

Practice of Excreta Related Hygiene among Rural Dwellers: A Case of Emohua Local Government Area of Rivers State Nigeria

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Abstract: *Safe disposal of human excreta is a major prerequisite to Health. This study was carried out to provide useful insight to the current excreta related hygiene practiced in Emohua Local Government Area of Rivers State, Nigeria. Survey research design was used and questionnaires distributed to a total of three hundred and eighty two respondents selected across the twelve communities that makes up the rural area through clusters and convenience sampling techniques with each community contributing thirty two respondents on the basis of their sizes. The data collected were analyzed using simple percentage method. The findings reveals that water closet and pit latrines were predominately used in the study area with finance the major determinant of the type of disposal system used. There was poor hygiene practiced in aspects of hand washing and cleaning of disposal system which is responsible for prevalence and spread of excreta related and communicable diseases in the area with little awareness on the risk of unsafe excreta disposal. Thus the need for increased awareness excreta related campaign in rural communities is recommended.*

Keywords: Excreta, Hygiene, Rural Dwellers, Diseases

1. Introduction

Excretion is one of the basic functions of life. It is the process of eliminating waste products of metabolism and other non-useful materials from the human body (Beckett, 1986). The metabolic waste eliminated from the human body could be urine, sweat or faeces is called excreta which in most cases are end products of nutrients taken into the body.

Nutrition provides most of the energy needed in driving the metabolic activities of the human body. As energy is released, the undigested food becomes a mass of unwanted material called faeces which the body excretes in order to maintain its health status and optimal function. Owing to the fact that man must discharge excreta from his body almost on a daily basis, the need for an excreta disposal facility becomes pertinent to every home not just to ensure the discharge of excreta but to do same in the healthiest possible ways bearing in mind the many risk associated with poor excreta disposal.

World Health Organization posited that a healthy and saver environment is guaranteed when excreta are disposed properly as required unless it will contaminate the environment, food and water. So, proper sanitation of the environment is needed to avoid the transmission of diseases (WHO 2010).

The importance of sanitation and hygiene is equally buttressed by Rush, (2011) who asserted that sanitation facilities should be properly put to use in order to ensure a healthy environment free of diseases. By implication, human faeces should be properly disposed to avoid making the environment unhealthy for habitation.

The spread of communicable disease and its pathogens in the environment has been linked with unsafe practice and disposal of excreta (Esrey *et al.*, 2001). Most of these diseases could be related to the use of local technologies in the disposal of excreta among the rural/ low income earners in the society. There are various technologies employed in disposing excreta but hygiene has to be put in place in its quality and proper use.

The World Health Organization noted that a large fraction of the world's illness and death is attributable to communicable diseases (WHO, 2009) to avoid this; personal hygiene should be employed in the disposal of excreta.

A large number of the rural people after making use of toilets use their hands unwashed to carry out other domestic works like cooking, food processing, fetching of water, all of which may introduce contaminants to their foods and water. According to W.H.O (2015) statistics on food safety, "an estimated 600 million, almost 1 in 10 people in the world fall ill after eating contaminated food and 420 000 die every year, resulting in the loss of 33 million healthy life years (DALYs)." Inadequate sanitary conditions and poor hygiene practices play major roles in the increased burden of communicable disease within these developing countries (Alyssa *et al.*, 2010). It has been estimated, at least for Africa, that 85% of the burden of disease preventable by water supply is caused by feco-oral, mainly diarrheal diseases, largely due to the substantial child mortality which they cause (Rosen *et al.*, 2001).

This study is thus aimed at evaluating the attitude of rural dwellers to excreta related hygiene. Much works still needs to be done on investigation the practice of most rural dwellers to excreta related hygiene especially in the Nigerian environment thus this work.

2. Materials and Methods

Study Area

Rivers state is one out of the thirty six states of Nigeria. It is surrounded by bodies of water and as such can be divided into the upland and riverine areas. Inhabitants of the riverine areas majorly discharge their excreta directly into the water bodies while those in the upland have different facilities for discharging their waste products. The State is made up of twenty three Local Government Areas one of which is Emohua Local Government Area.

The study area of this research is Emohua Local Government Area of Rivers State. The Local Government covers an area of 831 km² (321 sq mi) and a population of

201,901 at the 2006 census. It was created in 1991 and has the following coordinates 4°53'0"N 6°52'0"E. 4.88333°N 6.86667°E. Coordinates: 4°53'0"N 6°52'0"E. 4.88333°N 6.86667°E. The postal code of the area is 511 and its time zone is WAT (UTC+1) (Post Offices- with map of LGA).

Its headquarters is situated in Emohua. The Local Government Area is located in the uplands of Rivers State and is made up of Ikwerre speaking people and are predominantly rural dwellers and majorly farmers.

They practice the various excreta disposal technologies such as the cat system, pit latrine, and pour flush system as well as water closet.

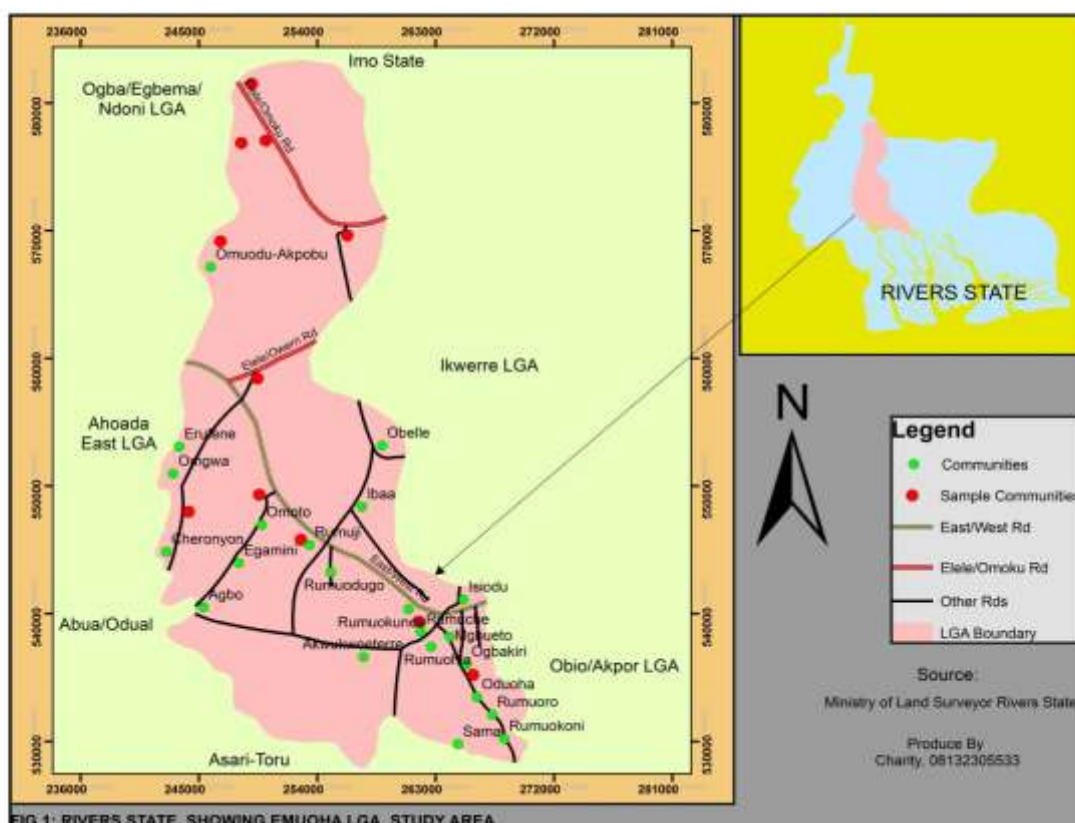


Plate 1: Map showing Emohua Local Government Area

Study Design

A survey of the study area was carried out. The total population of Emohua Local Government that makes up for this study according to the 2006 census stands at 201,901 (National Population Commission of Nigeria). This population is comprised of twelve communities which are Ogbakiri, Emohua, Odegu, Uvahu, Rundele, Elele Alimini, Rumuekpe, Umudioga, Egbeda, Ubimiri, Akpabu and Itu all of which contributed more than 5000 persons to the general population and as thus were selected for the study.

In order to get the needed population for this study, a sample of entire population was obtained. According to Stacks and Hockings (1992), a sample size of 384 elements constitutes an appropriate size for a population of 201,901. This is in close agreement with the Slovin's Formula ($n = N / (1 + Ne^2)$) where n = Number of Samples, N = Total Population and e = Error tolerance) at 95% tolerance level. Clusters and

convenience sampling techniques was employed and the Local Government Area was divided into twelve communities which can be referred to as clusters and thirty two (32) respondents were drawn from each through convenience sampling making a total of three hundred and eighty four (384) samples.

A structured questionnaire was used to collect information from the respondents. The respondents recorded their responses in the spaces provided in the questionnaire. Oral interview was conducted for persons who could not read and/or write.

Variable Specification

The questionnaire was divided into five sections which comprised of A: Personal Information (Age, Education, Marital Status and Occupation), B: Excreta disposal systems/ practices currently in operation in the study area (if

satisfactory, type of facility used, reason for choice of facility, category of facility used). C: Level of hygiene practice related to excreta disposal in the study area (Provision of Anal Cleaning Materials, Provision of hand washing facilities, drawing of cleaning roasters). D: Health Implications of Hygiene practice in the study area (Prevalent diseases, History of diseases). E: Health Officers Visitation

Data Analysis

All the data collected from questionnaire were analyzed using simple percentage method.

3. Results

Socio-demographic Information of Respondents

Table 1 Socio-demographic Information of Respondents. From a total of 382 respondents, 140(36.6%) were between the ages of 20 – 29 years, 170(44.5%) were between the ages of 30 – 49 years, 69(18.08%) were 50 years and above while a minute 3(0.78%) did not indicate their age.

The Educational distribution of the respondents shows that those with only primary education contributed 74(19.37%) of the response, secondary school education contributed 134(35.07%) of the response, tertiary education contributed 157(41.09%) while those with no form of formal education contributed just 15(3.92%) of the response with 2(0.52%) not responding to the questions.

The marital status of the respondents shows that 121(31.67%) were single, 214(56.02%) were married, 22(5.75%) were divorced, 20 (5.23%) were widows while only 5(1.30%) did not indicate their marital status. The Occupation of the respondents were as follows; 77(20.15%) farmers, 26(6.80%) fishers, 138(36.12%) traders and 95 (24.86%) civil servants with 46(12.04%) not indicating.

Table 1: Socio-demographic Information of Respondents

Variables	N (Total = 382)	%
Age Distribution*		
20 – 29	140	36.6
30 – 49	170	44.5
50 and Above	69	18.06
Educational Level*		
Primary	74	19.37
Secondary	134	35.07
Tertiary	157	41.09
Non- Formal	15	3.92
Marital Status*		
Single	121	31.67
Married	214	56.02
Divorce	22	5.75
Widowed	20	5.23
Occupation		
Farmer	77	20.15
Fisher	26	6.80
Trader	138	36.12
Civil Servant	95	24.86
Others	46	12.04

*Numbers/percentages not adding up to the total number few did not indicate their responses

Excreta disposal systems/ practices currently in operation in the study area

From Table 2 below; 91(23.82%) of the respondents have pit latrine in their premises, 84(21.98%) use Pour flush toilet system, 50(13.08%) use Ventilated Improved Latrine, 143(37.43%) of the respondents make use of water Closet while only 14(3.66%) still do cat system.

A total of 216(56.54%) respondents make use of private Excreta Disposal system, 152(39.76%) of the respondents use public facility, 12(3.14%) of the respondents still operate at the communal level in terms of Excreta Disposal system.

On satisfaction with the facility used in terms of cleanliness, privacy and comfort, 96(25.13%) of the respondents feel strongly satisfied, 243(63.61%) of the respondents are not satisfied, 38(9.94%) of the respondents were undecided.

On the factor responsible for the type of excreta disposal facility being used, 53(13.87%) of the respondents noted it was cultural factors, 33(8.63%) of the respondents said it was social factors, 23(6.02%) of the respondents noted that water table was the major factor while 273(71.46%) of the respondents saw finance as a major factor.

Table 2: Excreta disposal systems/ practices currently in operation in the study area

Variables	N (Total=382)	%
Types of Toilet System Used		
Pit Latrine	91	23.82
Pour Flush	84	21.98
Ventilated Improved Latrine	50	13.08
Water Closet	143	37.43
Cat System	14	3.66
Category of Excreta Disposal System Used*		
Private	216	56.54
Public	152	39.79
Communal	12	3.14
Level of Satisfaction with disposal system*		
Strongly Satisfied	74	19.37
Not Satisfied	134	35.07
Undecided	157	41.09
Factors Influencing the Choice of Excreta Disposal System		
Cultural	53	13.87
Social	33	8.63
Water Table	23	6.02
Finance	273	71.46

*Numbers/percentages not adding up to the total number few did not indicate their responses

Level of hygiene practice related to excreta disposal in the study area

As shown in Table 3 below; 141(36.91%) of the respondents makes use of water as anal cleaning material, 130(34.03%) use Toilet roll, 23(6.02%) makes use of leaves while 88(23.03) of the respondents makes use of papers.

On the provision of hand washing facilities; 126(32.98%) of the respondents agrees that there that provisions were made while 240 (62.82%) noted no provisions were available.

A total of 168(43.97%) of the respondents agrees that there were roosters for cleaning of the public toilets while 81 (21.20%) disagreed and 133(34.81%) did not respond to the question.

On the provision of roaster in public toilets, 67(44.07%) of the respondents says Yes, 27 (17.76%) disagreed and 58(38.15%) did not respond to the question.

Of the number that agreed to the availability of roasters, 67(44.07%) of the respondents maintained that tenants adhere to the cleaning roosters while 23 (34.33%) noted that the roaster is not adhered to and 23 (34.33%) did not respond to the question.

Table 3: Level of hygiene practice related to excreta disposal in the study area

Variables	N (Total = 382)	%
Anal Cleaning materials used		
Water	141	36.91
Toilet Roll	130	34.03
Leaves	23	6.02
Paper	88	23.03
Provisions for Hand Washing Facilities*		
Yes	126	32.98
No	240	62.82
Rosters for Cleaning of Toilet	(N = 152)	
Yes	67	44.07
No	27	17.76
Un-responded	58	38.15
Adherence to Roster	(N=67)	
Yes	21	31.34
No	23	34.33
Un-responded	23	34.33

*Numbers/percentages may not add up to the total number few did not indicate their responses

Level of hygiene practice related to excreta disposal in the study area

Table below shows that 126(32.98%) that Typhoid is prevalent in their area, 14(3.66%) noted cholera was, 1(0.26%) of the respondents made mention of itching, 26(6.80%) informed diarrhea was prevalent in their area, 2(0.52%) noted it was dysentery. A total of 319(83.50%) agrees to the fact that there has been history of Cholera, Diarrhea, and Typhoid in their area, 55(14.39%) however disagrees.

Table 4: Level of hygiene practice related to excreta disposal in the study area

Variables	N (Total=382)	%
Prevalent Diseases*		
Typhoid	126	32.98
Cholera	14	3.66
Diarrhea	26	6.80
Itching	1	0.26
Dysentery	2	0.52
History of Cholera, Diarrhea and Typhoid*		
Yes	316	83.50
No	55	14.39

*Numbers/percentages may not add up to the total number few did not indicate their responses

Health Officers Visitation

On Health Officers visitation, 180(47.12%) affirmed that health officers actually do visit the area, 196(51.30%) however reacted negatively in disagreeing. On the frequency of visit, 114(29.84%) of the respondents informed the health officers visits once in three months, 41(10.73%) noted the visitations were usually done twice in three months, 11(2.87%) of the respondents opined they visit thrice in three months while 216(56.54%) were of the opinion they do not visit.

Table 5: Health Officers Visitation

Variables	N (Total = 382)	%
Health Officers Visitation*		
Yes	180	47.12
No	196	51.30
How often they visit in a month		
Once	114	29.84
Twice	41	10.73
Thrice	11	2.87
None of the Above	216	56.54

*Numbers/percentages may not add up to the total number few did not indicate their responses

4. Discussion

This work reveals the current excreta disposal systems and related hygiene practices in Emohua Local Government area of Rivers State, Nigeria.

Results obtained from the demography of the respondents shows that majority of them falls within the ages of 30 – 49 and 20 – 29 most of which were married people with Tertiary and secondary education and were majorly farmers, Traders and Civil Servants.

The use of private and public toilets facility is prominent in the area representing the current practice in the area. Most populace in the study area makes use of Water closet and pit latrine. The practice of cat system which was preeminent in ancient times and characterized rural communities is gradually being faced out in the study area. Finance was the major factor responsible for the choice of the disposal system practiced in the area.

Majority of the respondents were not satisfied with the level of cleanliness, comfort and privacy relating to the use of these facilities with water, toilet roll and paper the major anal cleaning material. Provisions for hand washing facilities were not mostly incorporated nor provided in the disposal facilities provided. This may be due to the low income level of the rural populace. Soap, water, and latrines are essential for proper hygiene practice according to Gorter, *et al.*, 1998 but inadequate resources may be responsible for lack of provision of these essential resources (Oswald, *et al.*, 2008).

Washing hands after defecation is one of the most effective ways to prevent gastrointestinal parasitic infections (Curtis *et al.*, 2009). According to the United Nations Children's Fund 2009, Hand washing with soap has been reported to reduce diarrheal morbidity by 44% and respiratory infections by 23%. Provisions of Rosters were made for the cleaning of the public toilets with the level of compliance

almost equal to the noncompliance thus increasing the poor hygiene condition. Poor hygiene practices and inadequate sanitary conditions play major roles in the increased burden of communicable diseases within developing countries (Alyssa et al., 2010). As asserted by Rush, (2011) sanitation facilities should be properly put to use in order to ensure a healthy environment that is free of diseases. Human faeces should be properly disposed to avoid it contaminating the water and the air making the environment unhealthy for living.

This level of poor hygiene practiced is responsible for the prevalence of typhoid fever and cases of cholera, diarrhea, itching and dysentery with poor level of health enlightenment on the importance of hygiene by the relevant authorities and personnel. The poor hygiene practice in the area may be due to the perception of the people to excreta related hygiene practice as noted by Alyssa et al., 2010 who reported that past reviews about personal hygiene indicate that perception strongly influences one's hand washing beliefs and practices. Sixty-two percent (62%) and thirty one (31%) of all deaths in Africa and Southeast Asia, respectively, are caused by infectious disease (Curtis et al., 2009). Jewitt (2011) described as astonishing the lack of awareness of faecal health risks amongst many rural households with above average income and education levels.

5. Conclusion

Safe disposal of human excreta is a major prerequisite to Health. Not only is the quality of toilets important, the quality of usage as well as hygiene practice of the user is equally important.

Poor hygiene practice involving basically the use of hands and food is dangerous and promotes the transmission of disease when there are poor sanitary facilities for excreta disposal.

The perception and practice of excreta related hygiene among indigenes of Emohua Local Government is poor this also could be applicable to most rural dwellers in Nigeria and Africa and is responsible for the spread of excreta related diseases such as diarrhoea and cholera in these areas. Rural community based hygiene enlightenment/education is vital in order to decrease the rates of these transmissible diseases a view equally held by Lopez-Quintero et al., 2009.

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