# Knowledge, Attitude and Practices regarding Waste Management in Selected Hostel Students of University of Rajasthan, Jaipur

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## ABSTRACT

The risk of unhealthy disposal of solid waste is one of the important problems in many societies. Environmental knowledge attitude practices of young people (like students) appears to be crucial as their point of view ultimately plays an important role in providing solution to future environmental problems. The study was conducted aiming to find knowledge attitude and practices of University students with respect to waste management. Total 300 students were included in this study. Data collected by self administered questionnaire and analyzed, using 't' test. It was found that knowledge attitude and practices of University students regarding waste management was low, less favorable and moderate respectively and correlation between knowledge and attitude, attitude and practices was not found, but significant correlation was found between knowledge and practices.

**Keywords:** Knowledge, attitude, practices, waste.

## INTRODUCTION

With the development of civilization and globalization drastic changes have come in our life style and in every activity like education, recreation, traveling, feeding, clothing and housing, we are generating lots of wastes. The modern 'culture of consumerism' has aggravated the waste problem. To this has added the culture of 'disposable' where large number of goods in the society is being manufactured for 'one time use' and to be discarded as waste after use. These wastes products create particularly serious problems for the municipalities and its safe disposal is becoming a serious environmental problem and an ecological crisis is slowly brewing up, threatening to choke the earth and its life supporting systems.

A number of studies have been carried out by various organizations which provide an estimate about the quantity of waste generation in various cities. According to Asokan et al [1] about 960 million tones of solid waste is being generated in India annually, as byproducts during industrial mining municipal, agricultural and other processes. Of this 350 million tones are organic waste from agricultural sources, 290 million tones are inorganic waste of industrial and mining sectors and 4.5 million tones are hazardous in nature.

Unhealthy disposal of solid waste is considered as one of the most important problems in many societies. The problem of waste management has arisen recently in developing countries where there is little history of the implementation of formal and informal community environmental education awareness program.

Environmental attitude of young people appears to be crucial as they ultimately play a direct role in providing knowledge based solutions to in coming environmental problems[3,5].

The few studies conducted regarding children and young people, show that the level of environmental awareness is relatively low [6]. The information acquired is mostly factual in nature and is not systematized.

Begum, R. et al [2] found that majority of the doctors, nurses, and housekeepers have unsatisfactory knowledge and inadequate practice related to health care waste management.

Keeping all this in view, the present study was planned to analyze their knowledge attitude and practices of hostel students regarding waste management.

## MATERIALS AND METHODS

This study attempts to identify the knowledge attitude and practices of University hostel students regarding waste management. Total 807 students were residing in selected girl's hostels out of which 300 students were selected for study. The selection of the respondents was done by stratified sampling method. Students were divided into strata according to their level of education (PG and UG). 150 students from UG hostels and 150 students from PG hostels

were selected by selecting every 3rd number from the list of students. Then each of these strata was further subdivided according to their stream of education viz Sc and NonSc and 75 students from each stratum were selected. The self administered questionnaires were used to identify knowledge attitude and practices of University students in the study area. Before it was used, the questionnaire was pretested in the pilot study. Split half method was used to calculate the reliability. Reliability of the questionnaire was .96, .94 and .96 for knowledge attitude and practices questionnaire respectively. Information collected through questionnaire included (1) General information on respondents including age, education, family type and size etc. (2) knowledge regarding waste management (3) attitude regarding waste management (4) practices regarding waste management.

The respondents were well informed about the purpose of the study and about the questionnaire by the research investigator prior to data collection. After collecting data, data were edited and tabulated before data analysis.

Descriptive statistics i.e. percentage, mean and standard deviation were used to describe studied variables. 't' test and correlation tests were used according to the objective of this study.

## RESULTS AND DISCUSSION
### Knowledge regarding waste management
Knowledge about waste management was enquired using (300) questionnaire. The responses were given scores and thus the students were categorized as possessing low, medium and high level of knowledge. It was found that 162(54%) of the respondents could be classified as possessing low knowledge, whilst 138(46%) students were having medium level of knowledge regarding waste management (Table-1).

### Attitude regarding waste management
The responses on attitude were classified into less favorable, favorable and most favorable. It was highly striking to note that majority of hostel students (64.33%) had less favourable attitude towards waste management and only 6.10% (Table-1) were found to have most favourable attitude.

### Practices regarding waste management
The responses to practices by respondents are shown in Table-1. Those who had good practices were assumed to be managing the waste in proper manner and be able protect themselves and environment from negative impact of waste. From the results of this study it was found that only 1.33% of the respondents could be classified as having good practices, whilst more than half of the respondents had moderate practices and nearly half of the respondents 140 (46.66%) were found to have poor practices towards waste management. This indicates that they need to improve their practices regarding waste management.

Hebel-Ulrich, Maja[8] has found that many responses regarding knowledge indicate that the awareness about hygiene exists, but is not being practiced. Also the observation of several risk behaviors, such as open defecation, lack of personal hygiene and irresponsible waste management suggests the need for hygiene educational program.

### Factors influencing knowledge of the respondents
Factors influencing included in this part of the study were level of education and stream of education. 't' test was used to find out the difference in knowledge scores according to their level of education and stream of education. It can be observed from the Table-2 that there was a significant difference in the knowledge regarding waste management base on educational levels of the respondents. It means that PG students have higher scores of knowledge as compared to UG students. Saini, S. et al [11] measured the knowledge regarding biomedical waste management. Their results show that consultants, residents, and scientists respectively have 85%, 81%, and 86% knowledge about the bio medical waste management. Nurses and sanitary staff, operation theatre and laboratory staff have respectively 60%, 14%, 14%, and 12% awareness of the subject. This shows that the people with higher education have more awareness about the waste management issues. A significant difference was also observed between Sc and NonSc students which signify that stream of education makes an impact on knowledge regarding waste management. According to Ehrampoush, M.H. et.al. [4] the knowledge of the students regarding waste management was not appropriate. About 66% of students did not participate in segregation and recycling of solid waste.

### Factors influencing attitude of the respondents
It was found that level of education did not make any impact on attitude of the respondents regarding waste management as no significant difference was observed between UG and PG students regarding attitude as shown in Table-3. Paengkaew, W. et.al [9] observed that majority of Asian students appeared to have lack of environmental consciousness and attitude needed to protect their environment. Therefore it is important to develop skills, awareness, and attitude and put in to practice.

But stream of education is showing a significant difference on attitude. This may be due to that Sc students have some chapters on environmental pollution and waste management in their course and therefore they are little aware

regarding waste management. As per the study done by Saini, S. et al [11] measured the attitude regarding biomedical waste management of doctors, nurses, and other support staff. They found that the people with higher education and knowledge have better attitudes towards the subject.

**Factors influencing practices of the respondents**

Practices of students were affected by both the variables i.e. level of education and stream of education. To find out the difference both the variables 't' test was performed and 't' values were found to be 3.86 and 4.14 (Table-4) for level of education and stream of education respectively. From 't' values a significant difference between UG V/s PG and between Sc V/s NonSc was found suggesting that level and stream of the respondents affect the practices regarding waste management. Pothimamaka, J. (2008) found that more than half of the house holds had no waste separation practices and they concluded that their practices were not appropriate towards solid waste management and people must be taught to deal with solid waste by separating it in their homes, schools and work places.

**Association between knowledge, attitude and practices regarding waste management.**

Pearson 'r' correlation test was used to find out the association between knowledge, attitude and practices regarding waste management. As shown in Table-5 it was observed that there was a significant association between knowledge and practices with the correlation coefficient of 0.167 at 0.01 levels. It means those who possess good knowledge also have good level of practices, thus are able to manage the waste in proper manner.

Grodzinska Jurczak,M.S and Friedlin, K. [6] also found that a correlation between the level of students' knowledge and their activities was found regarding waste management.

According to the Table-5 no significant association between knowledge and attitude with correlation coefficient of 0.04 and attitude and practices with correlation coefficient of 0.003 was found for waste management. Same results were found from Wai, S. Tantrakarnapa, K and Huangprasert, S. [12] that there was a significant association between knowledge and practices with correlation coefficient of 0.39 and knowledge and attitude with correlation coefficient of 0.289. But there was no significant association between attitude and practices for environmental sanitation.

## CONCLUSION

The majority of the respondents have unsatisfactory knowledge attitude and inadequate practices related to waste management. This study has shown a need to improve the knowledge about waste management to protect environment from negative impact of waste. It is recommended to implement the need based training programme for students at their school hostels and work places.

Table-1: Knowledge Attitude and Practices regarding waste management

| S.No. | variables | Category | Number | (%) |
|---|---|---|---|---|
| 1. | Knowledge | Low | 162 | 54 |
| | | Medium | 138 | 46 |
| | | High | - | - |
| 2. | Attitude | Less favourable | 193 | 64.33 |
| | | Favourable | 89 | 29.66 |
| | | Most favourable | 18 | 6.10 |
| 3. | Practices | Poor | 140 | 46.66 |
| | | Moderate | 156 | 52 |
| | | Good | 4 | 1.33 |

Table-2: Factors influencing Knowledge of the respondents

| S.No. | Factors | Mean | S.D. | 't' value |
|---|---|---|---|---|
| 1. | Level of education | | | |
| | UG | 10.21 | 2.73 | |
| | PG | 10.87 | 2.95 | 2.00* |
| 2. | Stream of education | | | |
| | Sc. | 11.09 | 2.86 | 3.38* |
| | NonSc | 9.99 | 2.76 | |

\* Significant   \*\* Non Significant

Table-3: Factors influencing Attitude of the respondents

| S.No. | Factors | Mean | S.D. | 't' value |
|---|---|---|---|---|
| 1. | Level of education | | | |
| | UG | 62.61 | 22.02 | |
| | PG | 66.31 | 23.44 | 1.40** |
| 2. | Stream of education | | | |
| | Sc. | 67.17 | 24.15 | 2.06* |
| | NonSc | 61.75 | 21.05 | |

* Significant   ** NonSignificant

Table-4: Factors influencing Practices of the respondents

| S.No. | Factors | Mean | S.D. | 't' value |
|---|---|---|---|---|
| 1. | Level of education | | | |
| | UG | 20.09 | 8.00 | |
| | PG | 23.18 | 5.03 | 3.86* |
| 2. | Stream of education | | | |
| | Sc. | 23.29 | 7.38 | 4.14* |
| | NonSc | 19.99 | 6.37 | |

* Significant   ** NonSignificant

Table-5: Association between variables

| S.No. | Variables | Co-efficient of reliability |
|---|---|---|
| 1. | Knowledge and Practices | 0.16* |
| 2. | Knowledge and Attitude | 0.04** |
| 3. | Attitude and practices | -.003** |

* Significant    ** Nonsignificant

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