POULTRY WELFARE AT LOCAL MARKETS DURING THE HOT-DRY CONDITIONS: THE ODDS AND NORMS. A CASE STUDY OF KADUNA STATE

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ABSTRACT

The aimed of the study was to evaluate poultry welfare, based on handling and transportation methods, traumatic injuries and mortality, sustained by birds at local markets in Kaduna State, Nigeria. Ten different villages within Kaduna State were visited twice each during market days in the hot-dry season. During the visits, the methods by which the birds were handled and the means of transportation, traumatic injuries and mortality rate sustained by the birds at the markets were assessed and photographs were taken. The results showed that of the 1200 birds observed at the markets, 95% were shackled, 90% were held upside down, 10% were held by the wings, and only 10% were held upright in a normal position. Ninety percent of the birds at the local markets were tied by the legs in clusters of 5 to 10 birds. Forty five percent of the birds were transported using motorcycles, while 30% were transported in cars. Visible traumatic injuries were observed on the legs (25%), wings (12%), and head and neck (10% each). Mortality rate and fracture were recorded in only 6% and 5%, respectively of the birds. Chickens transported and sold at various local markets in Kaduna State were poorly, unethically and inhumanely handled, and transported by means not specifically meant for poultry transportation. In conclusion, the welfare of the birds in all the markets visited was compromised, which may adversely affect the their health, productivity and meat quality, and, consequently, increase economic losses incurred by farmers.

Keywords: Poultry, welfare, transportation, market.

INTRODUCTION

A large population of the world still prefers to eat local chickens than broilers due to their good savouring taste. Most often, local chickens are cheaper than the broiler chickens and sold at local markets across the world. The stress the local chikens suffer at local markets is still poorly studied due to variation in several factors, ranging from breed difference to environmental conditions. Animal welfare can be defined as an animal's state as it responds to environmental challenges (Broom, 2000). Sadly, inadequate knowledge and understanding of Animal Rights has been identified as one of the banes of venomous animosity, expressed by many Nigerians to the enthronement of Animal Rights to welfare in Nigeria (Ayo and Oladele, 1996; Sharubutu, 2014). All poultry and, especially their major breeds, employed in most intensive production systems are transported at least twice during their lifetimes over distances that may range from a few kilometres for few minutes to long journeys with durations of many hours (Minka and Ayo, 2008). Most journeys are by road; for example, from hatchery to production site or from the farm to processing plant or markets, but some birds may also be transported by air or sea (Freeman *et al*, 1984). All modes of transport involve the placement of birds or chicks in transport containers, which are subsequently loaded onto vehicles, aircrafts or vessels for translocation to their intermediate or final destinations (Knowles *et al.*, 1999). The procedures and practices involved in transportation and the micro-environments prevailing in containers and vehicles may impose varying degrees of stress upon the birds, which compromise their welfare status, health and productive efficiency, depending upon the magnitude of the challenges (Burlingutte *et al.*, 2011). Inspite of the large number of poultry markets in Kaduna State, Nigeria, there is limited information on the way and manner poultry are handled and transported at these local markets. The aim of the present study was to evaluate the welfare of poultry during their

transportation for sale at local markets in Kaduna State.

MATERIALS AND METHODS

The study was conducted in Kaduna State of Nigeria. Ten different local livestock markets were visited on their market days, and the following procedures were carried out: 1. Visual identification of the methods used in handling of poultry; 2. Means by which the birds were transported to and from the markets; 3. Observation of traumatic injuries and mortality. 4. Photographs of the entire handling and means of transportation process at the markets were obtained. About 1200 local chickens of various ages and sexes were observed in all the markets, which comprised 20 groups, with an average of 60 birds per group. In order to calculate the most common transport system of birds, the average value was calculated by dividing the number of groups of birds that were transported by pick-up or car or bus or any means with total number of birds in the groups that were transported. The various methods of handling, traumatic injuries and mortality rate observed were obtained by calculating the total number of birds that were handled in a particular way (shackled, held upright or upside down, etc), injured or dead, in a group of birds by the total number of birds in that group, multiplied by 100. Data were subjected to Student's *t*-test. Values of $P<0.05$ were considered significant. The results were presented in simple percentiles.

RESULTS

Out of the 1200 birds observed at the markets, 95% were shackled, 90% were held upside down, 10% were held by the wings and only 10% were held upright; that is in a normal position. Ninety percent of the birds at the local markets were tied by the legs in clusters of 5 to 10 birds (Figure 1). Forty five percent of the birds were transported using motorcycles, while 30% were transported in cars (Figure 2). Visible traumatic injuries were observed on the legs (25%), wings (12%), and head and neck (10% each). Mortality rate? and fracture were recorded in only 6% and 5 %, respectively (Figure 3).

DISCUSSION

The present study showed that majority of the birds in all the markets were rough handled, shackled or held in an inverted position for a period of 2 to 6 hours. The birds exchanged hands more than 5 times from one buyer to the other before they were finally sold or returned home. The birds were usually inverted when caught, so that many were held in each hand simultaneously. This does not provide optimal bird welfare, as such may likely cause pain in the birds (Weeks, 2007), so it is important that they are handled as carefully as possible to minimise the risk of injury. The preferable method for handling chickens is to catch both legs simultaneously and be held upright, to avoid hip dislocations and broken bones. In addition, the fact that several birds (5-10 birds) were tied together by the legs and hung upward may aggravate injuries, dislocation or even fracture of the bone leg or wing. Furthermore, not only were the birds held in such condition for a prolonged period, but they were also subjected to inhumane transportation on motorcycles, cars, bicycles and wheelbarrows. These procedures may adversely affect the welfare, health and productivity of the birds, especially under hot-dry conditions. The present result is similar to the findings of Gentle and Tilston (2000), who indicated that shackling and inverting birds upside down are considerably traumatic experience for broiler chickens, which markedly contribute to the stress response in pre-slaughter handling, and that the handling component was the most potent stressor for broiler chickens. The handling method adopted in all the markets visited in the present study may have negative implications for the welfare of the birds. Similarly, Sparrey and Kettlewell (1994) reported that even if the practice of suspension for slaughter in poultry is necessary for present methods of humane slaughter, it causes possible distress and pain to the birds. Based on monitoring nociceptors in the legs of poultry in response to quantitative mechanical stimulation, Gentle and Tilston (2000) also concluded that shackling is likely to be a very painful procedure. The finding that the birds were not only shackled during the pre-slaughter processing, farmers, marketers or veterinarians often suspend the birds by the legs for examination (Jones and Satterlee, 1997), and this may adversely affect their welfare. Results from Gentle and Tilston (2000) showed that the pre-slaughter shackling induced considerable changes in haematological indices of both

leucocyte and erythrocyte counts in broilers, demonstrating considerable increase in the level of stress effects. Even after the elimination of other possible stress factors, significant changes after a 2-min shackling period occur (Gentle and Tilston, 2000). Although the birds assessed in the present study were not broiler chickes, the finding that the birds in the present study were inverted for a period of 3 to 6 hours, far more that the recommended minimum period of 2 minutes (Jones and Satterlee, 1997), suggests that the welfare of the birds was seriously compromised. Fight was common, especially in cocks brought from different areas. Such fights increase the occurrence of traumatic injuries and also disrupt the social structure of other birds close to them. As observed, other birds close to fighting cocks were agitated and stressed. The low mortality rate (6%) and injury (5%) observed in all the birds at all the markets visited, inspite of the high level of stress induced on the birds due to adverse transportation conditions and poor handling, may be due to the finding that the chickens were local breed, and reared under free-rage management system, as such they were well adapted to various stress factors. In addition, the poultry owners at the markets did not like to disclose incidence of injuries or mortality at the markets in order not to lose customers that may perceive that their birds are not healthy. Thus, this very act, apparently, reduced the objective assessment of traumatic injuries and mortality rate in chickens at the local markets. In conclusion, all the chickens transported and sold at various local markets in Kaduna State were poorly and inhumanely handled. The birds were tied by the legs and shackled on different transportation objects. Thus, the welfare of the birds was compromised, which may adversely affect their health, productivity and meat quality.

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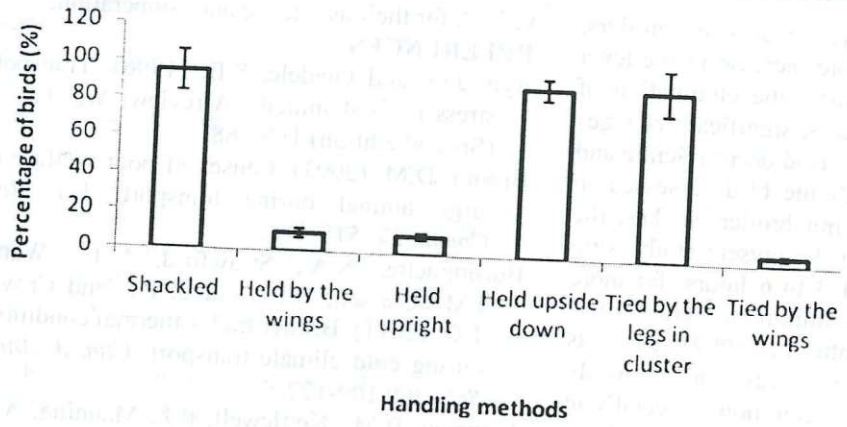

Figure 1 Percentage number of birds (n=1200) handled using different methods

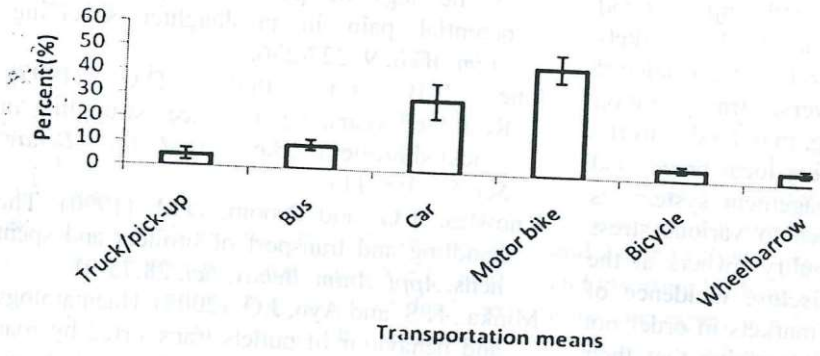

Figure 2 Means of transportation of birds (n=1200) to and from local markets in Kaduna State, Nigeria

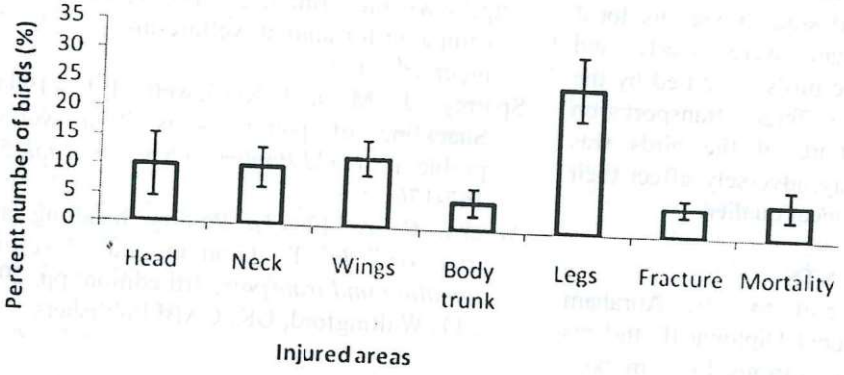

Figure 3 Percentage number of birds (n=1200) that sustained traumatic injuries at different locations of the body, fracture and mortality rate recorded at various local markets in Kaduna State, Nigeria.