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A study to assess the knowledge regarding domestic waste management and its impacts on health of people living in a selected urban area at Hyderabad

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Abstract

Introduction: Domestic waste generation has contributed significantly to hampering national waste management efforts. It poses serious threat to national development and requires proper treatment and management within and outside households. The problem of improper waste management has always been a challenge in Ghana, compelling several national surveys to report on the practice of waste management. However, little is known about how much waste is generated and managed within households and there is a serious dearth of information for national policy and planning. This paper seeks to document the handling and practice of waste management, including collection, storage, transportation and disposal along with the types and amount of waste generated by Households and their related health outcome.

Objective: The main aim of the study is to assess the knowledge regarding domestic waste management and its impacts on health of people living in a selected urban area at Saroonagar, Badangpet, Hyderabad.

Research methodology: A non-experimental descriptive design study conducted on 80 people residing at Saroonagar, Badangpet, Hyderabad. The sample selected through purposive sampling technique. The research variable includes knowledge of people regarding domestic waste management and its impacts on health. The data collected through structured knowledge questionnaire.

Results: The results revealed that revealed that 52.5% of the sample had moderate knowledge regarding domestic waste management with total mean and SD of 10.01 ± 6.6 .

Conclusion: The study finding concluded that further improvement of knowledge on domestic waste management is needed in this area. The researcher here emphasis that more research is needed to understand how to improve the knowledge regarding domestic waste management.

Keywords: Knowledge, Domestic waste management, Impact, People

Introduction

Solid waste management (SWM) has emerged as one of the most massive development challenges in urban India. Numerous studies indicate that the unsafe disposal of waste generates dangerous gases and leachates, due to microbial decomposition, climate conditions, refuse characteristics and land-filling operations. According to the 12th Schedule of the 74th Constitution Amendment Act of 1992, urban local bodies (ULBs) are responsible for keeping cities and towns clean. However, most ULBs lack adequate infrastructure and face various strategic and institutional weaknesses, such as poor institutional capacity, financial constraints, and a lack of political will. While many Indian ULBs do receive government assistance, almost all of them continue to be financially fragile. India has already exhausted all available landfill sites, and the concerned ULBs do not have resources to acquire new land. Moreover, finding new landfill sites is a difficult task as local officials are averse to setting aside land in their jurisdiction for waste that come from other areas.

Domestic waste generation has contributed significantly to hampering national waste management efforts. It poses serious threat to national development and requires proper treatment and management within and outside households. The problem of improper waste management has always been a challenge in Ghana, compelling several national surveys to report on the practice of waste management. However, little is known about how much waste

is generated and managed within households and there is a serious dearth of information for national policy and planning. This paper seeks to document the handling and practice of waste management, including collection, storage, transportation and disposal along with the types and amount of waste generated by Households and their related health outcome.

Solid waste management (SWM) is a major problem for many urban local bodies (ULBs) in India, where urbanization, industrialization and economic growth have resulted in increased municipal solid waste (MSW) generation per person. Effective SWM is a major challenge in cities with high population density. Achieving sustainable development within a country experiencing rapid population growth and improvements in living standards is made more difficult in India because it is a diverse country with many different religious groups, cultures and traditions.

Need of the study

Decomposing organic waste is a rich medium or culture for growth of numerous micro-organisms many of which are diseases causing if passed on to humans. Also there is always a risk of transmission through vectors such as houseflies but also through human contacts as is the case with waste handlers who do not use protective wear and waste pickers who most of the time use bare hands. Additionally, articles retrieved from waste may be sold to unsuspecting public without undergoing thorough cleaning hence posing a risk of infection transmission.

Gastro-intestinal infections such as typhoid fever, polio virus infection, hepatitis E infection, and cholera are often transmitted through contaminated food or water. Toilet ownership in Kenya, for example, is very low with 12% of all households not having any form of toilet. Even those households with a toilet, many are not connected to the main sewer line. These result into fecal matter being disposed of in open spaces while other households do not have any form of toilet and thus dispose of fecal matter as general waste, popularly referred to as flying toilets or discharged into rivers. Human fecal matter is a known source for pathogenic enteric parasites, typhoid fever infection, polio virus infection, hepatitis E infection, cholera and common gastroenteritis transmitted human contact, vectors or contaminated water. Studies have revealed high levels of pathogenic parasites in dump site waste confirming the risk waste handlers and pickers are exposed to. This challenge of proper fecal matter management is not limited to households but also institutions such as hospitals and schools. There are reports of cholera outbreaks emanating from fecal waste coming from a hospital.

Daily production of solid waste is almost 1150 MT/day. Out of which around 200- 250 MT still remains on the streets and roads that mean lifting efficiency is around 80%. The per capita solid waste generation per day is around 450 gm, which with family size of almost five, results in 1.75 kg/day. In India, the composition of waste is around 50% biodegradable, 25% inert waste 9% plastic, 8% paper, 4% scraps, and 1% glass. The composition of different wastes keeps varying from season to season. In the summer time there is more biodegradable waste produced because of more vegetation. The composition of plastic in waste has probably been decreasing due to the recent ban on plastic bags.

Aim of the study

The main aim of the study is to assess the knowledge regarding domestic waste management and its impacts on health of people living in a selected urban area at Hyderabad.

Objectives of the Study

- To assess the knowledge regarding domestic waste management and its impacts on health of people living in a selected urban area.
- To find association with selected demographic variables of urban people regarding knowledge about domestic waste management and its impacts on health.

Hypotheses

H₀: There will be no significant association between knowledge regarding domestic waste management and its impacts on health with their selected demographic variables.

Review of Literature

Review of literature is presented under the following heading.

1. Literature related to the knowledge regarding domestic waste management.
2. Literature related to impacts of domestic waste on human health.

Research Methodology

Research Approach: Quantitative approach was used.

Research Design: The research design adopted for the present study was a non-experimental descriptive design.

Research variable: In this study it is the knowledge of people regarding domestic waste management and its impacts on health among people.

Demographical variables: The demographic variable confound the relationship between the independent and dependent variables and that need to be controlled either through building in research design or through statistical procedure. In the present study, the demographic variables are follows: Age, Gender, Educational qualifications, Religion, Type of employment, Family income, Type of family and Source of information about domestic waste management.

Setting of the study

The present study was conducted at Saroornagar, Badangpet, Hyderabad.

Sample: The samples selected for the present study comprises of 80 people residing at selected urban area of Saroornagar, Badangpet, Hyderabad.

Sampling Technique

The sampling technique used for this study was purposive sampling technique.

Population

The target population for the study was people residing at Saroornagar, Badangpet, Hyderabad.

Inclusion criteria

- People living in selected urban areas of Hyderabad.

- People who are willing to participate in the study.
- People present at the time of data collection.
- People those able to read and write English and Hindi.

Exclusion criteria

- Urban people who are not available at the time of data collection.
- Urban people who are not willing to participate in the study.
- Urban people who are not co-operative.

Data Collection Tools and Technique

Pre-planned set of questions designed to yield specific information to meet a particular need for research information about related topic mentioned above. The research information is attained from respondents normally from a related interest area. The dictionary definition gives a clearer definition.

Tool

The structured self-administered multiple choice questionnaire was used as an instrument to assess the knowledge domestic waste management and its impacts on health of people. The final tool consist of:

- **Section I:** Consist of selected socio-demographic

variables such as Age, Gender, Educational qualifications, religion, type of employment, family income, type of family and Source of information about domestic waste management.

- **Section II:** Consist of structured knowledge questionnaire on domestic waste management and its impacts on health of people. It consists of total 27 items in two different parts. Questionnaire related to knowledge regarding domestic waste management and questionnaire related to impacts of domestic waste on health of people living in a selected urban area.

Reliability

The reliability was calculated by using split half method. Inter rated score was 0.79 and found to be reliable.

Data Collection Procedure

A written formal permission was obtained from concerned authority to conduct the study from 11/05/2018 to 2/05/2018. The samples were informed by researcher about the nature and purpose of study. The investigator himself assess the knowledge regarding domestic waste management and its impacts on health.

Results

Table 1: Range, mean, SD and mean percentage of knowledge score of Domestic waste management among peoples of selected urban area

Maximum score = 27		N = 80	
Variable	Range	Mean	SD
Knowledge score	04- 21	10.01	06.6

Data presented in Table 1 shows that the knowledge score ranged from 04-21 and the mean score was 10.01 with SD

6.6. The mean percentage was 37.22.

Table 2: Area-wise analysis of the knowledge score

Knowledge area	Max. possible score	Mean	SD	Median	Std. Error	Mean %
Definition	2	0.9	0.7	1.00	.08	43.1
General aspects of domestic Waste	6	2.7	1.3	3.00	.15	44.3
Methods of waste disposal	6	1.8	1.3	2.00	.15	29.3
Method of waste utilization	4	1.2	1.2	1.00	.13	30.9
Tips to reduce domestic Waste	4	1.6	0.9	1.00	.10	39.3
Impacts of domestic waste on health	5	1.9	1.2	2.00	.14	39.0
Total	27	10.01	6.6	10.00	0.75	37.65

The data presented in Table 2 focuses on area-wise mean percentage distribution of knowledge score of subjects on waste management. The mean percentage of knowledge score is maximum in the area of “General aspects of domestic waste” with mean± SD of 2.7±1.34 and minimum in the area of ‘method of waste disposal’ with mean± SD of 1.8±1.3.

knowledge regarding domestic waste management.

Conflict of Interest

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

Conclusion

Descriptive and Inferential statistics were used to analyse the data. The analysis revealed that 52.5% of the sample had moderate knowledge regarding domestic waste management with total mean and SD of 10.01±6.6. The overall findings of the study revealed that more than half of the people had moderate knowledge regarding domestic waste management and its impacts on health. Hence, it is concluded that further improvement of knowledge on domestic waste management is needed in this area. The researcher here emphasis that more research is needed to understand how to improve the

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