

## Original Research Article

# Evaluation of the Perception and Control measures towards Environmental Risk in Obio Akpor Local Government area of Rivers State.

### ABSTRACT

**Aims:** To evaluate the perception and control measures towards environmental risk in Obio Akpor Local government area (LGA) of Rivers State.

**Place and Duration of Study:** The study was carried out at the Rivers State Waste Management Agency in Obio-Akpor LGA of Rivers State between January 2019-March 2019

**Methodology:** The survey method was employed and the simple random sampling techniques was adopted whilst 265 copies of the questionnaire were used to elicit information from the number of employee..

**Results:** The findings revealed that that majority of the respondents under survey had a good knowledge of occupational health risk and are fully aware of the environmental health risk associated with waste dumping, As a Possible control measures it was revealed that the majority had the opinion that the provision of safety and health structure is the best preventive measures so as to eliminate health hazard among solid waste workers

**Conclusion:** RIWAMA should establish sanitary facilities where workers can wash after work to ensure effective personal hygiene is maintained and also provide them with Personal protective equipment

**Keywords:** Perception and Environment

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## 1. INTRODUCTION

Globally Solid wastes are generated due to anthropogenic activities in search for food and livelihood. As population increased on the surface of the earth, as well as civilization onset, the quality and quantity of waste production also changed and increased. The advent of industrialization has altered the nature and quantity of waste generated on a higher level [1].

[4] in his study revealed that Residents in the urban centres caused an unprecedented increase in the amount of waste generated without a consequent means of disposing them effectively this often times occurs frequently in developing countries where there is a high risks to the health of the people and workers due to the lack of a good waste management disposal system,

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Furthermore occupational injuries contribute significantly to human and economic costs in developing countries for example Nigeria as well as developed countries [3]. This issue has continued to be a serious problem affecting workers at different workplace and industries.

At a globe scale, the international labour Organisation (ILO) estimates that 250 million work related injuries and illnesses occur every year and 330,000 of these accidents are fatal [4]. In addition annually, an estimated 160 million people worldwide have work related diseases including respiratory and cardiovascular diseases, hearing loss, musculoskeletal and reproductive disorder as well as mental and neurological illnesses [9, 10]

Although the statistics of occupational injuries are poorly documented in both developed and developing countries, sub-Saharan Africa countries appear to have the greatest rate of occupational injuries [5]. Amongst the occupations majorly contributing to this problem is solid waste handling and management [11, 8].

Effective waste management is centred on the minimization of waste generation at source. This could be achieved through waste reuse, recycling by educating people to acquire recyclable products. In the past there has been a lack of government interest in waste management disposal in Nigeria particularly River state which is a major problem due to daily increase in population of people dwelling in Port-Harcourt city [12]. As a result the state government has engaged some private waste disposal contractors to evacuate the waste littered in various parts of the Port Harcourt.

Empirical studies on the evaluation of the perception and control measures towards Environmental health risk in Obio Akpor local government area of Rivers state is yet to be documented. Studies already attempted were most often times streamlined to the health impact on resident neglecting the health workers itself. It is against this background that the aim of this research was to evaluate the perception and control measures towards Environmental Health Risk in Obio Akpor LGA of Rivers State . The specific objectives of the study were to:

Evaluate the waste workers perception and opinion on health risk associated with solid waste disposal and to identify the possible control measures that can be implemented to eliminate health hazard among solid waste workers

## 2. METHODOLOGY

- The population of the study was made up of staff of the Rivers state waste management agency (RIWAMA) Rivers State, Nigeria.
- For the purpose of the study the sampling technique adopted was the simple random sampling technique. This technique helped in giving a number to each subject or individual from the open populace putting the numbers in a compartment and picking them randomly. It gave every unit of the population an equal and known chance of being chosen in the sample and covered a definite number of population. Furthermore 265 respondents were sampled and were given structured questionnaires.
- The questionnaires were self-administered randomly to selected sample respondents of RIWAMA. The data retrieved from the questionnaire was put together using the statistical package for social sciences (SPSS). For the

purpose of a clear and detailed representation of the data, the use of pie chart was employed in order to present the gathered data for the analytical study.

### 3. RESULTS AND DISCUSSION

#### 3.1 Perception on the environmental health risk associated with waste dumping

To examine the perception of the environmental health risk associated with the waste dumping, The Respondents were asked two categories of questions which included knowledge attributed to health Risk and response on awareness of the health risk. This questions were posed so as to assess their understanding of the issues been discussed

##### Health Risk Knowledge

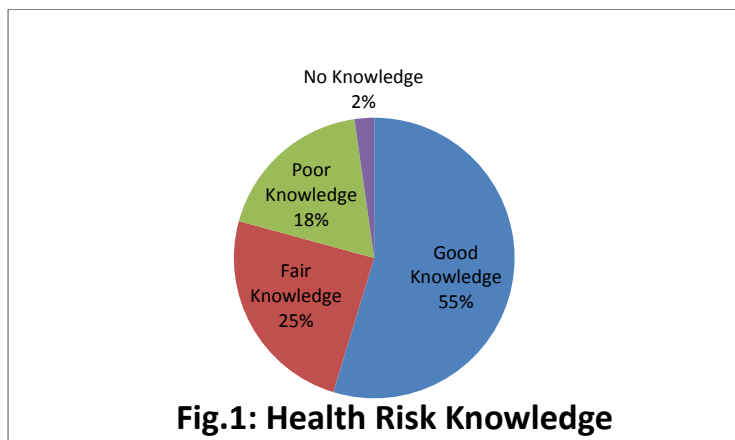
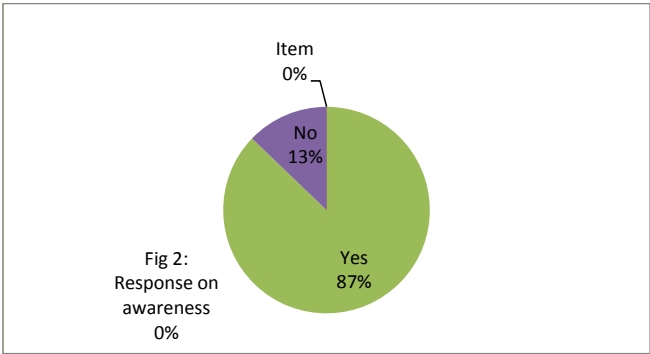


Fig.1: Health Risk Knowledge

Source: [6]

Data analysis as portrayed in Fig 1 reveals that majority 55% respondents had good knowledge in health risk ,This good knowledge could be as a result of adequate training in the time past probably in the course of their duty. 25% had fair knowledge and 18% had poor knowledge while 2% had no knowledge about health risk

##### Response on Awareness

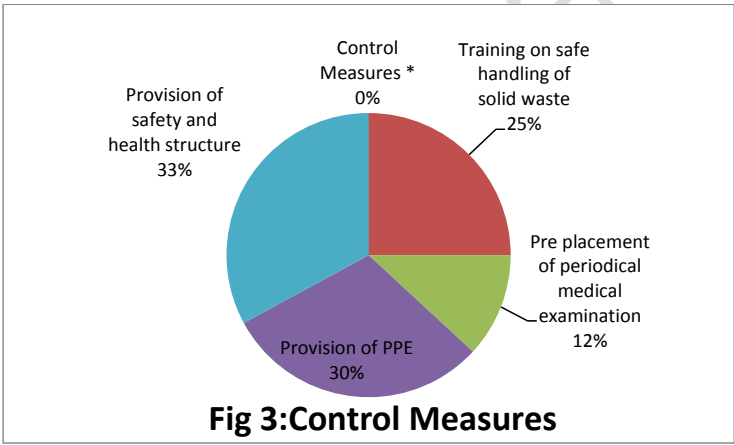


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Source: [6]

On response to awareness, the Data analysis portrayed in Fig 2 reveals that majority of 87% respondents are conscious of the awareness of the environmental health risk associated with waste dumping, this level of awareness maybe as result of their level of education either formal or Informal they have received in time past while the remaining 13% respondents indicated that they are not conscious of the environmental health risk associated with waste dumping.

### 3.2 Possible control measures that can be implemented to eliminate health hazard among solid waste workers



Source: [6]

Data Analysis as portrayed in fig 3 revealed that majority 33% respondents had the opinion that provision of safety and health structure can be a viable control measures that can be implemented to eliminate health hazard among solid waste workers, 75% respondents opted for the provision of PPE, 62% respondents opted for training on safe handling of solid

waste and 29% respondents had the opinion that pre placement of periodical medical examination could be a possible control measure that can be implemented to eliminate health hazard among solid waste workers

#### 4. CONCLUSION

1. On the perception it was revealed that majority of the respondents under survey had a good knowledge of health risk and were fully aware of the environmental health risk associated with waste dumping. While on Possible control measures it was revealed that majority had the opinion that provision of safety and health structure is the best control measures so as to eliminate health hazard among solid waste workers subsequently it was recommended that the Government of Rivers State should adopt a Waste Policy which entails occupational safety, health and environmental management issue and that the Rivers state waste management agency should conduct safety and health awareness campaigns and as well, offer safety education courses, starting with top management personnel, and extending down to every supervisory level and to field personnel. Training of top management will enhance their commitment to Environmental health hazard issues

#### COMPETING INTERESTS

Authors have declared that no competing interest exist

#### ETHICAL APPROVAL

Approval for this study was obtained from the Department of geography and Environmental Management, University of Port Harcourt Choba. Also, verbal informed consent was obtained from each respondent. All the participants were informed that the study is voluntary and that they could opt out of the study at any time. Also participants were assured that confidentiality would be maintained during and after data collection and that information given will be used for research purposes only. And lastly articles and authors used were sighted accordingly in this research

#### REFERENCES

1. Abou-ElWafa H. S, El-Bestar S.F and El-Gilany A.H (2012). Musculoskeletal disorders among municipal solid waste collectors in Mansoura, Egypt: a cross sectional study. BMJ Open; doi:10.1136/bmjopen-2012-001338. Accessed 20 June 2017.
2. Cointreau, S. (2006). Occupational and environmental health issues of solid waste management. Special emphasis on middle- and lower-income countries. Urban Papers UP, 2, 1-40.
3. Cookey A.T.(2019) Field work in Obio Akpor local government area of Rivers State
4. Hunt C. A review of the health hazards associated with the occupation of waste picking for children. Inter J Adolescent Med Health 2001;13(3):177–190.
5. International Labour Organisation (ILO). Encyclopaedia on Occupational Health and Safety Volume 3.
6. Kuijer. P and Frings-Dresen. M (2004). World at work: refuse collectors. Occupational and Environmental Medicine 2004; 61: 282-286 BMJ Publish Group Limited. 31. Loeweson R, (1998). Occupational Health and Safety in Southern Africa : Trends and Policy Issues ILO/SAMAT Policy Paper No. 8.

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- 149 7. Olorunnishola OA, Taylor AK, Byrd L (2010). Occupational injuries and illnesses in solid waste industry: a call  
150 for action. Journal of Morgan State University School of Community Health and Policy.20 (2):211–23.  
151 8. Sarkar P (2003). Solid Waste Management in Delhi-A Social Vulnerability Study Third International  
152 Conference on Environment and Health. Chennai, India: Department of Geography, University of Madras  
153 and Faculty of Environmental Studies, York University.  
154 9. Saungweme, M (2012) An Integrated Waste Management Approach as an Solid Waste Management Strategy for  
155 Mbare Township, Zimbabwe. <http://www.scribd.com>  
156 10 .Eskezia D. Andrew Z, Ahmed K.Y and Tadesse F.(2016) Prevalence and associated factors of occupational injuries  
157 among municipal solid waste collectors in four zones of Amhara region, Northwest Ethiopia, BMC Public Health  
158 (2016) 16:862  
159 11 Olorunnishola OA., Taylor AK., Brd L(2010) International Public Health Diseases Program system and Policies.  
160 Gaithersburg Maryland Aspen Publishers  
161

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