

## **INFLUENCE OF PERSONAL AND ADMINISTRATIVE-RELATED FACTORS ON ENVIRONMENTAL SANITATION IN OSOGBO METROPOLIS, OSUN STATE NIGERIA**

By

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### **Abstract**

*This study examined influence of personal and administrative-related factors on environmental sanitation in Osogbo Metropolis, Osun State, Nigeria. The study adopted descriptive survey design with purposive and simple random sampling techniques used to select a total of 100 respondents that participated in the study. A self developed and validated questionnaire with a reliability co-efficient value of 0.72 obtained. Data were analyzed using frequency counts and percentages, while inferential statistics of chi-square was used to test the hypotheses at 0.05 alpha level. The results revealed the availability of waste disposal facilities ( $X^2$  cal.= 55.880,  $X^2$  crit.=15.507; df=8,  $p<.05$ ), health education ( $X^2$  cal.=40.600,  $X^2$  crit.= 16.919; df=9,  $p<.05$ ), attitude ( $X^2$  cal.= 61.440,  $X^2$  crit.= 14.067; df=7,  $p<.05$ ) and enforcement of environmental law ( $X^2$  cal.= 35.360,  $X^2$  crit.= 14.067; df=7,  $p<.05$ ) had significant influence on environmental sanitation among the residents of Osogbo Metropolis of Osun State. The study there concluded that availability of waste disposal facilities, health education, attitude and enforcement of environmental laws had significant influence on environmental sanitation among the residents of Osogbo Metropolis of Osun State. It was recommended that environmental health education should be carried out periodically in order to enlighten the residents against the inherent hazards of improper environmental sanitation. Efforts should be intensified on enforcement of environmental law and regulations in the Metropolis.*

**Keywords:** *Personal Factors, Administrative-Related Factors and Environmental Sanitation.*

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### **Introduction**

Environmental sanitation has been ascertained as a serious public health issue, particularly in developing countries. Its poor state has constituted burden to various individuals, families and communities from diverse developing countries. In some countries, many areas do not have access to clean water, engage in efficient waste removal and treatment practices; thus, the citizens are susceptible to widespread pollution and the proliferation of infectious diseases (Ezzati, Utzinger, Cairncross, Cohen and Singer, 2005). In the same vein, Strauss, Heinss and Montangero (2000) revealed that emitting strong foul odors and contamination of drinking water through sewage can cause high health risks and environmental pathologies; which could result to wide spread of diseases. Consequently, thousands of lives are lost every year to environmental related diseases such as cholera, diarrhea, malaria fever, typhoid fever, river blindness among others.

Environmental sanitation is expressed as a set of actions geared towards improving living conditions, health conditions and the overall quality of life. This includes treatment and disposal of human, industrial and animal wastes, control of disease vectors and the provision of restroom facilities for personal hygiene. For environmental sanitation to be effective therefore there should be proper treatment and disposal of human, industrial and animal waste; control of disease vectors as well as provision of facilities for personal and community hygiene. Then, the government authority must ensure that these practices are instituted on a community and individual basis. On the other hand, Ezzati et al (2005) revealed that poor quality waters, poor environmental sanitation and poor sanitation contribute much to deteriorating population health. In addition, Rabiul and Mainul (2016) established that irregular water supply, lack of waste disposal facilities, lack of maintenance of wastes facilities and a host of other factors contribute to poor environmental sanitation among students.

Hamdi and Goethert (2008) revealed that due to the serious burden that poor environmental sanitation has constituted to individuals and environment, there have been global concerns about the quality of environment in which the people live. In Nigeria, successive governments at federal and state levels demonstrated their concern for human health and the environment through enactment of laws and promulgation of decrees that compels people to clean and respect the environment. Yet, indiscriminate refuse dumping has become a common feature of most Africa towns and cities in recent past. People in the urban area tend to dump wastes indiscriminately. In Osogbo Metropolis, it has been observed that population growth has given rise to a heavily built up environment wherein houses are closely built than before which has resulted in the dumping of more refuse on the streets.

In spite of the improvement in government's commitment and considerable interventions of non-governmental organisations as well as donor agencies; there is still high level of poor environmental sanitation in Osogbo Metropolis. This study therefore examined influence of personal and administrative-related factors on environmental sanitation in Osogbo Metropolis, Osun State, Nigeria.

### **Statement of the Problem**

The beauty of any environment lies on its good sanitary condition. Consequently, it is important for such environment to be free from high health risks and environmental pathologies, so that, the people would be free from communicable diseases like cholera, diarrhea, typhoid fever among others. However, it has been observed that there is high level of poor environmental sanitation in Osogbo Metropolis. In order to deal with the issue of poor environmental sanitation, previous studies focused more on general environmental issues, with little emphasis on environmental sanitation related factors, particularly in Osogbo Metropolis. This study therefore examined influence of personal and administrative-related factors on environmental sanitation in Osogbo Metropolis, Osun State, Nigeria.

### **Main Objective**

The main objective of the study was to examine the influence of waste disposal facilities, health education, attitude and enforcement of environmental laws on environmental sanitation in Osogbo Metropolis.

### **Specific Objectives**

The specific objectives were to:

- i. Determine the influence of availability of waste disposal facilities on environmental sanitation in Osogbo Metropolis.
- ii. Examine the influence of health education on environmental sanitation in Osogbo Metropolis.
- iii. Determine the influence of attitude on environmental sanitation in Osogbo Metropolis.
- iv. Examine the influence of enforcement of environmental laws on environmental sanitation in Osogbo Metropolis.

## Method

### Research Design

Descriptive survey design was used for the study. The design was considered appropriate due to its advantages to describe the existing phenomenon in relation to the variables being studied.

### Population for the Study

The population comprised the residents of Osogbo Metropolis of Osun State, Nigeria.

### Sample and Sampling Techniques

The sample size for this study comprised one hundred (100) residents of Osogbo Metropolis of Osun State. Purposive and simple random sampling techniques were used to select 100 respondents for the study. Purposive sampling technique was used to consider the residents of Osogbo Metropolis as the population for the study. Simple random sampling technique was used to select 100 respondents from the Metropolis, by given them equal chance of being picked.

### Instrument

The instrument for data collection in the study was a self developed and validated questionnaire. The data generated through pre-testing of the instrument were subjected to factor analysis. A cronbach alpha method was used to test the internal consistency of the questionnaire which yielded a reliability of 0.72.

The questionnaire was divided into two sections, namely, A and B. Section A entailed socio-demographic characteristics of the respondents, section B covered both independent and dependent variables tested in the study. Each response was scored on a 4-point modified Likert format of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with allotment of points in the following order; SA = 4, A=3, D=2, SD =1.

### Statistical Analysis

The filled copies of the questionnaires were collated, coded and analysed using both descriptive and inferential statistics. Data were analyzed using the Statistical Package for Social Sciences program (SPSS), version 21. A *p*-value less than 0.05 were accepted as significance for each of the statistical test. Inferential statistics of chi-square was used to test the hypotheses.

### Results of the Study:

**Table 1: Socio-Demographic Characteristics of the respondents**

<i>Variable</i>	<i>Frequency</i>	<i>Percent (%)</i>
<b>Gender:</b>		
Male	40	40.0
Female	60	60.0
<b>Total</b>	<b>100</b>	<b>100</b>
<b>Age</b>		
Below 20 years	15	15.0
21-30 years	53	53.0
31-40 years	23	23.0
41 years and above	9	9.0
<b>Total</b>	<b>100</b>	<b>100.0</b>

Table 1: shows that 40 (40.0%) respondents were male, while 60 (60.0%) were female. This means that most of the respondents were female. Also, 15 (15%) respondents were below 20 years, 53 (53.0%) were between 21-30 years, 23 were in the age range of 31-40 years, while 9 (9.0%) respondents were over 41 years.

### Test of Hypotheses

The following hypotheses were tested in the study:

**Hypothesis 1:** Availability of waste disposal facilities will not significantly influence environmental sanitation among the residents of Osogbo Metropolis.

**Table 2: Chi-Square Analysis of Influence of Availability of Waste Disposal Facilities on Environmental Sanitation**

Environmental Sanitation							
S/n	Availability of Waste disposal facilities	Response				Sig. (p value)	Remark
		Strongly Agree	Agree	Disagree	Strongly Disagree		
1.	Inadequate provision of waste disposal facilities is affecting environmental sanitation programme in my area	48 48.0%	44 44.0%	8 8.0%	0 0.0%	.000	Sig.
2.	There are waste disposal facilities in some areas, but there is none in my community.	28 28.0%	27 27.0%	45 45.0%	0 0.0%		
3.	Poor maintenance culture of available facilities contributes to poor environmental sanitation in my area.	54 54.0%	40 40.0%	3 3.0%	3 3.0%		
4.	Inadequate provision of facilities is a problem to sanitation programme generally in Osogbo.	51 51.0%	34 34.0%	6 6.0%	9 9.0%		
5.	Availability of environmental sanitation facilities needs corporate organizations' intervention.	60 60.0%	19 19.0%	18 18.0	3 3.0%		
N=100							
Df=8							
X2 cal. =55.880							
X2 crit. = 15.507							

As shown in table 3, the obtained  $p$  value of 0.000 implied that, waste disposal facilities significantly influenced environmental sanitation. The table further reveals that the calculated  $X^2$  value of 55.880 is greater than the  $X^2$  table value of 15.507 at df 8 ( $X^2$  cal. = 55.880,  $X^2$  crit. = 15.507; df=8,  $p < .05$ ). The null hypothesis was therefore rejected. The implication was that unavailability of waste disposal facilities significantly affected poor environmental sanitation that was being experienced by the residents. The outcome of this study was in line with the finding of Ana et al (2011) that inadequate waste management facilities and practices in Secondary Schools in Ibadan might have contributed to waste spillages and the burning practices.

**Hypothesis 2:** Attitude will not significantly influence environmental sanitation among the residents of Osogbo Metropolis.

**Table 3: Chi-Square Analysis of Influence of Attitude on Environmental Sanitation**

Table 6. Chi Square Analysis of Influence of Attitude on Environmental Sanitation								
S/ N	Attitude	Response				Sig. (p value)	Remark	
		Strongly Agree	Agree	Disagree	Strongly Disagree			
1.	The attitude of people towards environmental sanitation in my area is not encouraging	50 50.0%	26 26.0%	20 20.0%	4 4.0%	.000	Sig.	
2.	Poor environmental sanitation in my community might be attributed to some health problems	42 42.0%	41 41.0%	17 17.0%	0 0.0%			
3.	The youths in my area are not exhibiting positive attitude towards good waste practices	53 53.0%	38 38.0%	3 3.0%	1 1.0%			
4.	Control of disease vectors is not encouraging in my community	51 51.0%	20 20.0%	27 27.0%	2 2.0%			
5.	There is no proper handling of animal wastes in my area	49 49.0%	46 46.0%	5 5.0%	0 0.0%			
N= 100								
Df=9								
X <sup>2</sup> cal. =40.600								
X <sup>2</sup> crit. =16.919								

As shown in table 3, the obtained  $p$  value of 0.000 implied that, attitude of people significantly influenced environmental sanitation in Osogbo Metropolis. The table further revealed that the calculated  $X^2$  value of 40.600 is greater than the  $X^2$  table value of 16.919 at df 9 ( $X^2$  cal.=40.600,  $X^2$  crit.= 16.919; df=9,  $p<.05$ ). The null hypothesis was therefore rejected. The implication was that negative attitude being exhibited by the residents significantly affected the prevailing poor environmental sanitation in the area. The outcome of this study was in agreement with the findings of Audu (2013) that poor waste management attitudes and practices was associated with poor knowledge of the impact of improper waste management on health.

**Hypothesis 3:** Health education will not significantly influence environmental sanitation among the residents of Osogbo Metropolis.

**Table 4: Chi-Square Analysis of Influence of Health Education on Environmental Sanitation**

S/n	Health Education	Response				Sig. ( $p$ value)	Remark
		Strongly Agree	Agree	Disagree	Strongly Disagree		
1.	Trained health educators are hardly deployed to the city in order to educate the people on health issues and sanitation regulations.	61 61.0%	37 37.0%	2 2.0%	0 0.0%	.000	Sig.
2.	I have never been health educated about environmental sanitation.	39 39.0%	61 61.0%	0 0.0%	0 0.0%		
3.	There is no improvement on old method of house to house inspection of environment.	39 39.0%	56 56.0%	4 4.0%	1 1.0%		
4.	There are no enough coordinated radio and television programmes to education people on issues of environmental sanitation.	50 50.0%	47 47.0%	2 2.0%	1 1.0%		
5.	Community health education programmes can improve urban health promotion.	48 48.0%	49 49.0%	3 3.0%	0 0.0%		
N=100							
Df=7							
$X^2$ cal. =61.440							
$X^2$ crit. =14.067							

As shown in table 4, the obtained  $p$  value of 0.000 implied that, health education significantly influenced environmental sanitation in Osogbo Metropolis. The table further revealed that the calculated  $X^2$  value of 61.440 is greater than the  $X^2$  table value of 14.067 at df 7 ( $X^2$  cal.= 61.440,  $X^2$  crit.= 14.067; df=7,  $p<.05$ ). The null hypothesis was therefore rejected. The implication was that poor health education knowledge of the residents, significantly affected the prevailing poor environmental sanitation in the area. The outcome of this study was in line with the finding of Adekunle, Adekunle, Akintokun, Akintokun and Arowolo (2010) established that few traders in Ibadan are aware of neither the recycling plant for waste management nor the importance of having it.

**Hypothesis 4:** Enforcement of environmental laws will not significantly influence environmental sanitation among the residents of Osogbo Metropolis.

**Table 5: Chi-Square Analysis of Influence of Enforcement Laws on Environmental Sanitation**

S/n	Enforcement of environmental law	Response				Sig. ( $p$ value)	Remark
		Strongly Agree	Agree	Disagree	Strongly Disagree		
1.	There are no enough government officials to enforce sanitation regulations	48 48.0%	49 49.0%	2 2.0%	1 1.0%	.000	Sig.
2.	The existing government officials have not been enforcing sanitation regulations properly	49 49.0%	37 37.0%	6 6.0%	8 8.0%		
3.	Rules and regulations guiding sanitation exercise should be re-amended to meet the needs of current challenges.	49 49.0%	48 48.0%	2 2.0%	1 1.0%		
4.	Violators of sanitation exercise have not been made to face tough penalties to	44 44.0%	54 54.0%	2 2.0%	0 0.0%		

5.	deter others. Officials are not well empowered for proper enforcement of environmental law.	30 30.0%	56 56.0%	6 6.0%	8 8.0%
N=100					
Df=7					
X <sup>2</sup> cal. =35.360					
X <sup>2</sup> crit. =14.067					

As shown in table 5, the obtained  $p$  value of 0.000 implied that, enforcement of environmental law significantly influenced environmental sanitation in Osogbo Metropolis. The table further revealed that the calculated  $X^2$  value of 35.360 is greater than the  $X^2$  table value of 14.067 at df 7 ( $X^2$  cal.= 35.360,  $X^2$  crit.= 14.067; df=7,  $p<.05$ ). The null hypothesis was therefore rejected. The implication was that, lack of proper environmental law enforcement significantly affected the prevailing poor environmental sanitation in the metropolis. The findings of this study was in agreement with the findings of Komolafe (2012) that high rate of illiteracy, ignorance, uncivilized culture of indiscriminate waste littering and violation of town planning regulations are factors responsible for improper disposal of solid waste in Ibadan.

### Conclusion

Conclusion was made that availability of waste disposal facilities, health education, attitude and enforcement of environmental laws independently and significantly had influence on environmental sanitation among the residents in Osogbo Metropolis of Osun State.

### Recommendations

Based on the findings of this study, the following recommendations were made:

- i. Environmental health education should be carried out periodically in order to enlighten the residents against the inherent hazards of improper environmental sanitation.
- ii. Efforts should be intensified on enforcement of environmental law and regulations in the Metropolis.

### References

- Adekunle, I. M., Adekunle, A. A., Akintokun, A. K., Akintokun, P. O., and Arowolo, T. A. (2010). Recycling of organic wastes through composting for land applications: a Nigerian experience. Waste management and research, 0734242X10387312.
- Ana, G. R.; Oloruntoba, E.O.; Shendell, D.; Elemile, O. O.; Benjamin, O.R.; Sridhar, M.K. (2011). Solid waste management problems in secondary schools in Ibadan, Nigeria. *Journal of Environmental Health* 74 (2). 24-28.
- Audu, A. J. (2013). Knowledge, attitudes and practices associated with waste management Jos South metropolis, Plateau State. *Journal of Social Sciences* Vol 4 No 5 July 2013
- Ezzati, M., Utzinger, J., Cairncross, S., Cohen, A.J. and Singer, B.H. (2005). Environmental risks in the developing world: exposure indicators for evaluating interventions, programmes, and policies. *Journal of Epidemiology and Community Health* 59:15-22.
- Hamdi, N. and Goethert, R. (2008). *Action planning for cities – a guide to community practice*. New York: Wiley & Sons.
- Komolafe, S. (2012). Integrated Solid Waste Management: A Possible Solution to Environmental and Sanitation Problems in the Ancient City of Ibadan, Oyo State, Nigeria.
- Rabiu, M.M. and Mainul, H. (2016). Assessment of factors to contributing poor environmental sanitation in the University's student's male hostel. *International Journal of Pharmaceutical Research*, Vol. 8 (3). 59.
- Strauss, M., Heinss, U. and Montangero, A. (2000). On-site sanitation: When the pits are full. Planning for resource protection in fecal sludge management. IWA Publishing House.