



Health Implication of Open Defecation of Habitants around Lagos Lagoon, Nigeria: OTO, IDDO

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ABSTRACT

It is important to note that more than 46 million Nigerians are found to engage in outdoor defecation in 2015, taking Nigeria from 5th to 3rd position in the global prevalence of open defecation (Abubakar, 2018). This paper therefore adopted the descriptive research survey in investigating health implications of open defecation of habitants around Lagos Lagoon area in Nigeria. 400 residents around Iddo and Oto area of Lagos state were engaged in the study. Questionnaires were adopted for data collection and descriptive analysis was carried out on the data collected. The result of the study identified the following as factors responsible for open defecation by habitants around Lagos Lagoon area of Nigeria: Lack of toilet facilities; Norms and Practices held from childhood; Ignorance; Lack of water; Ineffective waste disposal system; and Poor personal hygiene. The result of this study further revealed that open defecation has serious consequences and implication to the lives and health of the people as it leads to the spread of water borne diseases; increases the risk of flooding during rains; deteriorates the quality of drinking water making it unfit for drinking purposes; decreases the potentials to attract local and international tourists; increases child mortality rate; as well as leads to increases in low birth weights. Based on this result, conclusions were drawn and recommendations made.

Keywords: Open defecation, health implications, Lagos Lagoon, Iddo, Oto

Introduction

Lagos state, Nigeria's commercial nerve centre and one of the largest mega cities in the world is greatly challenged by open defecation. The World Health Organisation estimated that close to 34 million Nigerians practice open defecation, despite the availability of public toilets (Mohammed, 2020). Open defecation is an ancient practice done in both rural and urban areas, and is done in areas such as dumpsites, flowing rivers, gutters, bushes, roadsides and any available open space. It is described as the practice of defecating in the open rather than in toilets. This is a common occurrence in Lagos where it is practiced without caution in spite of regulations prohibiting such act. 75% of the population growth of Lagos state has been attributed to migration from rural areas and other developing countries, which has increased the unusual demand and pressure for land in recent years. Furthermore, most immigrants are found to occupy undeveloped lands as a means of satisfying their land needs. This level of invasion contributes to the disorganized development of slum communities characterized by degrading environmental conditions and defective infrastructural facilities.

In an urban city such as Lagos, sanitation is a challenge that affects everyone. Given the lack of an effective and safe method of disposing faeces, especially in slum areas, people tend to resort to open defecation in public places. There are other factors that influence this activity such as lack of toilets, force of habit, poor hygiene practice and ignorance; people who are oblivious of the health hazards posed by open defecation tend to defecate anywhere, and create unpleasant sights. The prerequisite for a clean and healthy environment is the availability of effective sanitation facilities such as waste disposal system, toilets, quality water, and washing facilities. This implies that effective sanitation services are important to safeguard the quality of the environment. The practice of open defecation has severe implications; economic implications include loss in trade and tourism revenue; while the health implications include epidemic outbreaks and spread of diseases such as hepatitis, diarrhea, and intestinal parasites. Other implications include contamination of agricultural produce and pollution of underground waters (Ugbodaga, 2014).

Over the years, efforts have been made to end the menace of open defecation through the establishments of regulations and hygiene programmes. The Nigerian government in 2016 launched an action plan to end open defecation by 2025. In 2018, increasing levels of water borne diseases was traced to unhygienic sanitation practices such as open defecation (Okpasuo et al, 2018).

Statement of research problem

The unavailability of adequate public toilet facilities as well as the practice of poor sanitation is one of several health challenges faced by Nigerians. The statistics released by the United Nations Children's Fund (UNICEF) disclosed that open air defecation is practiced by about 50 million Nigerians

nationwide. This practice is peculiar to slum or poor areas, where the residents have total disregard or ignorance of the environmental and health impacts of their actions. This puts them at risk of contracting infectious diseases (Mohammed, 2020). Open defecation is a practise that contaminates the environment, pollutes beaches, public spaces, and even the air; as well as hinders tourism and affects development (Abubakar&Dano, 2018). It shortens the life span of people due to the hazard it causes, as most of the human waste finds its way to watercourses. This indicates that there is a connection between sanitation and water, given that when water from this waterways exposed to all forms of waste are not treated, they result in communicable diseases that are water related (Okullo et al., 2017). The environmental and health implication of open defecation is a source of concern which is worth examining to have a deeper understanding of this issue. In view of this, this study investigates the health implication of open defecation on inhabitants around Lagos lagoon, Nigeria, with a focus on Otto and Iddo.

Research objectives

The study specifically aims to

1. Identify the factors responsible for open defecation in the study areas.
2. Examine the implication of open defecation on the health of inhabitants in the study area.

Research questions

1. What are the factors responsible for open defecation in the study areas?
2. What is the implication of open defecation on the health of inhabitants in the study area?

Literature review

Open defecation is described as the custom of excreting in open fields, trenches and waterways without proper disposal (Saleem, Burdett &Heaslip, 2019) and in Nigeria, it is a burden.Open defecation was confirmed to be practiced in Nigeria in 2016 by the World Development Indicators as she rose from 24% to 25.1% of its population in 1990 to 2015 respectively (World Bank, 2016).A report by Abubakar (2018) emphasized that about 46 million Nigerians engaged in outdoor defecation in 2015, taking Nigeria from 5th to 3rd position in the global prevalence of open defecation.

Causes of open defecation in Nigeria

Poverty and lack of toilet facilities are recognized as the main reasons why people practice open defecation (Ngwu, 2017). People are forced to defecate outdoors when they are poor and do not have toilet facilities. Open defecation is an indicator of poverty in any country and according to the World Poverty Clock (2018) and Ewodage (2018), Nigeria is now the country with the most extreme poverty rate worldwide and the citizens may be unable to afford basic amenities like toilets.

Lack of awareness of dangers associate with open defecation: this is another cause of open defecation prevalence in Nigeria and awareness creation through health promotion campaigns is essential to create awareness (Okuku, 2020).

Impact of open defecation in Nigeria

Open defecation affects the health of individuals and Yaya et al. (2017) reported that about 88% of diarrhoeal diseases reported among children in Nigeria are linked to it. Also, close contact with human faeces could give rise to other diseases such as cholera, worm infestation and typhoid, all of which are contracted via faecal-oral route i.e. ingesting food or water contaminated with faeces as proven by UNICEF (WHO, 2017). Children are not spared as their developing immune system makes them susceptible to diseases.

Sources of water are contaminated by open defecation especially during the rainy season when there is a likelihood of the rains transporting the faeces from the farmlands or open fields into streams, rivers or any other water sources, polluting it (FMWR/UNICEF, 2016). This polluted water can affect aquatic life and if ingested by people, could cause diseases (WHO, 2017).

Open defecation affects the Nigerian economy as about 1.3% of the Gross Domestic Product is lost annually as a result of unhygienic environment as reported by The Nation (2017). In the event of a disease epidemic, the economy will likely be crushed as the government will have to spend more money quelling the outbreak rather than using it to improve the living conditions of its people. This is an indication that open defecation causes economic loss through disease outbreaks.

Open defecation puts women and girls at risk as they have to go outdoors to defecate and could encounter sexual molestation, rape and even death (O'Reilly, 2016; Tong, 2017).

Theoretical framework

The transtheoretical model was developed by Prochaska and DiClemente in the late 1970s and provides the framework for this study because it motivates people to try out new health behaviours by getting good knowledge of the behaviour to be adopted, assess the readiness of individuals to take on new healthier behaviours and weigh the health implications of open defecation. The theory postulates five logical stages of decision making process that a person passes through before accepting particular health behaviour (Karl, 2020). Pre-contemplation stage, describes when people are usually unaware about their behaviour being problematic or producing negative consequences. Contemplation stage is where people recognise that their behaviour could be problematic and intend to start a healthy behaviour. Preparation stage where there is readiness to take action. Action stage, in which people change their unhealthy behaviour and intend to keep up with it. Maintenance stage, where the new healthy behaviour is sustained to prevent a relapse. Lastly, termination stage, where there is no desire to return to unhealthy behaviours with the assurance that there will be no relapse (Siddharthan et al., 2021).

Previous studies

Saleem, Burdett and Heaslip (2019) carried out a systematic review of published literature on the health and social impacts of open defecation on women aged 13-50 in low and middle income countries. Results revealed that open defecation fosters poor health in women with lasting negative effects on their psychosocial well-being.

Bhat et al. (2019) assessed the motivation behind open defecation in Hattimudha village, Morang district of eastern Nepal using maximum variation sampling method to get respondents for in-depth interviews and focus group discussions. Data obtained was analyzed and results revealed that some motivations behind open defecation include compulsion (due to lack of latrines and constraints of norms limiting latrine use and hygiene issues in general) and choice (due to habit, socialization and compliance with spiritual and religious laws).

Makhfudli et.al. (2017) analysed the factors related to open defecation behaviour among school age children in West Lombok, Indonesia. Using simple random sampling technique, 95 parents of children aged 7-12 years were selected and data was obtained using questionnaires. Results revealed a significant relationship between parents' educational background, education, social and cultural values and lifestyle and the open defecation behaviour in school age children.

Methodology

The study adopted the descriptive research survey, as well as employed the use of purposive sampling method in selecting the study areas; Iddo and Oto both in Lagos state. These areas were selected based on their proximity to Lagos lagoon as well as their features of being a slum and vulnerable to the practice of open defecation. Using random sampling, 400 people were selected as respondents for the study. This was achieved by selecting an adult from each house or family, who is knowledgeable about the issue under study. Questionnaires were formulated as the source of data and distributed with the aid of research assistants engaged for the purpose of distribution and interpretation, given that most of the residents are not educated. The data collected was descriptively analyzed using frequency and Percentages.

Data Presentation, Analysis and Discussion

Research Question 1: What are the factors responsible for open defecation in the study areas?

Table1: Showing the factors responsible for open defecation in the study areas

RQ1	What are the factors responsible for open defecation in the study areas?		SA	A	D	SD	% in agreement
1	Lack of toilet facilities	F	169	211	17	3	95.0
		%	42.3	52.8	4.3	0.75	
2	Norms and Practices held from childhood	F	266	102	21	11	92.0
		%	66.5	25.5	5.3	2.8	
3	Ignorance	F	192	179	21	8	92.8
		%	48.0	44.8	2.8	2.0	
4	Lack of water	F	114	270	12	4	96.9
		%	28.5	67.5	3.0	1.0	
5	Ineffective waste disposal system	F	275	101	13	11	94.0
		%	68.8	25.3	3.3	2.8	
6	Poor personal hygiene	F	162	216	13	9	94.5
		%	40.5	54.0	3.3	2.3	

Field Survey (2021)

Table 1 above presents the respondents' opinions on the factors responsible for open defecation in the study areas. As indicated in the table 95% of the respondents are in agreement that Lack of toilet facilities causes open defecation; 92% agreed with the statement that "Norms and Practices held from childhood" causes open defecation; 92.8% supports that Ignorance is the cause of open defecation; 96.9% are of the view that Lack of water causes open defecation; 94% accepted that open defecation is caused by Ineffective waste disposal system while 94.5% support that poor personal hygiene is responsible for open defecation. The result of this study corresponded with that carried out by earlier researchers such as: Bhatt, et al (2019), Abubakar (2018) and Makhfudli et al (2017), respectively; who also identified similar factors as responsible for open defecation in their respective study areas.

Research Question 2: What is the implication of open defecation on the health of inhabitants in the study area?

Table 2: Showing the implication of open defecation on the health of inhabitants in the study area

RQ2	What is the implication of open defecation on the health of inhabitants in the study area?		SA	A	D	SD	% in agreement
7	Open defecation influences the spread of water borne diseases	F	117	267	4	12	96.0
		%	29.2	66.8	1.0	3.0	
8	Fecal materials from surrounding areas increases the risk of flooding during rains	F	262	111	7	20	93.3
		%	65.5	27.8	1.7	5.0	
9	Open defecation deteriorates the quality of drinking water making it unfit for drinking purposes	F	166	211	9	14	94.3
		%	41.5	52.8	2.3	3.5	
10	Open defecation pollutes beaches thereby decreasing their potentials to attract local and international tourists	F	199	178	20	3	94.3
		%	49.8	44.5	5.0	0.8	
11	Open defecation increases child mortality rate	F	167	201	12	20	92.0
		%	41.8	50.3	3.0	5.0	
12	Open defecation increases in low birth weights	F	192	190	8	10	95.5
		%	48.0	47.5	2.0	2.5	

Field Survey (2021)

Table 2 above presents the respondents opinions on the implication of open defecation on the health of inhabitants in the study area. As indicated in the table above, 96.0% of the respondents are of the believe that open defecation influences the spread of water borne diseases; 93.3% agreed that Fecal materials from surrounding areas increases the risk of flooding during rains; 94.3% are of the view that Open defecation deteriorates the quality of drinking water making it unfit for drinking purposes; 94.3% agreed that Open defecation pollutes beaches thereby decreasing their potentials to attract local and international tourists; 92.0% supports that Open defecation increases child mortality rate; while 95.5% are of the opinion that Open defecation increases in low birth weights. This report supports that of earlier studies such as: Yaya, et al (2017); Tong (2017); and Ugbodaga (2014) respectively who also share similar views.

Conclusions and Recommendations

It is important to note that 75% of the population growth of Lagos state has been attributed to migration from rural areas and other developing countries, which has increased the unusual demand and pressure for land in recent years. Furthermore, most immigrants are found to occupy undeveloped lands as a means of satisfying their land needs. This level of invasion contributes to the disorganized development of slum communities characterized by degrading environmental conditions and defective infrastructural facilities. The situation has increased the rate of individual who engaged in open defecation as most of the people living within these slump areas have no toilet facility. The result of this study therefore identified the following as factors responsible for open defecation by habitans around Lagos Lagoon area of Nigeria: Lack of toilet facilities; Norms and Practices held from childhood; Ignorance; Lack of water; Ineffective waste disposal system; and Poor personal hygiene. The result of this study further revealed that open defecation has serious consequences and implication to the lives and health of the people as it leads to the spread of water borne diseases; increases the risk of flooding during rains; deteriorates the quality of drinking water making it unfit for drinking purposes; decreases the potentials to attract local and international tourists; increases child mortality rate; as well as leads to increases in low birth weights. Against this result, the study recommends that the federal and state government engage in a campaign meant to re-educate the people of the dangers of open defecation using all media possible such as radio, television, newspapers, billboards, among others. The study also recommends that strident laws be enacted and properly executed to prosecute any individual found defecating openly. Again, as a matter of law, toilet facilities must be the most important component of every living accommodation, stores, show rooms, offices, otherwise, such structure must be demolished. Finally, the state governor should sponsor the building of public toilets around market areas where people can use in easing themselves while away from home.

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HEALTH IMPLICATION OF OPEN DEFECATION HABITANTS AROUND LAGOS LAGOON, NIGERIA: OTO, IDO**REQUEST FOR INFORMATION**

Dear Respondent,

I am carrying out a study on “health implication of open defecation habitants around Lagos lagoon, Nigeria: Otto, Iddo” and you have been chosen to be part of the study. This questionnaire is only for academic purposes. Kindly select the response which applies to you and all information will be kept confidential

Instructions: Please tick (√) as appropriate where

SA = Strongly Agree (SA), A = Agree, D = Disagree (D), SD = Strongly Disagree (SD)

Key: Strongly agree (4), Agree (3), Disagree (2), and strongly disagree (1).

S/N	ITEMS	SA	A	D	SD
RQ1	What are the factors responsible for open defecation in the study areas?				
1	Lack of toilet facilities				
2	Norms and Practices held from childhood				
3	Ignorance				
4	Lack of water				
5	Ineffective waste disposal system				
6	Poor personal hygiene				
RQ2	What is the implication of open defecation on the health of inhabitants in the study area?				
7	Open defecation influences the spread of water borne diseases				
8	Fecal materials from surrounding areas increases the risk of flooding during rains				
9	Open defecation deteriorates the quality of drinking water making it unfit for drinking purposes				
10	Open defecation pollutes beachesthereby decreasing their potentials to attract local and international tourists				
11	Open defecation increases child mortality rate				
12	Open defecation increases in low birth weights				