excite their audience and make stories 'newsworthy' (Fernandez- Celemin and Jung, 2006). Through their use of language and imagery, they determine how particular events are to be understood; thereby reflecting their views and prejudices on their audience.

Recent epidemics such as SARS, AIDS and bird flu have enjoyed much sensational reportage by the media. In particular, claims are advanced that there is massive media misrepresentations of the effect of H5N1. According to the World Organization for Animal Health, avian flu has been found in the bird populations of more than 60 countries in Africa, Asia, Europe, and the Middle East since 2003. However, human infection with A/H5N1 has been rare up till now. The virus has not acquired the ability to pass easily from person to person; should it acquire this characteristic, it would meet all the criteria of a pandemic flu strain. Person to person transmission must be sustainable if the virus is to become capable of causing a pandemic. (MCDH, 2005).

While the media reportage of the disease could be described as highly educative and informative, it has at the same time heightened anxiety of poultry farmers and consumers. The impact of bird flu on the global economy has been due to its occurrence in the virulent form. This has been very significant given the size of the poultry farming industry and the resulting disruption in agricultural trade. In global addition to significant health care costs and losses to the poultry industry, the impact of a global flu pandemic on the GDP had been through the demand response and, to a much lesser extent, the effect on output. Perceptions of risk has led to significant and immediate reductions in discretionary spending, particularly in the travel and tourism sector, a global industry worth around 4% of the global GDP.

Recent epidemics such as SARS, AIDS and bird flu have enjoyed much sensational reportage and massive media misrepresentations by the media. Avian flu has been found in the bird populations of more than 60 countries in Africa, Asia, Europe, and the Middle East since 2003 (WHO, 2011). However, natural human infections from birds have been rare up till now (MacKenzie, 2012; Nettleman and Davis, 2012). Influenza pandemics occur when a new strain of the influenza virus to which human beings have no immunity, spreads (Steadman, 2008) . The virus has not acquired the ability to pass easily from person to person; should it acquire this characteristic, it would meet all the criteria of a pandemic flu strain. Person to person transmission must be sustainable if the virus is to become capable of causing a pandemic among human. (MCDH, 2005).

The media reportage of the bird flu disease also had economic impact globally especially for the poultry farmers and consumers (Cooper, 2008). This has been very significant given the size of the poutry farming industry and the resulting disruption in agricultural trade. About 65% of Nigerians are estimated to depend on agriculture for their livelihood while 34.8% of the GDP and over 38% of non-oil foreign exchange earnings are contributed by the agricultural sector. The poultry sub-sector is the most commercialised of all the subsectors of Nigeria's agriculture (Adene and Oguntade, 2008).

Hundreds of millions of poultry have been killed either directly by the disease, or by authorities culling them to prevent its spread (Obi *et al.,* 2010). The Food and Agriculture Organization of the United Nations (FAO) estimates losses in the poultry sector at more than $10 billion between 2003 and 2008. This has severe impact on the rural poor, who keep backyard poultry to supplement their income, and to provide food security (ADB, 2008).

Cumulative Number of Confirmed Human Cases of Avian Influenza reported to WHO in December 2008 is shown in Table 1. Clearly from Table 1, Nigeria should have been one of the countries with the least worries for the avian flu. However, Nigeria has been ranked alongside countries like Indonesia and Egypt as countries considered Highly Pathogenic Avian Influenza (HPAI) entrenched (Burgos and Burgos, 2007; Domenech *et al.*, 2007).

Rumours are flying that bird flu has spread rapidly into neighbouring countries even though there is no official confirmation of this, either by national governments or international organisations (Da Costa, 2008). Once, in 2006, the media reported the death of two people as a result of the disease but the minister of health dispelled this as a speculation of the media (Badmus, 2006). He further said that the government has put in place an Immediate Response Team (IRP) to carry out active surveillance and case searching, in collaboration with the affected states, in order to identify and isolate any possible human case.

Obayelu (2007) posited that after the news of avian influenza, in Kwara state, approximately 80% of the consumers of poultry changed their demand pattern first by decreasing their consumption to a total shift to other products. On the supply side, About 75% of the poultry suppliers in the state decided to stop ordering for new birds to their farms and contemplated diverting to other businesses yet no case had been reported in the state. Badmus (2006) asserted that economic sabotage cannot be ruled out in the whole saga especially as the infection is found in just two poultries in Kano and Kaduna States and since the north produces only two per cent of total chicken consumption in the country, the occurrence in such an area should not be made to affect other areas where the incident is yet to be recorded. Besides, records have shown that the birds from the Kano and Kaduna cases were not from registered hatcheries. He further asserted that the clamour by some people that Nigerian borders should be thrown open to importation of chickens is very suspicious as this might be coming from people who profit from smuggling poultry products into the country.

Although, some farmers across the federation have benefited from government compensation as regards the pandemic, there are as yet many others who are still crying out. Recent reports claimed that the pandemic affected 123 poultry farms accross the country including Ogun State.

The amount paid to the farmers in Ogun State alone (about N42.5 million) represented 67.7 per cent of the compensation, this implies that Ogun state's contribution is one the largest to the poultry business in Nigeria. However, many farmers in Ogun state disclaimed this report, suggesting that a lot of them did not benefit from the relief package (All Africa, 2008).

Clearly the existence of bird flu cannot be denied as it has been reported in the literature that the disease has been found in pigs and migratory birds (Rima, 2008). The potential impact on poultry business and on human health is therefore colosal. Currently, Nigeria supplies the bulk of poultry need in West Africa despite the consumption of two million chickens daily in the country and Ogun state's quota in this supplies is highly significant. Available information from Ogun state Veterenary Department showed that reported outbreak of the Highly Pathogenic Avian Influenza (HPAI) had widened the demand- supply gap for poultry products (All Africa, 2008). This study therefore assessed the income impact of the media's reportage of the bird flu saga on poultry farmers in Ogun state, Nigeria.

Methods

The study was conducted in Ogun state. Ogun state has a population estimated of 3,728,098 (NBS, 2007). The principal inhabitants are the Yorubas and agriculture and trading are the major occupation of the people in this area. Poultry business in Ogun state ranks among the highest in Nigeria. The data for this study were obtained from 84 farmers, who were sampled across four poultry zone, created by the state's veterenary department, using well structured questionnaire. Data collected were analyzed using descriptive statistic (i.e frequency distribution and percentages) and accounting model involving Gross Margin analysis. The model is stated a follows:

GM = TR- TVC

Where: GM= Gross Margin; TR= Total Revenue of farmers (N); TVC= Total Variable Cost of production (N).

Note: TR= Value of output + other by-product

TVC= Cost of all inputs i.e labour, feed etc

Results and Discussion

Descriptive Characteristics

Result according to Table 2 showed that majority of the farmers are male (80%) and are mostly within the age range of 31 to 40 years (62%). This result indicated agile work force in poultry business in the study area. (52%) had more than secondary education and 51% had less than 11 years of working experience. Forty six percent percieved that the reported outbreak of bird flu severely affected their business. Most of the farmers (55%) do not participate in any cooperative society though (54%) reported that they had contact with extension agents. This has a lot of implication on information uptake, adoption of innovations and participation in intervention programmes.

Effect of Reported Outbreak of HPAI on Market Price of Poultry Products

Table 3 showed that there was a drop in the prices of poultry product due to the pandemic episode. There were more decreases in prices of the cosumer products than the producer products i.e ≥50% drop in the prices of mature live birds and eggs and ≤50% drop in the prices of day old chicks except for cockerel (67%). This had a lot of implication on the profit margin accruable to poultry production.

Gross Margin Analysis

Result according to Table 4 presents the comparison between the respondents' gross margin before and after the reported outbreak of HPAI. The average gross margin the season after the outbreak was lower than that recorded before the outreak by about 67 percent. This is an indication that the reported pandemic episode made a negative impact on the income of poultry farmers in the study area. This has a lot of implications on the food security and poverty levels of the farmers.

Conclusion

This study analyzed the economic impact of the media campaign as regards HPAI with respect to farmers income from poultry business in Ogun state, Nigeria. The study established that accounts of alleged health risks associated with HPAI resulted in a sharp drop in demand and price of poultry and eggs and in the profit margin of poultry farmers. Based on these findings, the following are recommended for policy action:

1. The media should avoid risk amplification, misrepresentation and distortion of information to prevent potential risks and costs.
2. The initiatives on information campaign regarding the pandemic should employ collaborative effort of professionals such as communicators, information scientists, veterenary doctors etc. especially in the rural areas.
3. Cost effective preventive programme or measures should be incorporated into extension education.
4. Farmers should be encouraged to participate more in cooperatives and the role of cooperatives in the pre- pandemic prevention education and post- pandemic support of members should be well highlighted.
5. Tensions between being scientifically correct and reducing the likelihood of public over-reaction is one of the major issues that needs to be addressed, if experts are going to be persuaded to be more actively involved in the communication of food
6. Training in media skills and accurate science reporting — whether through relatively short seminars or longer journalism fellowships and graduate training — remain the only way to build the media's skills in communicating effectively not only about bird flu, but also about many other pressing medical and public health issues.

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Table 1: Cumulative Number of Confirmed Human Cases of Avian Influenza (selected countries)

	2003		2004		2005		2006		2007		2008		Total	
Country	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Bangladesh	0	0	0	0	0	0	0	0	0	0	1	0	1	0
China	1	1	0	0	8	5	13	8	5	3	3	3	30	20
Egypt	0	0	0	0	0	0	18	10	25	9	7	3	50	22
Indonesia	0	0	0	0	20	13	55	45	42	37	22	18	139	113
Iraq	0	0	0	0	0	0	3	2	0	0	0	0	3	2
Nigeria	0	0	0	0	0	0	0	0	1	1	0	0	1	1
Pakistan	0	0	0	0	0	0	0	0	3	1	0	0	3	1
Thailand	0	0	17	12	5	2	3	3	0	0	0	0	25	17
Turkey	0	0	0	0	0	0	12	4	0	0	0	0	12	4
Vietnam	3	3	29	20	61	19	0	0	8	2	2	2	106	52

Total	4	4	46	32	94	39	104	82	84	53	35	26	370	232

Source: Asian Developmental Bank annual report, 2008

Table 2: Discriptive Characteristics of Respondents

Charateristics	**Frequency (n = 84)**	**percentage**
Gender		
Male	67	80
Female	17	20
Age		
< 30	9	11
31-40	53	62
41-50	15	18
>50	7	9
Educational Level		
Secondary	41	48
Post secondary	43	52
Years of Experience		
≤5	21	25
6-10	22	26
11-15	20	24
16-20	12	14
>20	9	11
Percieved Level of impact of HPAI		
Severe	39	46
Mild	15	18
Transient	30	36
Management System		
Intensive	41	48
Semi intensive	43	52
Contact with Extension Agent		
Yes	45	54
No	39	46
Cooperative Membership		
Yes	38	45
No	46	55

Source: Field Survey, 2008

Table 3: Prices of Poultry Products Before and After Reported Outbreak of HPAI

Poultry/Product	Average price (market) before outbreak (Naira/ unit product)	Average price (market) after outbreak (Naira/ unit product)	Difference in price (Naira/ unit product)
Mature live broiler	700	300	400 (57)
Point- of- lay layers	700	300	400 (57)
Culled birds (layer)	600	250	350 (58)
Mature live cockerel	700	350	350 (50)
Mature live turkey	9000	3000	6000 (67)
Cockerel (day old)	30	10	20 (67)
Pullets (day old)	120	70	50 (42)
Broiler (day old)	110	65	45 (41)
Turkey (day old)	600	300	300 (50)
Turkey egg	150	50	100 (67)
Chicken egg	20	10	10 (50)

Values in parenthesis are percentages

Source: Field survey, 2008 adapted from Ogun state Ministry of Agriculture.

Table 4: Gross Margin Analysis before and after Reported Outbreak of HPAI

Variables	Before Outbreak	After Outbreak
Total Revenue (N)	101,802,000	52,756,500
Total Variable Cost (N)	26,290,500	27,900,000
Gross Margin (N)	75,511,500	24,856,500
Average Gross Margin (N)	898,946.43	295,910.71

Source: Computed from field survey, 2008