Study on the Availability and Utilization of Sanitary Facilities in Selected Markets in Aba, Southeast, Nigeria

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ABSTRACT

Inadequate sanitary facilities such as water supply, toilets, waste bins and hand washing basin in markets brings about contamination of food. The objective of this study was to ascertain availability and utilization of sanitary facilities in selected markets in Aba, Abia State. A cross-sectional research design was adopted for the study and simple random sampling technique was used in selecting five markets in Aba Metropolis. Seven hundred respondents comprising of market workers were interviewed using structured questionnaire in addition to market inspection checklist of the premises. Questionnaires were distributed in each of the market stalls whereby the owner or sales reps were interviewed. Results showed that Ariaria market had 48 toilets with 1: 109 persons per toilet; Ngwa Road had 22 toilets with 1: 39 persons per toilet; Shopping Centre had 32 toilets 1: 39 persons per toilet; Cemetery, 21 toilets with 1: 55 persons per toilet and Nkwo Ngwa had 3 toilets with 1: 100 persons per toilet. Seventh percent of respondents in Ariaria market used toilets; twelve percent in Cemetery market and the least was 5.1% in Nkwo Ngwa market. Market workers refused to use toilets and urinals for fear of being infected (44%), unhygienic condition (37%), distance (8%), and cost of toilets and urinal (10.6%) Ariaria market had four dust bins while others had one each. The study therefore showed that sanitary facilities were grossly inadequate compared to the statutory requirements of Federal Ministry of Environment of one toilet to 20 persons for public places. Consequently it recommends provision of adequate sanitary facilities in markets.

Keywords: Facility, Market, Sanitation, Utilization and Waste bins

Introduction

Market can be defined as a normal place where forces of demands and supply operate, and where buyers and sellers interact to trade goods, services or instruments for money exchange [1]. For the interest of populace, health and safety of traders, market meat consumers, and the general public in the markets are statutorily required to satisfy certain basic sanitary conditions for them to be officially approved for use. The stipulated requirements from Federal Ministry of Environment (FMENV) include the provision of adequate facilities for environmental sanitation and personal hygiene, such as refuse collection and disposal facilities, toilets, bathrooms, hand-washing facilities, proper drainage and water supply [2].

Most of the markets in Abia State seem to have been built without proper planning and layouts, resulting to inadequate provision of sanitary facilities. This gave rise to open urination and defecation with the resultant contamination and degradation of the environment within the premises. Heaps of refuse are often seen at odd points around the markets causing aesthetic and odour nuisance, as well as encouraging the prolific breeding of disease vectors and vermin, such as flies, cockroaches, rodents, birds and scavengers. They also serve as a source of contamination of air, soil, food, meat and other items of food displayed for sale [3, 4].

In addition to low access to sanitary facilities in the market are the low knowledge and risk perception, and unhealthy attitudes of the food handlers in these service centres. Studies have shown that attitudes and perceptions are the result of general ignorance about the health and environmental consequences of improper waste disposal [5]. Macawile and Su [4] in their theory of reasoned action (TORA) posited that negative attitudes and low risk perception impact on the behavior of a group of people. This is likely the case in the markets in Aba. Again untrained officials who have little or no knowledge about the health implications of their actions, but are only concerned with money-making also affect market or abattoir sanitation.

Other important issues in market sanitation in Aba, are over-crowding, improper ventilation, gutters and drainage systems are defective and blocked with waste, thereby obstructing the free flow of drains. These have led to several episodes of flooding of some markets in Aba, and the consequent loss of lives and properties [3]. The health consequences of such situation in the markets in Aba include endemicity of diseases like typhoid, malaria, filariasis, infective hepatitis, poliomyelitis, gastro-enteritis, yellow fever, and other diseases [6,3]. According to Okoye [6], markets and public slaughter houses that fall short of expected health standard are very likely to be breeding grounds for various endemic diseases.

Such unhealthy situations, if left unabated, will impact negatively on both the traders, meat consumers, and the general public. Therefore, the objective of this study was to assess the availability and utilization of sanitary facilities in selected markets in Aba, Abia State.

Materials and Methods

The research design employed in this study is a cross-sectional study to assess the existing conditions pertaining to sanitation in the markets in Aba. The study was carried out at randomly selected markets and abattoirs in Aba Metropolis in Abia State. Aba comprises of two Local Government Areas; namely, Aba South and Aba North. Aba is a vast and busy commercial Area, in which various kinds of industrial and commercial activities take place. It has eight major Markets, viz: the Ariaria International Market, Cemetery Road Market, Ehere Modern Market,

Orie Ohabiam Electronic Market, Alaoji Motor Parts Markets, Aba Shopping Complex or Ekeoha Market, and Ngwa Road Market. The city is thickly populated with an insufficient landmass. It was considered suitable for the study because of its commercial nature, coupled with the teeming population which consists mainly of traders who spend between eight and twelve hours of each working day in the various markets. The population of the study includes the entire male and female traders occupying lock-up stalls in the five selected markets in Aba. The selected markets with their population were Ariaria (105,000), Cemetery Road Market (23,000), Nkwo Ngwa Market (6,000); Ngwa Road Market (17,000) and Ekeoha market or Shopping centre (25,000) and which gave a total of 176,000 people within the period of the study.

Systematic random sampling technique was used to select 100 stalls in each market for each of the study areas, and the owners were interviewed with questionnaire based on Federal Ministry of Environment approved Checklist for Market Sanitation. Analysis of data was done using the Statistical Package for Social Science (SPSS) version 20.0. Chi-square was used as the inferential statistic variables at 5% level of significance.

Results

Table 1: Inventory of Toilet Facilities found in the Markets in Aba

Market Locations	Toilet Type	Units of Toilets	Units of Urinals	Tissue Paper	Wash-hand Basins & soap	Hand Towels	Hand Driers
Ariaria	PourFlush	48	18	42	36	2	0
Ngwa Road	PourFlush	22	8	20	28	0	0
Shopping Centre	PourFlush	32	12	30	30	1	0
Cemetery	PourFlush	21	10	18	16	1	0
NkwoNgwa	PourFlush	3	2	3	3	0	0

Table 1 revealed the inventory of toilet facilities found in the markets in Aba; where type of toilets were stated and Ariaria market recorded the 48 units of toilets, 18 units of urinals, 42 tissue papers, 36 wash hand basins plus soap and 2 hand towels.

Table 2: Levels of Utilization of Toilets and Urinals by Traders in the Markets in Aba

Market	No of Toilets	Users	Non-Users	Total
Ariaria	48	120(17.1%)	130(18.6%)	250
Cemetery	21	83(11.9%)	67(9.6%)	150
Ngwa Road	22	85(12.1%)	65(9.3%)	150
Shopping Centre	32	90(13%)	10(1.4%)	100
Nkwo Ngwa	3	36(5.1%)	14(2%)	50

Total	123	416(59.4%)	284(40.6%)	700

$X^2cal = 10.95;$ $X^2tab.^{(13)}_{(0.5)} = 12.3$ at $p<0.05$

Table 2 depicts the levels of utilization of toilets and urinals by traders in the markets in Aba; 120(17.1%) out 250 people interviewed on use of toilets in Ariaria market; in Cemetery market 83(11.9%) used toilets; in Ngwa Road market, 85(12.1%) used toilets; in Shopping Centre, 90(13%) used toilets and in Nkwo Ngwa market, 36(5.1%) used toilets. Traders do not effectively utilize the toilet facilities in the markets and abattoirs since $X^2cal = 10.95 < X^2 = 12.3$ at $p<0.05$; there was no significant difference in traders' utilization of sanitary facilities in the markets.

Table 3: Constraints to Effective Utilization of Toilet Facilities in the Markets and Abattoirs

Market Locations	Reasons				Total
	Fear of getting infected	Poor Hygiene	Distance	Cost of use	
Ariaria	45	30	6	19	250
Cemetery	22	48	13	17	150
Nkwo Ngwa	67	25	2	6	150
Shopping Centre	32	54	6	8	100
Ngwa Road	56	28	13	3	50
Mean	44.4	37.0	8.0	10.6	700

Table 3 shows the major constraints expressed by traders and market workers for not using toilet facilities in the markets; fear of being infected; poor hygiene condition of the toilets; problem of distance and cost in use of toilets. On the mean average, 44.4 persons from various study areas, did not use the toilets because of fear of contracting 'toilet infection; 37 persons did not use it because of poor hygiene and unaesthetic condition of the toilets; 8 persons did not use the toilets for problem of distance and 10.6 persons did not use them because of problem of cost.

Table 4: Available Public Dustbins in the Markets in Aba

Market Location	ASEPA Bins	NDDC Bins	Total
Ariaria	2	2	4
Cemetery	1	0	1
Shopping Center	1	0	1
NkwoNgwa	0	0	0
Ngwa Road	0	0	0

Table 4 shows available public dustbins in the markets in Aba; out of the seven markets locations, Arairia had a total of four public dustbins; Cemetery Road Market had one; Shopping Centre had one, while each of the rest had none.

Table 5: Water Supply Facilities in the Markets in Aba

Market Location	Units of Borehole	Overhead Tanks	Pipe borne water	Stand post/drinking faucets
Ariaria	2	4	0	0
Cemetery Road	1	2	0	0
Nkwo Ngwa	1	1	0	0
Shopping Center	1	1	0	0
Ngwa Road	1	1	0	0

Table 5 presented the water supply facilities in the markets in Aba; Ariaria had 2 units of boreholes and 4 overhead tanks; Cemetery Market had 1 unit of borehole and 2 overhead tanks; Nkwo Ngwa Market, Shopping Centre, and Ngwa Road Market, had one unit of borehole and 1 overhead tank; no water reticulation was found in any of the study areas.

Discussion

This study on the availability and utilization of sanitary facilities was carried in randomly selected markets in Aba Metropolis in Abia State. The findings showed that the units of available toilets are grossly inadequate when compared to the recommended standards for such premises. The available toilets and urinals in all the markets were extremely inadequate for the populations of users and it was from the recommended standard of at least one toilet unit for every fifty persons for public places. The study agrees with the studies carried out by Aniefiok [7], Amadi [8], Amadi [9] and Erikson [10], that most public places in Nigerian urban centers such as motor parks, bus stations, schools, shopping centers, petrol stations, markets, and restaurants lack adequate sanitary conveniences. This also agrees with an earlier finding by Amadi [11] in which he identified poor excreta disposal practices as a perennial environmental health problem in Aba, and blamed this on acute shortage of toilet facilities both in residential and public places. A good sanitary facility will prevent communicable and non-communicable diseases and promote health and longevity of people in the society by reducing morbidity and mortality occasioned by excreta-borne diseases.

From the findings, some markets had 3 or 2 toilets, 2 tissue papers and 2 wash hand basins plus soap to serve large populations in the market as seen in Ngwa Road market. In such circumstances, traders are meant to look for any secluded and free premises to convert into an illegal public urinal or toilet. Most of such places will become unhygienic and constitutes a public health hazard, and aesthetic nuisance, as massive heaps of garbage mixed with excreta and large volumes of urine are posted here and there within the vicinity of the markets.

Inadequacy of toilets and also gave rise to a situation in which the few available units are overstressed, abused and left in poorly maintained and unaesthetic condition. The highest levels of utilization of the available toilet facilities recorded in Ariaria market (17.1%) followed by Ekeoha Shopping Centre (13% utilization rate) which were very poor. The rate of utilization in other markets could only be said to be embarrassing. The traders had cogent reasons for not using the available facilities which included fear of getting infected, unhygienic condition, distance and cost of use. One reason for unhygienic state of the available toilets and urinals is

inadequate supply of water to the markets as revealed in table 5. This is also the reason why rate of utilization was high in Ariaria market because of the supply of water from Aba River which was not easy due to bad road. In addition to the short supply of toilets and urinals the dustbins were also in short supply (see table 4). This is the reason there are heaps of garbage at many spots in the vicinity of the markets.

Conclusion

Based on the findings of this study, sanitation facilities available in the markets/abattoirs were grossly inadequate when matched with the population of users. They were deplorably lower than the recommended minimum standards for public places. To compound the problem the few available ones were not utilized due to unhygienic condition and the resultant fear of becoming infected among the traders. Appropriate facilities for solid waste collection, storage and disposal were also inadequate. Most traders used unauthorized, improvised receptacles, leading to littering and the development of insanitary dump sites around the markets. The water was majorly from borehole and not adequate for population in the markers.

Recommendations
The following recommendations have been proffered based on the findings of the study;
    a. There should be re-introduction of Sanitary Inspection in Markets by Environmental Health Officers.
    b. Health Education and Enlightenment about benefit of good sanitation practices should be established in the market in Aba.
    c. There is need to train and empower market attendants, workers and superintendents on basic sanitation principles and skills. This will help to raise their level of consciousness about sanitation, its usefulness, and how it can be achieved in the market
    d. Abia State Government should adopt and implement the policy for market in Aba and other urban centres in the State
    e. The markets in Aba should be seen as a very important subset of the society and need to be visited by Environmental Health Officers on weekly interval.

Conflicts of Interests
The authors declare no conflict of interest. There is no conflict in the design of the study; data collection, analyses, or interpretation of data; writing of the manuscript, and final decision to publish the results.

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