



# “A study to assess the Knowledge on hazards of plastic use among residents of selected Urban Community of Gurugram”

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## Abstract

### Introduction:

Plastic is nowadays become very common part of our daily lives. Production of Plastic have enhanced worldwide. The consumption of plastic in India increased from 61 thousand tons in 1996 to 1.78 million tons in 2017, which is a huge number. With the vast production of plastic has evolved from the use of Natural Plastic material to the use of chemically modified natural material and finally to completely Synthetic Materials. Most of the plastic are durable and degrade very slowly as they are carrying chemical structure that renders them resistance to the natural processes of degradation. As Plastic waste never degrades, and remains on landscape for several years. Mostly, plastic waste is recyclable but those recycled products are more harmful to the environment as this contains additives. The recycling of a plastic material can be done 2-3 times only, because after every recycling, the plastic material deteriorates due to thermal pressure and its life span is reduced. As recycling is not a safe and permanent solution for plastic waste disposal.

**Methods:** Non experimental descriptive survey research design for the study. Sample comprised of 300 residents of selected urban community of Gurugram city. Non probability convenience sampling technique was used for the study. A self-structured knowledge questionnaire on hazards of Plastic use was used. The tool is divided in two sections. Section I is dealt with demographic performa of the sample. Section II was self- administered structured knowledge questionnaire comprised of thirty multiple choice questions in four domains on knowledge of hazards of plastic use, after permission from the concerned authority. Data was collected using self-administered questionnaire and analyzed by SPSS software.

**Result:** Results of the study showed that majority of respondents have average knowledge (50%) , (26.6)% respondents have good knowledge and (23.4%) respondents have poor on hazards of Plastic use.

**Conclusion:** The present study revealed the residents had considerable average knowledge regarding hazards of plastic use. There should be enhancement is required to increase the knowledge on all aspects of hazards of plastic use.

**Key words:** Knowledge, Recycle, Plastic, Hazards, Community, Synthetic material.

### Introduction :

Plastic are made up of group of material i.e synthetic or naturally occurring, that may be shaped when soft and then later on it will be hardened to retain the given shape. The development of plastic has evolved from the use of Natural Plastic material to the use of chemically modified natural material and then finally to completely Synthetic Materials. Most plastic are durable and take lots of time as their chemical structure renders them resistance to many natural processes of degradation. Plastic products have become very common part of our daily lives. Due to which the production of Plastic have enhanced all over the world. On an average 150 million tons of Plastic is produced globally. After degradation of the Plastic it is termed as Plastic Waste and it is a fact that plastic waste never degrades and remains in landscape for several years. With the largest population, China is one of the country who produces largest quantity of Plastic on an average of 60 million tons. It is followed by United States and Germany. In India, it generates 9.4 million tons of Plastic Waste in a year out of which 5.6 million tons per year is recycled and 3.4 million tons per year is left and collected or littered. All over the world North America is the highest

consumer of Plastic at 90kg/ person and India it is 5kg/person. Plastic consumption in India increased from 61 thousand tons in 1996 to 1.78 million tons in 2017, which is a huge increase.

### Need of the Study

Plastic waste causes a threat to environment and health problem in human and animal. Due to the non-biodegradable nature of plastic there is negative impact. The negative effect in human beings include birth defect, impaired immunity, endocrine dysfunction, etc. Not only the humans who are known to be a threat to marine organism as well. In the late 20's it has become to light micro plastics who also disrupts the normal functioning of living organism. India recycles 60% of its Plastic Waste, which the highest number in the world. Government of India put forward Plastic Waste Management and rule in 2016 which was revised in 2018 which is applicable to all states of India. According to which, the main responsibility of humans is to reduce the use of plastic for the recovery and landfill. Increasing the awareness and participation is the way forward for reducing the negative impact of Plastic Pollution. A study conducted in Tamil Nadu among Professional students on Knowledge and Practice regarding plastic pointed out that 46% of students had good knowledge but 27.6% only followed good practices. Though knowledge was good their practice and terms of disposal was less. A study conducted in Delhi that 76.4% of individual considered of plastic as a threat, but only 40.3 % considered paper bag as an alternative. It also remarked that only 48% housewives had attended some sort of sensitization programme related to plastic waste management. A descriptive study conducted in 2012 among homemakers of urban area in Mangalore, India found that 71% had inadequate knowledge about plastic waste management, also least profession of knowledge was in the area of use and reuse of plastic . A study conducted on hospital based survey, in order to reduce plastic waste, the popularity of plastic waste management among the public has to be changed. These researches show that increasing knowledge and creating positive and long lasting behavioral change among the public. This study undertaken to find out the knowledge about the plastic waste management among residents of Gurugram.

### Aim of the Study

“ To assess the Knowledge on hazards of plastic use among residents of selected Urban Community of Gurugram city”

### Objectives:

- To describe the socio demographic characteristics of residents of urban community of Pune city.
- To assess the Knowledge on hazards of Plastic use among residents of selected urban community of Pune city.

### Methodology

Research approach:

The research approach for this was quantitative approach.

Research design: Descriptive research design was chosen for this study.

Research setting: Setting of the study will be conducted in urban community of Gurugram city.

Population: Population in the study was the residents of selected urban community of Gurugram city. Sample size : Study comprised of 300 residents of selected urban community of Gurugram city. Sampling technique : Non probability convenience sampling technique was used for the study.

### Sample selection criteria:

#### Inclusive criteria:

- Residents of Urban community
- Age of residents to be above 18 years of age.
- Residents who can read and understand Hindi and English.

#### Exclusive criteria:

- Residents of Urban community who are not willing to participant

### Data collection tool:

**Section-I** Frequency and percentage distribution of demographic variable

**Section-II** Assessment of level of Knowledge of the residents of selected area of Gurugram city on hazards of plastic use.

**Validity of the tool:** Through literature review and expert consultation , the validation of the tool was confirmed.

**Reliability of the tool:** After pilot study reliability of the tool was assessed by using split half method and its correlation coefficient  $r \pm$ value is 0.80. This correlation coefficient is very high and it is an adequate tool for assessing the Knowledge on hazards of plastic use among residents of selected Urban Community of Gurugram.

**Results :** Majority of respondents had average knowledge (50%) , (26.6%) respondents had good knowledge and (23.3%) respondents had poor knowledge on hazards of Plastic use.

**Table I –Assessment of level of Knowledge of the residents of selected area of Gurugram city on hazards of plastic use n=300**

S.No	Level of Knowledge	Frequency	Percentage
1.	Poor (1-10)	70	23.4%
2.	Average (11-20)	150	50%
3.	Good (21-30)	80	26.6%

Result shows the level of knowledge on the basis of frequency and percentage among residents of urban community of Gurugram city that (50% ) majority of respondents have average knowledge,(26.6%)respondents had good knowledge and (23.3%) respondents had poor knowledge.

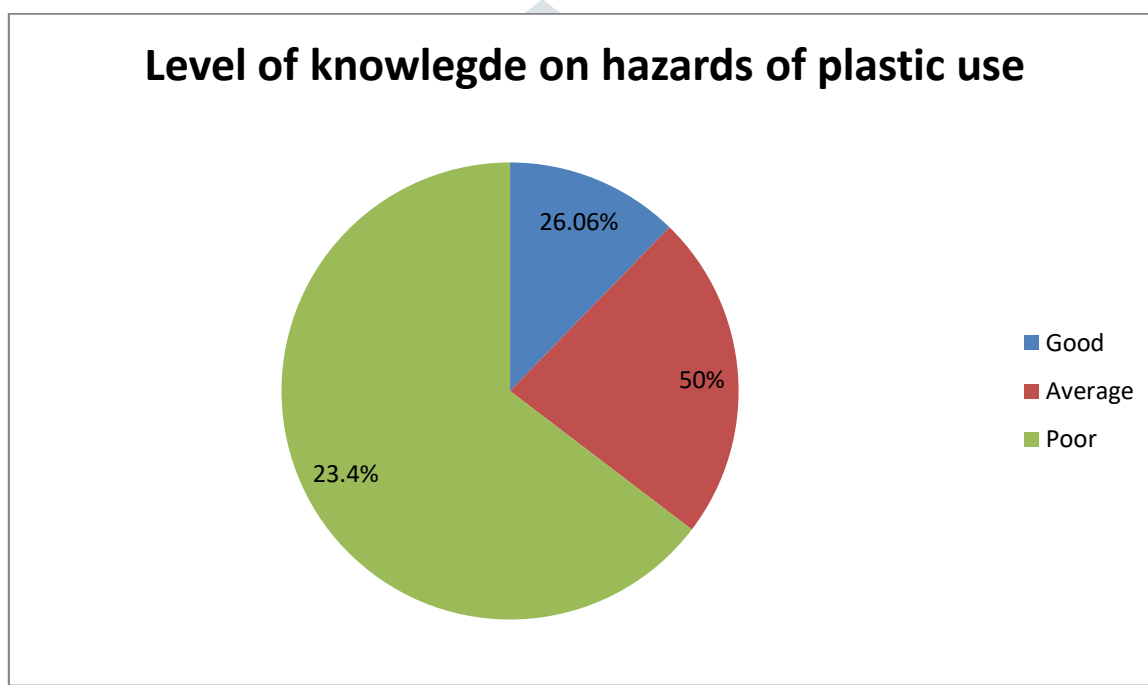


Figure I

**Table II-Mean and Standard Deviation of knowledge scores regarding plastic use among urban community in Gurugram city N=300**

Variable	Mean $\pm$ SD
Knowledge	15.90 $\pm$ 4.22

The data presented in table II shows that the mean $\pm$  standard deviation of knowledge score regarding plastic use among urban community in Gurugram city is 15.90 $\pm$ 4.22.

### Discussion:

In present study shows that the urban community residents have average level of knowledge related to hazards of plastic use. Similar findings been revealed in the study of Malathi on knowledge assessment among adolescents on hazards of plastic use .Their study findings says that adolescence has average knowledge on hazards of plastic use. Another study also has similar

findings on awareness of hazards of The present study was conducted to assess the knowledge and attitude regarding regarding plastic use and its health effects among nursing students.

The present study finding indicate that more than half students (59%) have average knowledge which is contradicted to the findings of the study done by N. Srinivasam and et al. which indicated that less than half students (48%) have average knowledge.

The present study findings indicated that majority of students (80.3%) had moderately favourable which is similar to the findings of the study done by Ali haider and et al<sup>49</sup> which indicate that majority of the students (85%) had moderately favourable attitude.

The present study findings indicated that maximum number of students (37%) belongs from age group of 18 year which is similar to the findings of the study done by Mr. Paralhad V Iddalagi<sup>43</sup> which indicated that maximum number of students (47%) belongs to age group of 18 year.

The present study indicated that majority of students (86.7%) were having academic qualification of senior secondary which is not contradicted to the findings of the study done by Nitin joseph and et al. which indicated that majority of the students (89%) were having academic qualification is graduation

The present study revealed the residents had considerable average knowledge regarding hazards of plastic use. There should be enhancement is required to increase the knowledge on all aspects of hazards of plastic use  
There is a need for spreading the awareness of using alternative strategies and effective implementation of legislation in order to minimize the usage of plastics in the community.

## Conclusion

This study concluded that 53.3% of subjects was in the age in the age group of 26-35 years whereas minimum in the age group of 51 and above age group. Majority of respondents were male (76.6% ) and (23.4%) was males. Majority of respondents were graduate (33.3% ) and 30% were illiterate . Majority (33.3% )were professionals. On the basis of level of frequency and level of knowledge among residents of urban community of Gurugram city that (50%) majority of respondents have average knowledge,(26.6%)respondents had good knowledge and (23.4%) respondents had poor knowledge percentage among residents of urban community in Gurugram. The present study revealed the residents had considerable average knowledge regarding hazards of plastic use. There should be enhancement is required to increase the knowledge on all aspects of hazards of plastic use. This is the main responsibility of us as humans is to reduce the use of plastic for the recovery and landfill. Increasing the awareness and participation is the best way to look forward for reducing the negative impact of Plastic Pollution. Prevention of plastic hazard and proper waste management helps in the tremendous environmental and human health effects. India is emerging as a leader, given its one of the highest recycling rates in the world.

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