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Assessment of Open Defecation Practice among Gugugu Residents in Abuja, Nigeria

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Abstract

Open defecation is a major public health challenge in Nigeria. Several efforts to negate the negative health practice of open defecation have not been successful. We speculate that understanding the root causes of open defecation at the community level could mitigate the menace. This study aimed to investigate open defecation practices among Gugugu Residents in Abuja, Nigeria. A cross-sectional descriptive survey was carried out on 92 people ages 18 to 50 years using a structured questionnaire from 1 January to April 2024 in Gugugu, Abuja Nigeria. Statistical data were presented in frequencies and percentages. Our aim was to determine the root causes of open defecation among Gugugu Residents in Abuja, Nigeria. We found that 97% of the study participants indulge in open defecation, 95% often do not use the toilet to defecate, and the poor hygiene of not washing hands after defecation. Surprisingly, 83% of the respondents do not have toilet facility in their houses and the presence of people defecating during early morning visit was obvious. Most of the study participants practiced open defecation. The lack of proper knowledge of hygiene coupled with dearth of sanitary facilities has compelled people to practice open defecation. Addressing the pervasive issue of open defecation in the study area requires comprehensive and sustainable strategies

Keywords: Open Defecation, Sustainable Development Goal, Nigeria

Introduction

Open Defecation is one of the major causes of poor sanitation in Nigeria. It is the behavioural practice of defecating in open fields, waterways, and open trenches without any proper disposal of the human excreta (Saleem *et al*., 2019). In 2014, about one billion people worldwide practiced open defecation due to poor access to improved sanitation (WHO 2014). According to the World Health Organization, about 525,000 people die each year due to childhood diarrhoea caused by poor hygiene (WHO 2017). Defecating in open fields is a major cause of water-related diseases such as diarrhoea among children (Mara *et al*., 2010). Open defecation has been associated with violence against women including rape among women and girls in developing countries (Caruso *et al*., 2017; WHO 2018).

According to the global action plans in the Millennium Development Goals, the targets for improved sanitation were not met globally. Documented evidence abounds that about 2.5 billion people in the world are still practicing open defecation and do not have access to improved sanitary facilities such as flush latrines or pit latrines (WHO 2017; Clair *et al*., 2018)..The need to ensure that basic sanitary facilities are highlighted as a key issue in the Sustainable Development Goals (Deen, 2014).

Open defecation has been incorporated in the Sustainable Development Goals (SDG) aiming to achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations by 2030 (United Nations, 2018). Improved sanitation includes sanitary facilities that hygienically separate human excreta from

human contact by crippled defecating in fields, forests, bushes, bodies of water, or other open spaces (Busienei *et al*., 2019).

Furthermore, the phenomenon of antimicrobial resistance is exacerbated by open defecation, as evidenced by robust scientific studies (Wellcome Trust 2018; Murray *et al*., 2019; Petersen 2019). The subsequent environmental contamination and dissemination of antimicrobial resistance pathogens have disproportionately affected sub-Saharan Africa, rendering it the region with the highest antimicrobial resistance burden (Abdullahi *et al*., 2023). This highlights the urgent need for effective interventions to mitigate the intersection of open defecation and antimicrobial resistance. There is an urgent need, therefore, to better understand the underlying factors preventing toilet use especially in rural areas. Based on this background, our aim was to assess open defecation as public health concerns amongst Gugugu resident, Abuja, Nigeria. The findings could serve as baseline data and inform strategic approaches for the elimination of open defecation.

Materials and Method

Study Population

The population of this study was people who consented to the study from ages 18 and 50 years in Gugugu community, Abuja Nigeria. The participants were informed of the study□s objectives and consented to the study before information was collected using validated questionnaires.

Ethical clearance

Ethical clearance was obtained from the College of Medicine and Health Sciences in the Bingham University, Karu, Nigeria. A written informed consent was obtained from participants .

Study area

Gugugu community is located in the central part of Abuja Municipal Area Council (AMAC) of the Federal Capital Territory (FCT), Nigeria. AMAC is approximately 10 Kilometers Southeast of the city center (Three Arms Zone). It is situated at coordinate latitudes 8.9333 N and longitude 7.4667 E. The area is characterized by a gentle slope with an average elevation of 350 meters above sea level. Gugugu community is surrounded by a mix of Savannah grassland and deciduous trees, with some rocky outcrops. The area is drained by several small streams and rivers, including Gugugu River, which flows into the larger Gurara River. Gugugu experiences a tropical Savannah climate, with two distinct seasons, rainy (April-October) and dry (November-March). The area is primarily residential, with some agricultural activities and small-scale businesses.

Study Design

This is a cross-sectional descriptive study conducted on 92 people aged 18 to 50 years residing at Gugugu community in AMAC Abuja, Nigeria from 1 January to April, 2024. The study examined the factors supporting open defecation, driving behaviour change on toilet use, ending open defecation as a social norm. Independent variables were used, which include; gender, marital status, age, occupation, and education qualification.

Statistical Data Analysis

A descriptive statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 26. Frequencies and percentages were calculated to summarize the data, and the results are presented in tabular form.

Result

Table 1 Shows the socio-demographic factors of the participants. Our data revealed that 59% of the respondents were female while 41% were men, 51% were between the age of 18 □ 30 years old, and 49% were between 31 □ 50 years. Unarguably, the high level of respondents was youth. Based on marital status, 51% were married people, 35% were single, and 14% were divorcees. The occupational variables showed that 42% were farmers, 35% were students, 15% were housewife, and 8% were civil servants. Their educational status further showed that 39% of the participants were illiterate who didn't have formal education, 38% were hold of FSLC, 18% were SSCE holders, and only 5% have attended higher institutions, suggesting a high level of illiteracy in the studied community.

Table 1: Socio-demographic factors of the participants

Gender	**Frequency**	**Percentage %**
Male	38	41
Female	54	59
Total	**92**	**100**
Age		
18-30	47	51
31-50	45	49
Total	**92**	**100**
Marital Status		
Single	32	35
Married	47	51
Divorce	13	14
Total	**92**	**100**
Occupation		
Farming	39	42
Housewife	14	15
Students	32	35
Civil servant	07	08
Total	**92**	**100**
Educational Qualification		
FSLC	35	38
SSCE	17	18
University/College	05	05
None	35	35
Total	**92**	**100**

Table 2 shows open defecation practice, 70% of the respondents sometimes used toilet facilities for defecating, 25% represented people who never used the toilet, and 5% represented people who always used the toilet facility when defecating. In addition, 75% responded that they always indulge in open defecation, 22% sometimes indulge in open defecation, and 3% responded that they never indulge in open defecation. Moreover, 83% responded that they don□t have toilet facilities at home while among the 17% of respondents who have toilet facilities at home, 75% of the toilets were pit toilet facilities while 25% were water base system.

Table 2: Open defecation practices

I use toilet to defecate	**Frequency**	**Percentage (%)**
Always	05	05
Sometimes	64	70
Never	23	25
Total	**92**	**100**
I indulge in open defecation	**Frequency**	**Percentage**
Always	69	75
Sometimes	20	22
Never	03	03
Total	**92**	**100**
Do you have toilet in your house		
Yes	16	17
No	76	83
Total	**92**	**100**
Type of toilet facility		
Pit Latrine	12	75
WBC	04	25
Total	**16**	**100**

Table 3 shows open defecation practice. Our data indicated that 46% of the respondents sometimes washed their hands after defecating, suggesting poor hygiene practices among the residents while 32% always washed their hands after defecating while 22% did not. Surprisingly, 91% of respondents practiced open defecation directly to nearby bushes and canals while 09% defecated at home and threw their excreta to the nearby bushes or canals. Similarly, 67% of respondents agreed that people engaged in open defecation due to a lack of toilet facilities at home while 21% responded that it was a lack of proper knowledge of hygiene, especially with a high level of illiteracy in the community, 07% responded that government did not provide toilet facilities and 05% responded that the open defecation was due to inadequate toilet facilities.

Table 3 Open defecation and hygiene practices

I wash my hands after defecating	**Frequency**	**Percentage**
Always	29	32
Sometimes	42	46
I don't	21	22
Total	**92**	**100**
Practice of open defecation		
People defecate directly to nearby bushes and canal	84	91
People defecate at home and dispose into nearby bushes and canal	08	09
Total	**92**	**100**
Why do people engage in open defecation?		
No toilet facility available in their houses	04	05
Insufficiency of toilet facilities	20	21
Lack of proper knowledge of hygiene		
Government did not provide toilet facilities	06	07
No toilet facility available in their houses	62	67
Total	**92**	**100**

Table 3 Shows the awareness and attitude of the residents toward open defecation. Most of the residents 97% attest to a noticeable stool in the area with about one to four defecators while 3% were oblivious. Moreover, 90% of our respondents had witnessed the presence of people defecating during early morning visits while only 10% had not. Concerning the barriers toward good defection practice, 75% of our respondents attested that the cost of decent toiletry facilities hinders good hygiene in the study area while 13% of the participants were indifferent. Surprisingly, only 11% of our respondents are aware of the local regulations to discourage open defecation in the community while the majority constituting 89% of the respondents are not aware of their local regulations to discourage open defecation.

Table 4: Awareness and attitude of the residents toward open defecation

Noticeable stool in the open area	**Frequency**	**Percentage**
Yes	89	97
No	03	03
Total	**92**	**100**
Presence of people defecating during early morning visit		
Yes	83	90
No	09	10
Total	**92**	**100**
Number of defecators notice during early morning visit		
1 – 2 persons	65	71
3 – 4 persons	27	29
Total	**92**	**100**
Gender of defecators notice in early morning visit		
Male	24	26
Female	52	57
Mixed (male and female)	16	17
Total	**92**	**100**
Does the cost hinder you from getting one at home or within the community		
Yes	69	75
No	12	13
I don't know	11	12
Total	**92**	**100**
Are there local regulations to discourage open defecation in the community		
Yes	10	11
No	55	60
I don't know	27	29
Total	**92**	**100**

Discussion

The elimination of open defecation is integrated into the Sustainable Development Goals, with the aim of ensuring access to adequate hygiene for all and ending open defecation as well as paying special attention to the needs of women and those in vulnerable situations by 2030 (United Nations, 2018). The present study reported empirical data on open defecation within the Abuja Municipal Area Council for the first time. Most of the participants 54 (59%) were females between the ages of 18-30. Previous studies have reported that the most affected portions of the population due to open defecation are females and that a significant portion of their income is spent on treatments for diseases caused by open defecation (Boro, 2019). Moreover, women being the major victim of open defecation, risk the possibility of being raped or stunk by animals along the course of open defecation (Sarkingobir *et al*., 2019).

In the present study, most of the study participants practiced open defecation. The bulk responded that noticeable stool is seen in the open area within the community which shows piteous hygiene and environmental sanitation. Moreover, 71% of the respondents reported that about 1-4 persons are seen defecating in the nearby bushes during early morning hours visits. Our data also unveiled that only 5% represented people who always used toilet facilities when defecating while 70% of the respondents sometimes used toilet facilities for defecating, and 25% never used toilets. Similarly, the World Health Organization (WHO 2018) estimated that 47 million Nigerians defecate in open spaces. This is to show that, at least, one out of four Nigerians engage in open defecation (Nyoni, 2018). Moreover, 83% responded that they don□t have toilet facilities at home while among the 17% of respondents who have toilet facilities at home, 75% of the toilets were pit toilet facilities while 25% were water base systems. Surprisingly, there is no local regulation to discourage open defecation in the community. In line with our study, the Sustainable Development Goal is to ensure availability and sustainable management of water and sanitation for all by 2030 (Deen, 2014; United Nations, 2018). This study provides baseline data to achieve access to adequate and equitable sanitation and hygiene for all in line with the Sustainable Development Goals and end open defecation in the study area.

In recognition of the ample challenges of open defecation, both the government and non-governmental organizations have made concerted efforts to tackle its occurrence through proper sensitization, construction of public toilets at strategic places, and consistent evacuation of wastes. However, due to the lack of sustainable waste management system, waste reduction, relaxed open defecation policy, recycling, and illiteracy, waste management system has been inefficient (Water Safety Plan, 2012; Jubril *et al*., 2022). Therefore, there is an increased need for improved sanitation systems in many parts of Nigeria which occupies the first position in the practice of open defecation hierarchy and contributes to the global statistic of the two billion people without proper sanitation (Makhfudli *et al*., 2017; Alade *et al*., 2021).

Conclusion

Most of the study participants practiced open defecation. The bulk responded that noticeable stool is seen in the open area within the community which shows piteous hygiene and environmental sanitation. Addressing the pervasive issue of open defecation in the study area requires comprehensive and sustainable strategies. These should include stronger policy enforcement, increased investment in sanitation infrastructure, and enhanced public awareness campaigns.

Conflict of interest : None

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