ANALYSIS

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Knowledge and attitudes of artisan fisher's folks on antibiotic usage in Liverpool fish market Lagos-west Nigeria

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ABSTRACT

The development of antibiotic resistance is associated with high antibiotic usage, which makes regular treatment ineffective. To assess the knowledge and attitudes of artisan fisher's folk at fish landing sites on antibiotic usage is very important. A cross-sectional survey involving 126 respondents was done with a validated 25-item questionnaire. It was used to elicit response on the knowledge and attitudes of artisan fisher folks on antibiotic usage at the Liverpool fish market/landing site Located at Apapa and situated under the Tincan-Apapa Lagos-west, Nigeria. The survey was conducted from August to October 2015. Knowledgeable

information was sought from all artisan fisher folks that agreed to participate. A total of 126 completed questionnaires were collected. The ages 31-40 recorded the highest frequency with forty eight (48) respondents. The respondents' educational level was the only factor that depicted the low antibiotic knowledge as those with primary level of education were more likely to have low antibiotic knowledge than those with tertiary education. Respondents demonstrated most common negative attitude statement on keeping any antibiotics at home in case of emergency 94 (74.60%). However, respondents demonstrated the most positive attitudes on the use of antibiotics for body pains with Thirty –four (34) respondents (68.25 % correct response). The study showed that poor antibiotic knowledge and negative attitudes towards antibiotics use exists among artisan fisher folk's in Liverpool fish market. Therefore, there is an urgent need for education using all media means on appropriate use of antibiotics.

Keywords: Attitude, knowledge, artisan, antibiotic resistance

1. INTRODUCTION

Unregulated (free- for-all) use of antibiotics by humans in most developing countries has led to high rate of antibiotic resistance. This has also led to complications in patient management, which makes regular treatment ineffective and therefore increasing patient morbidity and mortality (Van den Bogaard and Stobberingh, 2000; Nma and Oruese, 2013). Antibiotics resistance has been reported as serious, increasing health problem in worldwide. This has been associated with inappropriate use of drugs (failure to complete treatment, skipping of doses, re-use of leftover medicines, and overuse of antibiotics) (Hemo *et al*., 2009).

Liverpool fish market is characterized by high levels of human activity and poor sanitation as at when this survey was carried out. These microorganisms acquire resistance due to selective pressures owing to the release of antibiotics by humans into the environment (sometimes through defecation in the water bodies) and it gets to the seafoods which eventually get to man (Baker-Austin *et al*., 2006; Kümmerer 2009; Mudryk *et al*., 2010; Manivasagan *et al*., 2011). The clinical effectiveness of many existing antibiotics is being threatened by the emergence of multi–drug resistance microorganisms (Kariuki and Hart, 2001; Okeke *et al*., 2007; Fischbach and Walsh, 2009).

High Multiple Antibiotics Resistance (MAR) values in *Vibrio* species isolated from seafood in Lagos State was reported by Adeleye *et al*. (2008) and it was attributed to human factor. More so, Oramadike and Ogunbanwo, (2015) also reported antibiotic resistance of *Vibrio parahaemolyticus* isolated from seafoods in Lagos Lagoon Nigeria. Furthermore, Ajayi and Akonai, (2005), previously reported a high percentage of tested enteric bacteria isolated from Lagos Lagoon exhibiting multiple antibiotics resistance. Agwu, (2013) reported high MAR values in isolates from Ibese, Ikorodu and Makoko Lagoon in Lagos State. Poor sanitary conditions have been reported in some areas in Lagos state, which can be attributed to the regular reports on the food borne diseases (Adeleye *et al.,* 2008).

Therefore, is important to carry-out a survey on the knowledge and attitude of antibiotic usage among artisan fisher folks in Lagos State, since the antibiotic resistance organisms can be transferred through food handlers. Appropriate use of antibiotics in the society requires correct knowledge and attitude. This work intends to specifically assess the knowledge and attitude of artisan fisher folks towards the use of antibiotics at Liverpool fish market/landing site in Lagos-west.

2. METHODOLOGY

Description of the Study Area

The study area, Liverpool fish market/landing site is Located at Apapa and situated under the Tincan-Apapa wharf fly-over bridge and lies between latitude 6° 26'25.44" –6° 26'59.52" N and longitude 3° 21'5.76" -3° 21'57.6" E as shown in (Figure 1). It operated a daily market and opened as early as 6.00 h channeling both processed fish product (smoked) and fresh fish from the neighboring coastal fishing villages. The market lacked many social amenities. No visible tap water or bole hole was located in the area during this present work. The only available water used was taken from the Lagoon. The discharge of ballast waters by ships at the Apapa wharf impacts on that area spreading to the rest of the water body. The market was dirty without modern sanitary facilities probably because it was situated under a bridge and not properly planned.

Sampling location was identified with a hand-held global positioning system (GPS 12 Garmin model). The survey was conducted from August to October 2015. The study was a cross-sectional survey done with a validated 25-item questionnaire. It was used to elicit response on the knowledge and attitudes of artisan fisher folks on antibiotic usage at Liverpool fish market/ landing site. Knowledgeable information was sought from all artisan fisher folks that accepted to participate. One hundred and fifty participants

were enrolled for the study by systematic random selection of fisher folks that reside and sell in the market. The participants were given an interview based questionnaire constructed in both English and Yoruba languages.

Figure 1 Satellite imagery showing Liverpool fish market

Ethical consideration

Verbal informed consent was sought from each participant before administering the questionnaire and participants were told that participation in the study was voluntary and information obtained would be anonymous and confidential.

Statistical Analyses

The data obtained were analyzed using the prism version 5.03 statistical software programmes (Graph pad software, San Diego, CA. USA). Descriptive statistics including percentages were used to summarize the data.

3. RESULTS

A total of 126 completed questionnaires were collected out of the targeted 150 respondents. The study revealed (63.49 %, *n*=80) female respondents and (36.51 %, *n*=46) male respondents. In terms of demographic characteristics, age groups stratified as 18-30 years, 31-40 years, 41-50 years and 51-60 years were all represented. The ages between 18-30 showed 45 respondents, 31-40 years had 48 respondents, 41-50 showed 24 respondents while only 9 respondents showed up for ages 51-60. Educated respondents beyond primary school showed (34.13%, *n*=43) while at primary school level was (65.87%, n=83) as shown in (Table 1).

Table 1 Characteristics of respondents from Liverpool Fish Market

Location	**Liverpool**
Variable	**N (%)**
Gender	

Male	46(36.51 %)
Female	80 (63.49 %)
(Age) No respondents (mean)	
18-30	45 ($\bar{X}$ age=25 years)
31-40	48 ($\bar{X}$ age =36 years)
41-50	24 ($\bar{X}$ age = 44 years)
51-60	9 ($\bar{X}$ age =53 years)
Educational level	
Primary	83 (65.87 %)
Secondary	43 (34.13 %)

N=126

$\bar{X}$ = mean

Table 2 Attitude of respondents towards antibiotic use

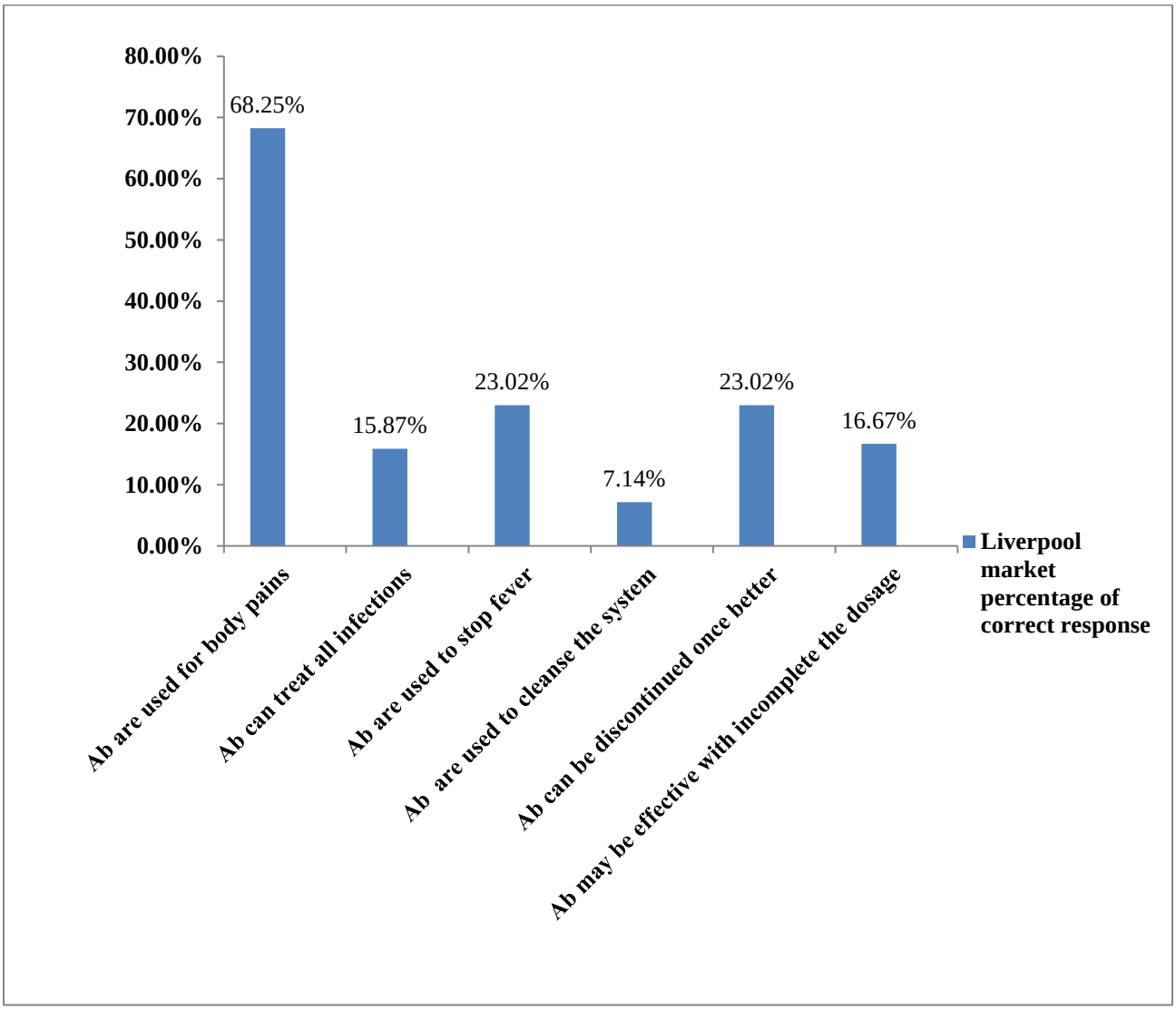
Attitude Statement	Agree	Disagree	Unsure
	(Liverpool)		
I don't need to see a doctor for a prescription if I know the antibiotics to use	86 (68.25%)	11 (8.73%)	29 (23.02%)
When I have stomach aches, I will take antibiotics to help me get relived	93 (73.81%)	20 (15.87%)	13 (10.32%)
I take antibiotics anytime I feel like	87 (69.05%)	13 (10.32%)	26 (20.63%)
I normally keep antibiotics at home in case of emergency	94 (74.60%)	11(8.73%)	21 (16.67%)
I will use leftover antibiotics if I'm sick	84 (66.67%)	29 (23.02%)	13 (10.32%)
I take antibiotics according to the instruction on the label	22 (17.46%)	9 (7.14%)	95 (75.40%)

N=no of respondents.

N = 126

The attitude of respondents towards the use of antibiotics among the fisher's folks at the study site is shown in (Table 2). Eighty-six (86) respondents (68.25%) agreed on self medication if they know the antibiotics to use, 11 respondents (8.73%) disagreed

on self medication, while 29 respondents (23.2%) are unsure whether to obtain a doctor's prescription or indulge in self medication. More than half of the fishers folk revealed that they take antibiotics when they have stomach ache, 20 respondents (15.87%) disagreed with that and (10.32%, *n*=13) are unsure of whether to take antibiotics if they have stomach ache. Eighty-seven (87) respondents agreed to be taking antibiotic anytime they feel like cleansing their system, (10.32%, *n*=13) respondents disagreed with that knowledge while (20.63%, *n*=26) respondents are unsure if to agree or disagree with cleansing the system with antibiotics. Most of the respondents normally keep antibiotics at home in case of emergency. About (74.60%, *n*=94) respondents agreed to it, (8.73%, *n*=11) respondents disagreed with keeping of antibiotics at home in case of any emergency, while (16.67%, *n*=21) respondents were unsure of what to do. Eighty –Four (84) respondents (66.67%) agreed to be using leftover antibiotics on similar ailment, (23.02%, *n*=29) disagreed to that knowledge and (10.32%, *n*=13) respondents were not sure on what to do. A high number of the respondents (75.40%, *n*=95) were unsure of whether antibiotics is taken according to the instruction on the label, (17.46%, *n*=22) agreed that antibiotics should be taken according to the instruction on the label while (7.14%, *n*=9) respondents disagreed with the knowledge.



**Ab= Antibiotics*

Figure 2 Antibiotic knowledge, evaluation and percentage of correct response

The antibiotic knowledge, evaluation and percentage of correct response are shown below in (Figure 2). Respondents in this study had low knowledge in the use of antibiotics in the treatment bacterial infections. Thirty –four (34) (68.25 % correct response)

on the use of antibiotics for body pains, (15.87%, *n*=10) correct response on use of antibiotics in the treatment of all infections. About (23.02%, n=14 correct response) was revealed by respondents on use of antibiotics to stop fever. However, (7.14%, *n*=6) respondents showed that antibiotic is not used for the body system cleansing while (23.02%, *n*=14) had the correct knowledge that antibiotics cannot be discontinued without completing the dosage. In understanding that under dose of an antibiotics can cause resistance (16.67%, *n*=12).

4. DISCUSSION

This present study revealed more of middle aged respondents. This could be as a result of the location where the research was carried out. Liverpool fish market is in the city, under the busy Tincan-Apapa wharf fly-over bridge and is a popular landing site so it has many fisher's folk that land there seafoods from nearby fishing villages. The study area had more female artisan. More so, the respondents who participated in this study were more of females; this could be attributed to the high proportion of females in artisan fishing business in the Liverpool landing site. The educational levels of the respondents recorded more of primary school; it shows that there are a lot of school drop-outs in and around the fishing villages in the study area. This finding is in agreement with Shehadeh *et al.* (2012) who in there pilot study on knowledge, attitudes and behavior regarding antibiotics use and misuse in a community revealed that young adults showed insufficient knowledge of proper use of antibiotic.

The educational qualification of the respondents was poor; it revealed the reason for a very low quality of knowledge on antibiotics. This present study was very necessary. It gave an insight on the knowledge and attitude of the fisher's folks in and around Liverpool landing site community on antibiotics usage in that area. However, Andre *et al.* (2010) also reported that there are few population-based studies on knowledge and attitudes as it concerns antibiotics. The low quality of knowledge reported in this work is in agreement with Auta *et al.* (2013) on the use of antibiotics for body pains medication. More so, the report of Shehadeh *et al.* (2011) on general false impression among the public regarding the use of antibiotics for common infections, especially respiratory tract infections was not contradicted in the result observed from the present study. These finding is also in line with Jose *et al.* (2013); Van der Velden *et al.* (2013), both authors reported the use of antibiotics in primary care for respiratory tract infections. However, this study is in contrast with the report of Zafar *et al.* (2008), on high prevalence of self-medication, among the educated youth, despite majority being aware of its harmful effects.

The sale of antibiotics without a prescription was a major problem in the present work. This work is in agreement with Okonkwo and Okonkwo (2010),in which they reported that the sales of pharmaceutical products in Nigeria are under-regulated, and it has led to a high prevalence of self-medication with over the counter drugs (OCT), controlled drugs and antibiotic resistance in the country. According to Morgan *et al.* (2011), they previously reported that self-medication is a common phenomenon in both developed and developing countries. More so, Rathnakar *et al.* (2012) also reported high rates of self medication about (35%) in a study on the sale of antimicrobial agents without prescriptions in pharmacies in an urban area in South India. Saradamma *et al.* (2000) also reported that Social factors influence the acquisition of antibiotics without prescription in Kerala State, South India. The respondents in this present study believed that antibiotics should be prescribed for both viral and bacterial cause. This wrong attitude could lead to a very high rate of antibiotic consumption. This can result in a corresponding increase in the bacterial resistance.

The unacceptable behavior of the fisher's folk with regards to antibiotics knowledge and use requires an immediate attention. Simple measures like visiting of health centers to help limit self medication should be emphasized. Hand hygiene for the control of resistance should be inculcated in their day to day life. The medical education strategies should aim, not only to increase the knowledge, but also to change the behaviour and practices among the fisher folks.

5. CONCLUSION

This present study provides an important insight regarding the knowledge and attitudes of artisan fisher's folks on antibiotic usage in Liverpool market and its neighbors. The urgent need for improved health education and enlighten campaigns among the fisher folk on antibiotic usage, its underlying principle and consequence of unreasonable use. The pharmaceutical council of Nigeria needs to put into action strict policies on the advertising and hawking of antibiotics by street vendors to avoid the escalation of this issue.

SUMMARY OF RESEARCH

1.Antibiotics resistance is a serious and increasing health problem worldwide, which has been associated with inappropriate use of drugs (failure to complete treatment, skipping of doses, re-use of leftover medicines, and overuse of antibiotics).

2.Microorganisms acquire resistance due to selective pressures owing to the release of antibiotics by humans into the environment and it gets to the seafoods which eventually get to man.

3.The knowledge and attitudes of artisan fisher folks on antibiotic usage in Lagoon fish market is very low. An urgent need for improved health education and enlighten campaigns among is needed.

FUTURE ISSUES

The urgent need for improved health education and enlighten campaigns among the fisher folk on antibiotic usage, its underlying principle and consequence of unreasonable use. The pharmaceutical council of Nigeria needs to put into action strict policies on the advertising and hawking of antibiotics by street vendors to avoid the escalation of this issue.

DISCLOSURE STATEMENT

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