EXTENT OF USE OF EMPTY PLASTIC BOTTLES IN INTERIOR AND EXTERIOR AREAS OF A RESIDENCE BY THE HOMEMAKERS

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ABSTRACT

The gathering and accumulation of enough amount of plastic in an area can cause plastic pollution. Because of its toxic pollutants plastic not only affects the natural environment like soil, water, air etc. yet additionally hurts plants, animals and human beings. Utilization of plastic is expanding day by day. Every single product in the market is available in plastic packaging only. Starting from drinking water bottles to kitchen containers to food items and more, plastic has become an essential part of our day to day existence. One can reduce the use of plastic by avoiding extra polythene bags but we cannot ignore the food items because they are essential for life. Some plastic bottles can be recycled but the others cannot. So it is not a good option to throw them away after use and increase the plastic pollution. Apart from reusing plastic bottles and containers for food and drink purposes, there are various other ways to utilise the empty plastic bottles into some innovative or decorative items. So in order to reduce the rate of plastic pollution various innovative home decoration ideas can be made for interior as well as for exterior. These empty plastic bottles may be of cold drinks, mineral water, catch-up, juice etc. which were already used can be collected and utilised. Various decorative items can be made in such a way that seems to be visually appealing like floral lights, decorative bottles, mosaic artwork/painting, hanging chandelier, decorative lamps, decorative plastic walls etc. for the interior purpose. Whereas use of vertical hanging garden planted with flowering plants for balcony, beautiful colourful pathway for walking made up of plastic bottle caps and fencing made of bottles and decorated with colourful bottle caps for the garden area is best suitable for exterior purpose which looks very beautiful and attractive. It not just increases the beauty of the house but is also environment friendly. The present study aimed at finding out the extent of use of plastic bottles by the homemakers for interior and exterior of a residence. The study was carried out on sample size of 120 homemakers was selected using purposive sampling technique. Descriptive research design was used for conducting the study. The information was collected and gathered by using the questionnaire. The questionnaire comprised of two sections- background information and a scale for extent of use of empty plastic bottles by the homemakers. For analysis of data, descriptive statistics was used. Based on the findings it was found that the homemakers used the empty bottles to a low extent, therefore a booklet was developed and distributed among the homemakers to make them aware of the various uses of the plastic bottles and its importance and implications on environment.

Keywords: plastic bottles, homemakers, innovative use in interior and exterior, homemakers, extent of use
1. INTRODUCTION

Plastic is playing a very important role in our daily life. Even you are inside the house or on the go, it is available everywhere from food items to drinking water bottles to kitchen utensils etc. It is something multifunctional, easy to carry, lightweight and simple to use. Plastic brings tremendous value to modern life and gives a significant lift to the economy. Plastic packaging additionally helps to ensure food safety and limits food waste. The intake of cold drink, soft drinks and packaged products has increased to a very high extent among today’s generation. At the period of need, plastic is seen as exceptionally helpful yet after its utilization, it is simply thrown away, creating a wide range of dangers. As everyone love to have these drinks but the remaining garbage and its disposal is very harmful for human beings as well as the environment and which causes plastic pollution [1]. Various drastic environmental issues have occurred because of improper disposal of plastic. Plastic is ‘a material consisting of any of a wide range of synthetic or semi-synthetic organic compounds that are malleable and so can be moulded into solid objects [2]. It is one of the day by day expanding helpful as well as hazardous materials. Plastic is non-biodegradable that remains as a dangerous material for more than hundreds of years. It is a major threat to the environment, which results in pollution and global warming. Researchers have found that the plastic materials can remain on earth for 4500 years without degradation. In India approximately 40 million tons of the municipal solid waste is generated annually, with evaluated increasing at a rate of 1.5 to 2% every year. Hence, these waste plastics are to be effectively utilized.

Plastics are categorised into 7 different categories and are available in the market. For every plastic bottle a number is assigned ranging from 1 to 7. It can be mentioned anywhere on that package either on the bottom, side, or top. Some plastics rate less toxic and more environmentally friendly and some considerably less so; some are easier to recycle whereas other are not. A highly toxic chemical found in plastic known as BPA (Bisphenol A) which can cause obesity, cancer, and endocrine problems in foetuses and children. So it is very important to be aware about how plastic is affecting our life. Despite the fact that there are a few plastics which are considered as “safe” plastics, yet at the same time everyone should attempt to avoid and stay away from them as much as possible and in place of it glass, metal, bamboo and other such reusable environment friendly materials can be used. Still if you are going to reuse plastics, you need to remember which are less hazardous. Plastics belonging to categories 2, 4 and 5 are considered relatively safe. Plastics classified as number 1, 3, 6 and 7 should be utilized with extreme caution, especially around food or drink. Out of all, plastic 1 is the worst and it should not be reused [3]. When we talk about plastic packages and food containers, each and every single person has drunk from a plastic bottle at any time in their life. It is extremely difficult to stay away from plastics in such a plastic heavy society yet one should try to avoid it as much as possible. If you go to shopping, majority of the products are available in a plastic packaging. There are some most polluting single-use plastic product that are available near us and thus affecting our life badly. In order to avoid them for food purposes numerous strategies can be made to recycle the plastic.

Various incredible designs help to recycle plastic bottles and decorate indoor living spaces on a budget. Plastic recycling is a fantastic and the best way to reuse plastic and adds additional beauty to the home. Plastic bottles/containers can transform into numerous valuable and decorative items. Plastic bottles come in a variety of sizes (like small size, medium size, large size and extra-large size), and shapes, some are heavy and some are light in weight. For home decoration purpose all types are extremely very convenient and valuable to recyclers and crafters because they can make various things, from reused crafts to interior decorations. In every house there is a need for the spacious room whether it is called living room, drawing room or Baithak [4]. Recycling plastic containers and bottles is perfect for making new eco-friendly items for drawing rooms, and gardens. Kitchen is the heart of the home and most of the time of woman is spent within the kitchen only, [5]. In this modern time various innovative ideas has transformed plastic bottles into a wide range of home decorations and artworks which can be used in beautifying kitchens. Plastic bottles are an unordinary but a perfect material for making beautiful frames, dividers, walls, vertical gardens flower pots, decorative artificial trees, bird/pet feeders, greenhouses, making rain curtains and decorative screens. Bottle caps create vivid, impressive, and unique painting and artworks for wall decoration, outdoor pathway for walking and fencing for garden area. It can also be used for planting money plants and other flowering plants that is environment friendly.

In interior, spacing is considered as a very important and significant factor. Interior designing is all about creating spaces that is not only aesthetically appealing but also comfortable and functional [6] Various other items which are decorative as well as functional can also be made which not only look attractive but also help in managing space. These items can be making piggy bank for children, pen/pencil stand, jewellery
stand, children’s crafts, magazine rack, mobile charger basket, mobile phone loudspeaker etc. It will not only save money but you will also enjoy making them. In today’s modern time space planning is not only limited to residential spaces, yet in addition to commercial buildings as well. An ideal space is one that can suit everything as well as give you the desired comfort. So to meet the requirements space planning is very important. Space cannot only be maintained by larger rooms or decorative cum functional furniture but also by different wall colours and use of wall dividers etc. So to achieve the desired effect one can utilize plastics and it costs extremely less too. Keeping all this in mind the present study was conducted.

**Objectives:**

1. To find out the extent of use of plastic bottles in interior and exterior areas of a residence by the homemakers.
2. To prepare a booklet for suggesting the wise use of empty plastic bottles to the homemakers.

**Delimitations**

The study was limited to 120 homemakers living in Baroda city, Gujarat.

### 2. METHODOLOGY

Descriptive research design was used for conducting the present study. The study had two sets of variables, independent and dependent variables. The present study was carried out in Karelibaug area of Baroda city, Gujarat. For the study a sample of 120 homemakers was selected using purposive sampling technique. The information was gathered by using the questionnaire method. The scale comprised of two sections. Section I comprised background information which comprised of name, age of respondent, monthly income of the family, family type and size and education and section II comprised of a scale to find out the extent of use of empty plastic bottles by homemakers under which questions were asked about the various ways in which they used plastic bottles at their home. Analysis of data was done by descriptive statistics.

### 3. RESULTS AND FINDINGS:

The findings are presented as follows:
Section I: Background Information: The mean age of the respondents was found to be 48.42 years. It was found that educational level of more than one half of the homemakers was graduation and slightly less than one third of the homemakers were educated up to 12th class and very few of the homemakers were post graduate. It was found that majority of the homemakers were housewives, very few of homemakers were in job. One fourth of the homemakers belonged to joint family and majority resided in nuclear families. The mean income of total sample was found to be ₹30,642.

Section II: Extent of use of empty plastic bottles in interior and exterior areas of a residence by respondents: The scale consisted of statements regarding extent of use of empty plastic bottles by the homemakers. This section dealt with the frequency and percentage distribution of extent of use of empty plastic bottles made by the homemakers. The scale comprised of 30 statements i.e. (Refilling water, Sprinkling salt/pepper, Storing juices, Storing ketchup/jam/pickles, Planting money plant/flowers, Making decorative bottles, Making floral lights, Making Piggy bank, Pet feeder, Pen/pencil stand, Recycled bird feeders, Bottle sprinkler for irrigation, Making Jewellery stand, Vertical hanging garden, Plastic flowers curtains, Children craft projects, Kitchen storage containers, Magazine rack, As Snack bowls, Mobile charger basket, Mosaic artwork/painting, Making Decorative lamp, Christmas tree, Hanging chandelier, Mobile phone loudspeaker, As finger guard for vegetable cutting, Making plastic walls or any other use, with the three point continuum response pattern. The respondents were asked to state whether they adopted the method “Always”, “Sometimes” or “Never” and ascribed scores were 3 to 1. To obtain the categories of extent of use made, the score range was divided on equal interval basis.

It was found that the extent of use of empty plastic bottles by majority of the homemakers for various household decorative purposes was low. The below table shows that more than 70 per cent of the homemakers fall under low category which means that they do not create some innovative item from the used plastic bottle (table 1). They sometimes fill water in it or just throw it whereas approximately 20 per cent homemakers used bottles to a moderate extent. It was found that they sometimes used bottles for planting money plants, refilling water or other liquid drinks and used it for carrying water during travel (fig 1).

Table 1: Frequency and percentage distribution of the respondents according to extent of use of empty plastic bottles in interior and exterior areas of a residence by the homemakers (n=120)

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Extent of Use</th>
<th>Range of score</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>30-49</td>
<td>95</td>
<td>79.17</td>
</tr>
<tr>
<td>2</td>
<td>Moderate</td>
<td>50-70</td>
<td>25</td>
<td>20.83</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>71-90</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>
As the awareness of the homemakers was found to be very low a booklet was proposed in order to enhance their knowledge and suggest creative and innovative ideas among them. Under the booklet some easy ideas were provided which the homemakers can easily implement at the residences and are very affordable also because all these items are made with waste plastic bottles and bottle caps. This booklet proved important for the homemakers to enhance their knowledge regarding the use of plastic bottles so that plastics can be reused in the houses itself to avoid throw away culture and dumping in the nearby areas.
A Booklet was distributed to the homemakers to enhance their knowledge regarding the effective and decorative use of empty plastic bottles. The links of various innovative ideas were also provided to the homemakers so that they can view the procedure and try all these items in their free time. The following innovative ideas of using of empty plastic bottles in interiors and exteriors were provided to the homemakers. The step by step procedure of making the innovative products was given to them for easy understanding.

1. Plastic curtains
2. Pencil holder
3. Vertical hanging garden
4. Mosaic from bottle caps

Source 1[7]  
Source 2 [8]  
Source 3 [9]  
Source 4
5. Spoon lamp
Source 5

6. Bottle irrigator
Source 6 [10]

7. Planting
Source 7 [11]

8. Pet feeders
Source 8 [12]

9. Mobile phone charger holder
Source 9

10. Piggy bottle bank
Source 10
11. Magazine rack

Source 11 [13]

12. Decorative flowers

Source 12

13. Jewellery stand

Source 13 [14]

14. Pen/Pencil holder

Source 14
4. CONCLUSION

It was found that the extent of use of plastic bottles by the homemakers was very low. Every product in the market comes in a plastic packaging some of which can be recycled and some cannot. People usually throw the plastic bottles after using it. It is not a good idea to just throw it because that results in land pollution. So in order to reduce the plastic pollution various innovative ideas are available everywhere in internet and magazines related to interior and exterior of the household. But many people are not aware that they can utilise the waste plastic bottles into some innovative items. For this purpose a booklet was used to educate the homemakers that a creative touch given to plastic bottles with minimum effort can prove to be of beautiful use in interiors and exteriors of the residence as well as helps in reducing the land pollution. A small step taken by each researcher in the direction of protecting the environment can prove to be of great use in saving our mother earth. The homemakers are the key members of any household responsible for majority of the household work and all the decisions related to purchases are taken by them. The homemakers can inculcate the values held by the key member of the family that is the homemaker in the other family members and more so in case of the children who are future of our country. Therefore a small step taken in this direction to reuse the plastic bottles can go a long way to save our mother EARTH from pollution and other problems. A positive feedback was received from the respondents and they were shocked seeing the beautiful objects made from the throw away plastic empty bottles. All were requested to make other creative products from the empty bottles and to send pictures to the researcher so that they can be invited as resource persons for Creative workshops on teaching making such innovative objects to the school children and college students which motivated them and boosted their morale. Such Initiatives though small can be of great help to motivate general masses to reuse the waste things available which can otherwise create some or the other kind of pollution for our earth.

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