



## Solid Waste Disposal and its Perceived Effects on Health among the Students of Gauhati University of Assam

\* Dr Kaberi Saha

\* Associate Professor Dept of Education Gauhati University Assam 781014

### ABSTRACT

*This paper attempted to find out the awareness of the students of Gauhati University regarding the awareness of the solid waste disposal and its perceived ill effects on their health. Altogether 300 students (Boys =140, Girls = 160) were selected from the hostels particularly from the arts and commerce streams. The convenience sampling techniques was used. Described survey method was adopted in collecting data. Self made questionnaire was developed ( $r = 0.56$ ) consisting of two areas namely (1) Awareness status, (2) Perceived illness. The data were analysed by using simple percentages as well as Chi square test. The study revealed that though the students are aware about the solid wastes and its disposal but they are not so much concerned about its effects on health. They are also suffering from different health problems like dysentery, diarrhea, dengue, skin infections, eye infections which are spread indirectly by flies and rats from solid wastes. Solid wastes are found to be critical problems for the city dwellers of the beautiful Guwahati city of Assam. Government as well as the private bodies should come forward to make proper strategies for the dumping of the solid wastes which are a major concern for the health hazards of the city dwellers.*

**Keywords :** Solid waste, health hazards, pollution, Guwahati city

### Introduction:

Solid waste consists of highly heterogeneous mass of discarded solid materials from the community as well as the more homogenous accumulation of agricultural industrial and mining wastes. Solid waste are those waste which are seen littered everywhere, which cannot be used further, neither be transported by water or not readily absorbed in the environment. This dumping of solid wastes has two major effects (i) it's pollute air water as well as soil. (ii) human health hazards. This paper will try to focus on the awareness of the students of Gauhati University regarding the solid waste disposal and its perceived ill effects on their health.

Guwahati city is a beautiful city and situated on the bank of mighty river in the north eastern part of our country. The city is famous for its tea industries as well as its lush green natural beauty. At the same time the city is one of the few unplanned cities of our country. In this city the Guwahati Municipal Corporation (GMC) though established in 1974 but till today do not have proper plan for the disposal of solid waste. Presently the dumping site of Boragaon is being used by GMC for dumping the solid waste. But it is pity to note that, due to lack of proper planning dumping ground has been selected near the famous wetland, "Deepor Bill" for which the ground water level are becoming contaminated. According to the recent report, the city of Guwahati generates more than 500 metric tons of solid waste daily which is a great concern for the city dwellers. Different studies have been made in this regard. Some of the worth mentioning studies are done by Sharma Bidula (2001-2002), Goswami Utpal (2007), Goswami U and H.P.sarma (2007), Saha K., and Goswami U, panda K.s. and so on. The summary of the study revealed that the awareness regarding the solid waste and its disposal was not upto the mark. The practices of solid waste disposal in Guwahati city are highly unscientific and posing serious health hazards particularly to the city dwellers. Hence the study has been taken with the following objectives. -

### Objectives;

1. To study the awareness status of the university students about the solid wastes disposal.

2. To study the effects of those solid waste in terms of perceived illness.
3. To study whether there exists any significant differences between the boys and girls regarding their awareness.

### Method:

Descriptive Survey method was adopted for the present study.

### Population and sample:

All the students of Gauhati University of the arts and commerce streams are the population of the present study. 300 sample are selected (Boys = 140, girls 160) were selected on the basis of the convenience sampling methods and the full responses of the questionnaire given to them.

### Tools:

Self made questionnaire having two aspects were used

- (i) 10 questions regarding the awareness status of the solid waste disposal
- (ii) 10 questions regarding the awareness of the perceived health hazards generated from the solid waste disposal.

### Reliability and validity of the Questionnaire

The said questionnaire was standardized by using test retest method (0.56) and validity was found by consulting with the faculties of the Environmental Science Department of Gauhati University.

### Data Collection:

Altogether fully responded 300 questionnaire (girls =140, boys =160) were taken into consideration for analysis.

### Results and Discussion

#### Objective No1. Awareness Levels

Table 1 reveals the awareness of boys and girls of university regarding the solid waste disposal citing in the objective no 1

From the table it is observe that 44.28 % boys and 37.5% girls are aware about the significance of the 5<sup>th</sup> June celebration. 64.28% and 57.5% have don't have proper concept of solid

waste. The students of Gauhati University are however experienced the ill effects of the solid waste. They viewed about the scientific disposal of the solid waste. The students however unaware about the systematic and eco friendly method of

solid waste disposal and also only 27.145 boys and 15.62% girls are aware about where the solid waste of Guwahati city dumped.

**Table 1: Awareness of Boys and Girls Boys and Girls regarding solid waste and the respective Chi- Square values**

Sl. No	Statements	Responses						
		Boys (140)		Girls (160)				
		Yes	NO	Yes	No	F <sup>3</sup>	χ <sup>2</sup>	Level of significance
1.	Do you know why we celebrate 5 <sup>th</sup> June	62 44.28%	78 55.71%	60 37.5%	100 62.5%		1.42	NS
2.	Do you know about solid waste ?	50 35.71%	90 64.28%	68 42.51%	92 57.5%		1.44	NS
3.	Solid waste can contaminate water and air ? Do you know ?	58 41.42 %	82 58.57 %	70 43.75 %	90 57.5		1.44	NS
4.	Do you know environmental pollution can be created by solid waste ?	68 48.57 %	72 51.42 %	68 42.5 %	92 57.5 %		1.15	NS
5.	Do you know about the systematic and eco-friendly methods of solid waste disposal ?	42 30 %	98 70 %	30 18.75 %	130 81.25 %		3.96	0.5 %
6.	Do you think that disposal of any types of wastes should be could in a scientifically ?	90 64.28 %	50 35.72 %	96 60 %	64 40 %		0.57	NS
7.	Are you in favour of dumping the garbage in the road side ?	15 10.71 %	125 89.28 %	46 28.75 %	114 71.85 %		10.17	0.1 %
8.	Do you think that awareness regarding solid waste disposal is essential ?	120 85.71 %	20 14.28 %	110 68.75 %	50 31.25		9.00	0.1 %
9.	Solid waste is the main factor of human health hazards, yes or No	52 37.14 %	88 62.85 %	58 36.25 %	102 63.75		0.02	NS
10.	Do you know where the solid wastes of the Guwahati city dumped ?	38 27.14 %	102 72.85 %	25 15.62 %	135 84.37		4.15	0.5 %

$$df = (r-1) (C-1) = (2-1) (2-1) = 1$$

at 5% = 3.841

1% = 6.635

The students however unaware about the systematic and eco friendly method of solid waste disposal and also only 27.145 boys and 15.62% girls are aware about where the solid waste of Guwahati city dumped.

The above data indicates that though the awareness level regarding the solid waste disposal among the students are moderate but their concern about their concern about the solid waste and their disposal is not up to the mark.

#### **[B] Objective No 2. Perceived effects on health due to dumping of solid waste**

Table 2 reveals the percentages of perceived illness which may be caused from the unhygienic and non scientific ways of dumping of solid waste. It is to be noted that these diseases are generated indirectly from flies, mosquitos as well as rats.

**Table 2 Perceived Effects on Health due to dumping of solid waste**

Sl No	Health Hazards	Suffered frequently	Suffered often	Never suffered
1.	Bacillary Dysentery	34%	46%	20%
2	Amoebic Dysentery	55%	46%	20%
3	Diarrhea	42%	46%	12%
4	Viral fever	70%	20%	10%
5	Dengue	1%	0%	99%
6	Encephalities	0	0	0
7	Plague	0	0	0
8	Cholera	0	2	98%
9	Eye Diseases	64%	36%	0
10	Skin Infection	53%	24%	23%

These may also due to the contamination of water as well as transferred to human being from the human faces by flies to food or water. From the table 2 it has been observed that the students mostly suffers from viral fever followed by eye and skin diseases They suffered from dysentery and diarrhea during the time of flood particularly in rainy season.

#### **[C] Objective 3 Whether there is significance difference between boys and girls**

Table 1 given on reveals that regarding the awareness of solid waste , there exists no significant difference between boys and girls. But it is interesting to note that, the awareness level regarding the systematic and eco friendly method of solid waste disposal the opinion varies . The difference of opinion found to be significant at .05% level (X<sup>2</sup>= 3.96) . There is also a significant differences in the responses of boys and girls (X<sup>2</sup> = 10.17) ,at 1% level , which indicates that both of the groups are not in favour of dumping the solid waste in the road side. The views regarding the awareness of solid waste among the public is also found to be significant at .01% level(X<sup>2</sup> = 9).

It is pity to note that most of the students of Gauhati university do not know where the 500 metric tones of solid waste are used to dump in the city of Guwahati.

#### **Conclusion :**

The investigator focuses her study to know the awareness level and the perceived ill effects of the solid waste and its disposal in the city of Guwahati which is a beautiful state in north eastern region of our country. The city is suffering from different types of environmental problems, particularly from different types of pollution due to increase number of vehicle and unhygienic methods in dumping the solid waste. Guwahat Municipal Corporation (GMC), though established in 1974 still GMC is yet to develop a more scientific way of dumping the solid waste.

From the study it has reveal that most of the student is either not aware or not concerned about this pertinent issue as this is creating a great health hazards among the city dwellers. Hence it is essential in the part of the government, NGOs as well as the Environment Science Department of the Gauhati University to create awareness programme to the youth of Gauhati University as well as to the mass people of the city.

The Govt. of Assam should immediately take steps for proper ways for collecting waste ,proper transportation and scientific disposal practice to save the environment as well as the city dwellers from health hazards. Government should also encourage the private sector to join hand in the cleaning drive of the City which in turn can make our city a clean and green one.

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