

ASSESSMENT OF OCCUPATIONAL HAZARDS AND INJURIES AS HINDERANCE TO ENHANCED FISH PRODUCTION IN FISHING COMMUNITIES OF OGUN-WATERSIDE STATE, NIGERIA

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Abstract

A simple random technique was used to select 91 female fish processors for the study. Primary data were obtained with interview guide. Results showed that the mean age of the respondents was 40.0 years and most (85.7 %) of them were married. The major means of contracting fish hazards and injuries were poorly maintained facilities ($x=3.42$), poorly maintained equipments ($x=3.40$) while the major effects of occupational hazards and injuries were fracture ($=3.72$), allergies ($x=3.65$), sprains ($x=3.33$). Chi-square analysis showed a significant relationship between fishers' educational status and effect of hazards ($x^2=0.556$, $p<0.05$), health facilities and effect of hazards ($x^2=0.202$, $p<0.05$). It was also concluded that, years of fishing processing and educational status played significant roles in curtailing the effect of hazards and injuries.

Keywords: Occupational hazards, injuries, fish production

Introduction

The world population has been predicted to rise to 9 billion by 2050 (Qiang, *et al*, 2012), this however pose an immense challenge to food producers especially in Nigeria where the issues of food insecurity is paramount. Fish makes a vital contribution to the food security in Africa, (World Fish Centre, 2005). According to Oyewole 2014, Fish protein is considered a relative cheaper source of animal protein when compared with some other animal protein sources and is also considered nutritious because of some vital nutrients that cannot be found in some other animal protein sources.

One of the major challenges of the livestock industry over the years has been the issue of occupational hazards and injuries. With the population of Nigeria on the increase, new and improved technologies, that is, *innovations* have been believed to enhance food (fish) production. Also, it is well established that the advent of new and improved technologies play vital roles in improving both crop and animal production, productivity and the welfare of resource-poor farming in developing countries. (Sall *et al.*, 2000). Recently, new and improved fisheries technologies developed by National Research Institutes (NRIs) were disseminated to the fishers, fish farmers and fish handlers through the assistance of the extension agents. Olaoye, 2010 posits that new and improved technologies in fisheries such as outboard Engines, life jackets, evacuation boats, refrigerated vehicles, smoking kiln among others have countless advantages over

the obsolescent ones. The advantages however includes increased fuel efficiency, enhanced storage life, improved quality production, reduces wastages and hazards and produced more standardized produces.

Hazard is defined as a biological, chemical or physical agent with the potential to cause an adverse health effect (Zakia *et al.*, 2012). Occupational hazard is also the presence of materials or conditions that have the potentials for causing loss, harm or both. Exposure to hazard may cause a mishap resulting in injuries (Johnson, 2005). Injuries are therefore physical damage to the body i.e. breakage on the skin or other body tissues. It is a general term that refers to harm caused by accidents and more. Injuries range from minor to life-threatening. They include cuts, scrapes, scratches, and punctured skin. Other common types of injuries are bruises and burns. Fish processing workers are susceptible to many physical hazards in the course of their work as noise, injuries, sting from fish spines, cuts, sprain, fracture and snake bites. It is therefore pertinent that relevant stakeholders within the agricultural sector adequately do not only develop and design improved technologies but also disseminate the improved technologies to the users (fish farmers, fishermen and fish processors) so as to reduce the challenges of hazards and injuries in fish production.

Materials and Methods

The study was carried out in Ogun Waterside

Local Government, which is one of the twenty local government areas in Ogun state. Ogun-waterside lagoon fishing communities is one of the 15 major reservoirs pools accounting for 5,391.41 hectares of water surface. Simple random sampling technique was used to select 91 female fish processors in thirteen fishing communities within the lagoon areas namely: Olosumeta, Obakata, ibeki, Okeose, Ijegbe, Ode omi, Aba ajeke, Aborege, Iseku, Okeoso, Awodikura, Ajimo and Igboere. Also, 5 fish processors in Igboere, 4 in Ajimo, 9 in Awodikura, 16 in Ode omi, 11 in Okeoso, 7 in Iseku, 6 in Aborege, 3 in Aba ajeke, 5 in Ijegbe, 11 in Okunose, 6 in Ibeke, 5 in Obakata and 10 in Olosumeta were randomly selected for this study making a total sample size of ninety one (91) respondents in all. Female fish processors were selected because they engage mainly in processing. Data for the study were collected from primary and secondary sources. Primary data were collected with the aid of well-structured interview guides that were administered to the fish processors. Data was subjected to descriptive (frequency, percentages, mean and standard deviation) and inferential (Chi-square and Pearson product moment correlations) statistical analysis.

Results and Discussion

Personal and production characteristics of respondents

Findings in Table 1 showed that the mean age of female fish processors was 40.0 years with a standard deviation of 12.17, 49.5% were Christians while 50.6% were Muslims. Also from Table 1, majorities (85.7%) of the respondents were married, 66.9% had primary education while 90.1% had access to health facilities in local health clinics. Furthermore, the mean household size and fishing experience of the fish processors were 8 persons and 16 years respectively. It is adduced from the results that the female fish processors were in their economically active, middle aged and child bearing age category (Udoh, 2003). This is an indication that the middle-age women are susceptible to injuries and hazards when compare to their young female fish processors. However, their age category could also lead to the rejection of improved and new technologies as compare to young fish processor with high aspiration to accept new technologies. (Tsoho, 2004). Marriage amidst the rural dweller is a respected institution. Result in Table 1 shows that majority of the respondents were married. Also, result show that they were

also literate having the ability to read and write.

Means of contracting fish injuries and occupational hazards

occupational hazards and injuries were: fracture ($=3.72$), allergies ($=3.65$), sprains ($=3.33$), carpal tunnel syndrome ($=3.14$) and musculoskeletal problem ($=2.98$). It was therefore adduced from the findings that there existed an association between occupational hazards such as fractures, eye disturbance neck pains, fractures and injuries among the artisanal fish processors. Also, neck pain and lower backache could also be as a result of uncomfortable posture and prolong sitting. Also, discussion interview with the fish processors showed that blanching of hand, cut, laceration, spine puncture and pointed stick puncture could be responsible for whitlow while accidental burn occurred as a result of sparkle burn and heat. This corroborate the findings of Jinky (2008) that eye disturbance, backaches and skin rashes were prevalent among artisanal fish processor.

Test Of Hypothesis

Test of association between fish processors' socio-economic characteristics and the effect of hazards and injuries

The hypothesis "There is no significant association between the socio economic characteristics fish processors and the effect of hazards and injuries" was measured using Chi-square test and Pearson Product Moment Correlation (PPMC). As shown in Table 4, there is a significant relationship between the years of fishing and effect of hazards ($r=0.305^*$, $p < 0.01$). This implies that fish processors with less experience are prone to hazards. Also, there is a significant association between the educational status/health facilities and effect of hazards.

Conclusion And Recommendations

It was concluded that years of fishing and educational status played significant roles in curtailing the effect of hazards and injuries. It is recommended that new and improved technologies be made available for fish processors so as to reduce the challenges of hazards and injuries.

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Table 1: Personal and production characteristics of the fish processors

Variables	Definition	Distribution
Age	Actual age of respondents	Average age = 40.0 years, SD = 12.17
Religion	Religion as Christianity or Islam	Christianity (49.5%), Islam (50.6%)
Marital Status	Marital status as married and widowed	Married (85.7%), widowed (11.0%)
Educational Level	Educational as No formal or Primary	Primary education (66.9%), No formal (33.1%)
Household Size	Number of persons in the household	Average = 8 persons, SD = 3.89
Years of Fishing	Number of years spent in fishing practices	Average = 16 years, SD = 1.26
Health facilities	Health facilities available in the area	Mode is Local health clinics (90.1%)

Source: Field survey 2014; SD =Standard deviation

Table 2: Means of contracting fish injuries and occupational hazards

s/n	VARIABLES	VFQ	FQT	OCC	NAT	MEAN	SD
1	Wet or slippery floor	5(5.5)	15(16.5)	18(19.8)	53(58.2)	3.36	0.91
2	Pothole	2(2.2)	15(16.5)	7(7.2)	67(73.6)	3.27	0.73
3	Poorly designed equipments	58(63.7)	17(18.7)	12(13.2)	4(4.4)	3.40	0.89
4	Poorly maintained facilities	57(62.7)	19(19.8)	14(15.4)	2(2.2)	3.42	0.84
5	Poorly constructed equipment	49(53.9)	24(26.4)	17(18.7)	1(1.1)	3.30	0.82
6	Poor hand tools	43(47.3)	25(27.5)	19(20.5)	4(4.4)	3.17	0.92
7	High temperature	12(13.2)	33(26.3)	45(49.5)	1(1.1)	2.26	0.70
8	Unstable footwear	6(6.6)	17(18.7)	60(65.9)	8(8.8)	2.23	0.70
9	Poor lifting techniques	12(13.2)	60(65.9)	15(16.5)	4(4.4)	2.88	0.60
10	Constrained neck posture	63(69.2)	12(13.2)	13(14.3)	3(3.3)	2.06	0.64
11	Accidental burn	2(2.2)	27(29.7)	34(34.4)	28(30.6)	2.03	0.84

Source: Field Survey 2014; VFQ=Very Frequently, FQT=Frequently, OCC=Occasionally, NAT= Not At All, SD=Standard deviation

Table 3: Effect of hazards and injuries

S/N	VARIABLES	VS	SE	MS	NS	MEAN	SD
1	Headaches	0(0.0)	47(51.6)	33(36.3)	11(12.1)	2.39	0.70
2	Sneezing/coughing	15(16.5)	38(41.8)	30(33.0)	8(8.8)	2.66	0.86
3	Dizziness	26(28.6)	38(41.8)	24(26.4)	3(3.3)	2.96	0.83
4	Arthritis	31(34.1)	34(37.4)	18(19.8)	8(8.8)	2.97	0.95
5	Musculoskeletal problem	21(23.1)	48(52.7)	21(23.1)	1(1.1)	2.98	0.72
6	Skin rashes	20(22.0)	42(46.2)	21(23.1)	8(8.8)	2.89	0.89
7	Eye disturbance	10(11.0)	16(17.6)	37(40.7)	28(30.8)	2.09	0.97
8	Allergies	1(1.1)	16(17.6)	6(6.6)	68(74.7)	3.65	0.66
9	Wrist pain	10(11.0)	25(27.5)	46(50.6)	10(11.0)	2.39	0.87
10	Elbow pain	14(15.4)	29(31.9)	37(40.7)	11(12.1)	2.52	0.91
11	Neck pain	1(1.1)	26(28.6)	43(47.3)	21(23.1)	2.08	0.75
12	Lower backache	3(3.3)	24(26.4)	43(47.3)	21(23.1)	2.10	0.79
13	Carpal tunnel syndrome	34(37.4)	39(42.9)	14(15.4)	4(4.4)	3.14	0.85
14	Sprain	5(5.5)	4(4.4)	37(40.7)	45(49.5)	3.33	0.81
15	Fracture	1(1.1)	16(28.6)	3(3.3)	71(78.0)	3.72	0.59
16	Whitlow	15(16.5)	26(28.6)	41(45.1)	9(9.9)	2.52	0.89
17	Rheumatism	35(38.5)	26(28.6)	20(22.0)	10(11.0)	2.92	1.03

Source: Field Survey 2014; VS= Very serious; SE=Serous; MS=Mild serious; NS=Not serious; SD=Standard +deviation

Table 4: Test of association between fish processors socio-economic characteristics and the effect of hazards and injuries

Injuries						
Variables		Correlation (r) value		P-value	Remarks	
Age		-0.123		0.225	Not Significant	
Household size		0.140		0.190	Not Significant	
Years of fishing experience		0.305*		0.004	Significant	
Variables		Chi- square	Df	Contingency Coefficient	P-Values	Remarks
Religion		0.808	2	0.024	0.99	Not Significant
Marital Status		3.626	3	0.199	0.33	Not Significant
Educational Status		0.556	1	0.078	0.00	Significant
Health facilities		0.202	2	0.052	0.01	Significant

Source: Field Survey 2014; P-value is significant at 0.05 level; *Correlation is significant at 0.01 level;