

Impact of Plastic Bags Usage on the Environment

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Abstract: The non-degradable nature of plastic bags is posing a wide range of serious environmental and health deteriorations and hence are considered to be a big problem in waste management. This study was carried out to determine the popularity, usage, disposal and environmental impacts of plastic bags. Thousands of plastic factories are producing tons of plastic bags used for shopping purposes because of its cheapness and convenience of use. but it is very hazardous and has not been discussed anywhere openly. Many countries have banned plastic bags due to negative impact on the environment and agriculture, especially, in agricultural countries, such as Bangladesh, India, Pakistan, South Africa, etc. The most common impact is blockage of sewage and drainage system which leads to road pavements, human health problems and animal deaths. A semi-structured questionnaire was used to collect the data from 220 students of Mamata college, Khammam in 2019. Among which 34 are Male and 186 are female. The results indicated that despite of age, gender and occupation most of the respondents % were using plastic bags for their groceries. About 44% of the respondents were using 20-30 bags per week and this is why 32% of the solid waste was composed of plastic waste.

Keywords: Plastic Bags Usage

1. Introduction

Plastic bags have been introduced in 1970's and available in different varieties across the world. Almost 500 billion plastic bags are manufactured every year. as they are cheap and convenience to use many people prefer to use them and dispose after every single use. The vast majority of these bags are discarded as wastes usually after a single use. Plastic bags can persist up to 1000 years to degrade and hence pose a disposal challenge without being decomposed by sunlight/microorganisms. Accumulation of them causes environmental pollution. it disturbs the natural beauty of an environment. [1]

The global environment is changing day by day and has become a challenge to daily life style because every nation developing their countries without taking into consideration of environmental impact of degradation and pollution of agricultural lands. More and more factories are being steadily established and harmful chemicals and materials are being used

in the production process. People are using plastic bags, which are environmentally dangerous for daily needs mainly for shopping purposes as a result of which, the environment and agricultural lands are being polluted. Emission of carbon dioxide has increased by 2 percents from 1990 to 2006, but the emission of poisonous gases in their residential sectors have increased to about 24 percents (US Environmental Protection Agency [EPA], 2008). [2]

After their entry to environment, plastics resist biodegradation and pollute for many decades and centuries effecting to human health and environment. They are resistant to moisture, travel long distances because of their light weight, block drains during rains, and may also trap birds. Plastics cause —visible pollution as they contribute to large volume of total municipal solid wastes and are major threat to air, oceans, soil, livestock, marine life. Approximately, 95% of urban stray cattle in India are suffering from various ailments due to hazardous materials, mostly plastic bags inside their abdomen. These plastics reduce the rain water percolation, affecting the ground water. We will present this research in order to provide a vision to address the effects on our environment, we have surveyed plastic bags and its disadvantages.

2. Methodology

A cross-sectional survey was designed among 220 students of Mamata educational institution, Khammam, Telangana from 3-June-2019 to 20-June-2019.

A self-structured 15-item questionnaire with the title 'IMPACT OF PLASTIC BAGS ON ENVIRONMENT' was used for data collection. The questionnaire was explained and informed consent were taken prior to the study from study subjects.

Total number of students present during the survey conducted were 220 students which includes both male and female of ages between 21 to 25 years.

Permission was taken from the head of the department of public health dentistry.

All the third year, final year, interns of Mamata educational

institution were present during the day of survey and not willing to participate were excluded.

The background questionnaire included questions on a range of demographic variables such as age, gender and course of study. Statistical analysis was done by using SPSS 25 data was analyzed using descriptive statistics. Chi-square test was done to know the association among categorical variables.

3. Results

	Frequency	percentage
Male	34	15.5
Female	186	84.5
Total	220	100.0

Total number of participants were third year, final year and interns were 220(100%) among them 34 are males (15.5%) and 186 are females (84.5%). Mean age group of study group is 22.52 and standard deviation is 1.435. 60% participants in study admit that they have used plastic bags and noticed an impact on their ongoing social life, 40% suggested that they were neither much affected from plastic bags usage.

Table 1 shows majority of the students(60%) answered yes while 32.3% of the students answered sometimes and very least value of 6.4% people said no. Hence, statistical significance was observed (p-0.002) Majority of females (115%) answered yes, while majority of boys (17%) answered positively.

A. Do you use plastic bags?

	Frequency	Percent
Yes	132	60.0
No	14	6.4
Sometimes	71	32.3
Never	3	1.4
Total	220	100.0

Table 2 shows majority of the students (66%) answered sometimes while the rest 27% answered always. Hence statistical significance was observed (p-0.058) majority of the females (123%) answered sometimes and majority of the males (23%) also answered sometimes

B. How often do you use plastic bags?

	Frequency	Percent
Yes	55	25.0
No	146	66.4
Sometimes	15	6.8
Never	4	1.8
Total	220	100.0

Table 3 shows majority of the students (72.3%) answered dust bin and (14%) answered recycle. While (10%) answered litter. Hence statistical significance was observed (p-0.005).

Majority of the females (141%) answered dustbin and majority of the males (18%) also answered dustbin.

C. After you have finished using plastic what do you do with it?

	Frequency	Percent
Dust bin	159	72.3
Recycle	31	14.1
Litter	23	10.5
Sell it to radi	7	3.2
Total	220	100

Table 4 shows majority of the students (71%) answered dust bin and (19%) answered some use is made of it and the rest answered Dump ground. Hence statistical significance was observed (p-0.006). Majority of the females (141%) answered dustbin and majority of the males (18%) answered dustbin.

D. After you use plastic ware where do you dispose them?

	Frequency	Percent
Dustbin	157	71.4
Some use is made of it	42	19.1
Dump ground	20	9.1
Land dill	1	.5
Total	220	100.0

Table 5 shows majority of the students (47.3%) answered sometimes and (20.9%) some answered usually (15.9%) while some answered always. hence statistical analysis was observed (p-0.022) majority of the females (96%) answered sometimes and majority of the males (9%) answered usually.

E. How often you take your own fabric shopping bags with you?

	Frequency	Percent
Always	35	15.9
Sometimes	46	20.9
Usually	104	47.3
Never	35	15.9
Total	220	100.0

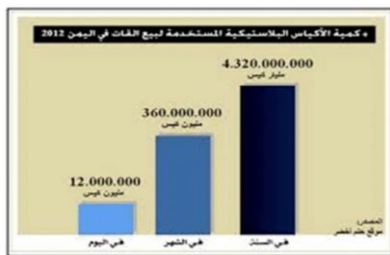
4. Discussion



It's very difficult to impose complete ban on plastic bags use and plastic packing until there is fully equitable alternative available. The four R's as feasible options for achieving reduced material use and waste generation are Reduction, Reuse, Recycling and Recovery. Presently only reduce and reuse option are feasible. As there are no recycling units for plastics in some nearby areas, there is no practice of collecting and selling these products to junk dealers.

The local consumption of plastic bags has increased to the extent that the local factories failed in fulfilling more than 40% of the local requirements and the rest 60% was imported. The local studies showed that the main consumption is from the

small bags that are about than 15 microns thick.



A



From the conducted survey, I have an analyzation that 84% of the students in Mamata college are well aware of the uses of plastic bags and its hazardous effect on the environment. I have evaluated a positive culture of Mamata students in controlling as well as aiding in perspective of plastic bag clearance and its disposable intellectuality is quite common among all of them. Whereas a very few percent of Mamata students have expressed there in concern and irresponsibility towards society by lacking their interest and habits in maintaining paper bags, jute bags, biodegradable plastic bags and reusable bags.

5. Conclusion

Through this survey we found a very large amount of plastic bags were used in the market. The prevalence of plastic bags in this way leads to distortion of environment. The disposal of plastic bags in oceans leads to death of many aquatic animals and disturbing the eco system causing irreparable damage to the environment. Plastic bags which are burnt emits toxic substances which is responsible for greenhouse effect due to depletion of ozone layer, due to which increases the temperature of global atmosphere. There are many possible solutions to decrease the usage by imposing a strict law on manufactures educating people and ecofriendly alternatives such as jute bags, paper bags and biodegradable bags. Promoting negative impacts of usage through media, television and its hazardous effects on agriculture lands, environment, oceans, soil, sewage blockage. By this information found that tons of plastic bags were there in streets, roads, markets, environment causing damage to the eco-system.

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