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Research Article

Assessment Study of Poultry Worker's with their Performance in an Urban City of Nigeria

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ABSTRACT

The workforce in the agricultural sector is exposed to a wide range of work-related hazards which in turn affect workers' health and ultimately their performance. Generally, workers in livestock sub-sector are prone to back-pain and other musculoskeletal problems, resulting from over exertion, wrong postures during lifting of feed bags and eggs crates. Therefore, this study aimed at assessing workplace conditions and factors that affect workers performance. A descriptive cross-sectional survey, including site observation was used to assess the working conditions and factors that affect workers performance among workers in selected poultry farms in Ido local government, Ibadan, Nigeria. Two poultry farms were purposively selected while total sampling was used to recruit the study participants. Data were analysed for descriptive statistics and chi-square using SPSS version 16 at 5% level of significance. The respondents show 63% males and 37% females with the mean age of 34.03 ± 7.27. Majority (98.7%) of the respondents were exposed to ergonomic hazards, 94.7% were exposed to chemical hazards, 91.3% exposed to biological hazards while 65.3% were exposed to physical hazards. Overall, 59.3% of the respondents stated that strain and stress affect their performance. Other factors reported included long working hours, lack of Personal protective equipment, monthly income and work related injuries. Introduction of shifts should also be considered as poultry work involves monotonous movement as stress has been shown to affect workers performance. There is a need to pay more attention to the human safety aspect in the poultry sub-sector as focus has always been on the bio-security of poultry birds.

Keywords: Workplace hazard; Personal protective equipment; Workplace injuries; Work performance; Work strain; Job stress; Poultry sub-sector; Body pains

INTRODUCTION

Commercial meat industry has become a major economic sector for both developed and developing countries; this form of farming includes cow and goat meat sector, snail sector, fish sector, poultry (chicken and turkey) sector, etc. Commercial poultry farming is accepted all over the world due to very high protein that is produced by its meat and egg this includes developing countries like Nigeria where mega and minor poultry farming exists [1]. Increase in technology and modernisation has increased awareness of the public to greater demand to assess cheap and safe meat and egg, this had enhanced the poultry industry.

Despite the wild acceptance of this type of farming, the rate at which it contaminates the environment through pungent smell that releases ammonia gas, hydrogen sulphide gas and volatile organic compounds, infiltration of un-channeled manure wastes into the soil and waters (surface and ground) thus polluting the media, insufficient funds for medical resource to manage the sector's disease, power shortage, increase in the price of poultry feeds [2-9].

Major disease common to agricultural workers are musculoskeletal diseases, skin diseases, pesticide poisoning, infectious, respiratory diseases, inability to passive smell, incessant headaches, irritation of eyes and nose [4-6,10,11].

Several other forms of diseases associated with poultry workers are heat stress and exhaustion, dermatosis caused by high heat, wheezing, congestion, skin irritation, dyspnea etc. [4,12].

It has however been observed that poor working conditions lead to low optimum performance of workers [13]. Performance is the result of the quality and quantity of work accomplished by an employee in carrying out their duties in accordance with responsibility given. These description reveals that the work accomplished by an employee in performing a task can be evaluated by a given level

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of performance for example the employee's performance could be determined from the achievement of specific targets over a period within the organization [14]. The study thus evaluates different workplace conditions in poultry farms and their performance factors.

MATERIALS AND METHODS

Study area

The study area covers Apata, Ijokodo, Omi Adio, Akufo and Apete within Ido local government and it shares boundaries with five other local government namely Oluyole, Ibarapa East, Akinyele, Ibadan south-west, Ibadan north west local governments in Oyo State. Ido local government area has large hectares of land which makes it a site for farm and animal rearing.

Study design and participants

The research was a descriptive cross-sectional study which included a questionnaire survey and an observational checklist. The population involved in this study was all poultry workers within the selected poultry farms namely Bora farms and NKG farms which are located in Ido local government, Ibadan.

Data collection method

Data was drawn from primary sources which involved the use of questionnaire and observational checklist. Questionnaire: pretested semi structured questionnaire was used to assess the socio demographic characteristics of the workers, the health and safety hazards workers are exposed to in the poultry, the workplace conditions and how such factors affect workers in the day to day performance of their work

Observational checklist: A checklist was adapted from the Ministry of Labour and Productivity standard work place checklist and used during walk through inspections to examine the safety practices and work conditions

Data management

Data from completed questionnaires collected from the field was checked for accuracy before entry on a daily basis to avoid errors and inconsistencies. Statistical Package for Social Sciences SPSS software version 16 was used to analyse the data collected. Descriptive statistics was used to summarize variables: Quantitative variables using mean and standard deviation and qualitative variables using percentages. Chi-square was used to test for association between variables.

RESULTS

Socio-demographic characteristics of respondents

A total of 150 respondents from two poultry farms took part in the research. More than half of the respondents (63.3%) were males, while 36.7% were females. The age was grouped into five 11.3% of the respondents fell into the age group 18-25 years, 34.7% of the respondents were in the age group 26-33 years, 34% of the respondents were in the age group 34-41 years, 17.3% of the respondents were in the age group 42-49 years while the least represented group were the 50 years and above age group with 2%.

The level of education among the respondents showed that majority (56%) had secondary education, less than half (42.0%) had tertiary education while 2% had primary education. Majority (62.6%) of the respondents were married while 38% were single. More than half (57.3%) of the respondents had <5 years working experience, 36.7% had 5-10 years working experience, while 6% had working experience of >10 years. The Job distribution showed that majority of the respondents (78.8%) worked in the pen section, 8.2% worked in the hatchery section while 13% worked in the feed mill section. Further information is shown in Table 1.

Table 1: Socio-demographic characteristics of respondents.

Variable	Frequency (n=150)	Percentage %
Gender		
Male	95	63.3
Female	55	36.7
Age (Years)		
18-25	17	11.3
26-33	52	34.7
34-41	51	34
42-49	26	17.3
50 and above	3	2
Level of education		
Primary	3	2
Secondary	84	56
Tertiary	63	42
Marital status		
Single	57	38
Married	93	62
Working experience (Years)		
<5 years	86	57.3
5-10 years	55	36.7
>10years	9	6
Job section		
Pen	115	78.8
Hatchery	12	8.2
Feed mill	19	13

Assessment of exposure to workplace hazards by respondents

Exposure to four major work place hazards under the categories chemical hazards, physical hazards and biological hazards were assessed using different questions for each hazard category. Majority (98.7%) of the respondents were exposed to ergonomic hazards, while 1.3% was not. A high prevalence of exposure to chemical hazards was reported with 94.7% of the respondents exposed while 5.3% respondents were not. Majority (91.3%) of the respondents were exposed to biological hazards while 8.7% were not exposed to it. In the assessment of physical hazards 65.3% of the respondents were exposed while 34.7% were not (Figure 1).

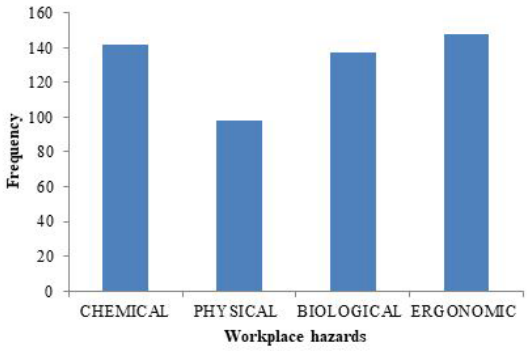

Figure 1: Percentages of systems involvement in CAPS [19,21].

Body pains among respondents and methods of material transport

Body pain was experienced in different body parts by 82.7% of the respondents. According to the various body parts where pain was felt after each day's work; majority (79.3%) of the respondents felt back ache, 14.7% of the respondents felt pain in the neck, 45.3% felt pain in the arm, while 24% complained of leg pain after work. Different methods were used in transporting materials within the poultry which included wheel barrow which was used by 36% of the respondents; hand lifting was used by 56% and head lifting by 8% of the respondents (Figure 2).

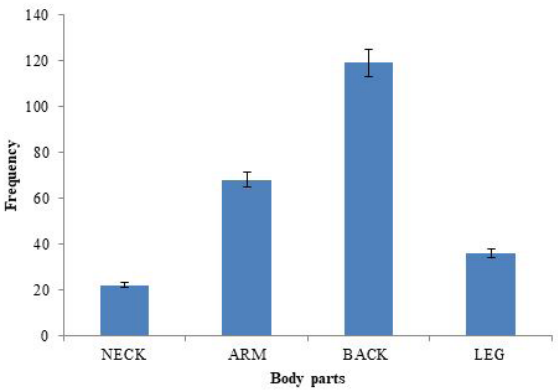

Figure 2: Body parts where pain was experienced by respondents.

Reported factors that affect worker performance and absenteeism among respondents

Less than half (33.3%) of the respondents were reportedly absent in the last three month and the following factors were responsible for the absenteeism; non-work related issues was reported by 28%, job training was reported by 32%, work related injuries was reported by 28% while lack of motivation was reported by 2%. Various work place conditions were reported to affect workers performance ranging from stress and strain as reported by 59.3%, long working hours as reported by 28%, monthly income as reported by 28.7%, lack of personal protective equipment as reported by 22.7%, work related injuries as reported by 9.3% (Figure 3).

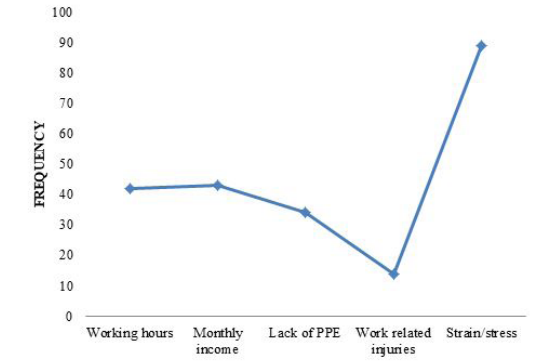

Figure 3: Factors affecting workers performance among respondents.

DISCUSSION

Socio demographic distribution of respondents

Majority of the respondents (63.3%) were males while (36.7%) were females and this is similar to the study carried out among poultry farmers by Ajetomobi et al., Das et al., and Hamid et al. which reported 76% males compared to 24% females [5,15,16]. This shows that the poultry sector is dominated by males.

The age distribution in this study revealed that youths were the predominant group as majority fell in between ages 18-33, followed by ages 34-41, group 42-49 years and finally age group 50 above with the lowest representation. This corresponds with the findings of Ajetomobi et al. and Hamid et al. that there are dominance of youths among the farming population in Nigeria [5,15]. The dominance by youths can be as a result of the energy demanding nature of the work in poultry farms.

The level of education among the respondents revealed that majority (56%) had secondary education closely followed by 42% with tertiary education and just 2% with primary education indicating all the respondents had a form of education. Even though this study is similar to a study by Adedeji et al. that reported all respondents as educated however the level of education differs as most of the respondents (50%) had tertiary education closely followed by 46.1% secondary, compared to this current study which showed most of the respondents had secondary education closely followed by tertiary education [17].

Majority of the respondents had less than 5 years working experience, followed by 5-10 years working experience while less than 10% have more than 10 years working experience. The selected poultry farms used have three work sections which includes pen, feed mill and hatchery. The job distribution showed that majority of the respondents worked in the pen, some worked in the feed mill while less than 10% worked in the hatchery.

Assessment of exposure to workplace hazards by respondents

The various hazards inherent in the work place were classified into four for this study. In response to questions asked about chemical hazards which included use of chemicals or disinfectants, irritation, sneezing and coughing while working and respiratory disorders, it was found out that majority of the respondents in the study were exposed to chemical hazards.

More than half (65.3%) of the respondents were exposed to physical hazard based on the various responses given to the questions to assess workers exposure to physical hazards ranging from experiencing heat stress, heat burn from debeaker, exposure to noise, lighting and ventilation condition of the work station. This is however lower to 93% reported by Ajetomobi et al. in a study carried out among poultry farmers in Osun State [15].

Based on the response given as regards contact with animals and animal waste, washing of hands after contact with birds, pest bite on the farm majority of the respondents in this study were exposed to biological hazards. Ergonomic hazard was the predominant hazard category found in this study as the response to questions on working posture, repetitive movements and method of transporting materials show that majority of the workers were exposed to ergonomic hazards.

Majority of the respondents experienced body pain in various parts of the body. The high prevalence of body pains is not far-fetched as the use of wheel barrow which was one of the methods used in transporting materials within the farm showed a significant association with body pains. Other means of transporting materials within the farms were head lifting and hand lifting. There was also a significant association between carrying heavy loads and body pains ($p \leq 0.015$). Body pain has been attributed to the repetitive

movement, over exertion and lifting that comes along with the agricultural work according to ILO (1999). This was further confirmed as there was an association between working in awkward position and body pain ($p \leq 0.000$).

More than half (79.3%) complained about back pain after each day's work however this is higher than the 46% reported among Gambian farmers by Kuye et al. [18]. Pains were felt in other body parts such as arm, leg and neck.

Reported factors that affect workers performance and absenteeism

Stress/strain was the most reported factor that affects performance among the respondents with 59.3%. McCoy and Evans stated that once the employees had become stressed on the job they have the high potential of getting their job done at a very slow or haphazard manner which eventually affects performance [19]. About 28.7% of the respondents said their monthly income affects their performance on the job and this is close to the 30% reported by Agba et al. in a study carried out on private and public sector workers in South-West Nigeria [20]. Kirkpatrick reported that wages and rewards go a long way in determining employee performance as pay enables workers satisfy their physiological need [21].

In this study 28% of the respondents reported that long working hours affect their performance on the job. Thomas and Raynar reported decrease in efficiencies by 10% and 15% among workers who work between 50 hours to 60 hours respectively in a week [22]. This study revealed that more than half (57%) of the study population work for at least 50 hours while 43% work for at least 60 hours in a week. According to a study carried out in the United States by Jacobs and Gerson 36% of workers worked for 50 hours or more per week and this was perceived to be long [23]. A growing number of studies raise concerns about long working hours as it expose workers more to hazards inherent in their workplace and may have negative impacts on their health as echoed by van der Hulst that working beyond the usual or normal hours in particular heightens the risk of on-the-job injuries and accidents, typically via fatigue toward the end of a long workday [24].

CONCLUSION

Poultry workers are exposed to work place hazards ranging from biological, physical, chemical and ergonomic. Majority of the workers felt body pains at the end of each work day and this may be as a result of repetitive movement associated with poultry activities. In a bid to keep a clean environment for the birds, disinfecting of pens and poultry floors is done using formalin alongside other disinfectants. Some workers complained about pungent smell of formalin, as well as the irritation that results from its use, thus posing as a hazard. Strain from work activities was a major reported factor that affects workers performance. However, other factors include monthly income, long working hours, work related injuries and lack of PPE. More attention should be given to human safety as most farm owners pay more attention to bio safety of their livestock.

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