

# Consumption pattern of environment and skin friendly cleansing agents for ceramic tile surfaces

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Received: 05.12.2017; Revised: 05.04.2018; Accepted: 24.04.2018

■ **ABSTRACT** : The present study was conducted to know the consumption pattern of cleansing agents among respondents and problems experienced while using these. The present study was conducted in two phase's *i.e.* household survey and laboratory experiments. In first phase a sample of sixty respondents from two localities of Ludhiana city, selected by using simple random sampling technique, was surveyed by personal interview using structured interview schedule. The results of the survey revealed that commercial liquid cleansing agents were found to be the most popularly used cleansing agents for household cleaning. The average quantity of commercial liquid cleansers being used was 1.76 l / month and average monthly expenditure on these cleaners was Rs. 102. Floor tiles and toilet bowls were washed daily by more than 50 per cent of respondents. As high as 80 per cent of respondents faced the problem of dryness of skin by using detergent powder, around 22.0 per cent respondents reported breathing problems by using commercial liquid cleansing agents.

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■ **KEY WORDS**: Cleansing agents, Consumption, Cleansing efficiency

■ **HOW TO CITE THIS PAPER** : Dixit, Ritika and Kaur, Surinderjit (2018). Consumption pattern of environment and skin friendly cleansing agents for ceramic tile surfaces. *Asian J. Home Sci.*, **13** (1) : 221-224, DOI: 10.15740/HAS/AJHS/13.1/221-224. Copyright@ 2018: Hind Agri-Horticultural Society.

**H**ousehold cleaning is an every day activity. Cleaning is one of the major household tasks which involves considerable time and effort of the homemaker. The purpose of cleaning includes removal of offensive odour, dirt / contaminants and to provide sparkling clean looks to house.

Today's modern home is loaded with toxic and polluting substances designed to make domestic life easier (Anonymous, 2010). The average person has been so bombarded with luring and reassuring advertisements for these products that he/she actually believes that cleaning is impossible without them.

Vajpeyi (1999) reported that detergent cakes and washing powders have become an inseparable part of every homemaker's life. The market offers a variety of washing detergents. These detergents however, exert a hidden but taxing cost on the environment and our health due to their environment damaging properties. So, there is a need for strict regulations on use of phosphates and chemicals in Indian detergents.

Anonymous (2002) in his article, "Chemicals and chemical products" reported that phenyl is now used daily in majority of the urban households, hospitals, offices and public buildings. Taking the urban population of the north-eastern region as 68 lakh, and average of five

members per households, the number of urban households is estimated 13.6 lakh. On a similar basis, the rural households are estimated at 54 lakh. Assuming that 50% of the urban households and 10% of the rural households use phenyl regularly and taking an average consumption of 3 litres per urban household per year, and 1.5 litre per rural household, the annual demand from household sector for phenyl is estimated at 29 lakh litre, *i.e.* about 2900 kilolitre. It was further reported that the health departments of the state governments are major consumers of phenyl.

Anonymous (2011) reported that Statistics indicate that close to 17,000 types of chemicals are currently available in the market in the form of various household cleansing agents. Of the 17,000, only 30 per cent are being tested for side effects on human health as well as the environment. The number of active chemicals present in various cleaning products is sometimes as high as 275, and the EPA (Environmental Protection Agency) refers to some of these household cleaning chemicals as “pesticides” because these are also designed to kill pests.

## ■ RESEARCH METHODS

Cleaning is one of the major household activities usually performed everyday in all the houses. A wide variety of commercial cleaners are routinely used for this purpose without knowing their toxic and hazardous effects. Therefore it was considered important to conduct a household survey regarding consumption pattern of commercial cleaners. Household survey included the use pattern of cleansing agents for washing of tiles in selected urban households, mode of cleaning, type and amount of cleansing agents being used and problems experienced by the respondents while cleaning of tiles. The study was conducted in urban area of Ludhiana district. The present study was conducted to know the consumption pattern of cleansing agents among respondents. A sample of sixty respondents from two localities of Ludhiana city,

selected by using simple random sampling technique, was surveyed by personal interview using structured interview schedule. The results of the survey revealed that commercial liquid cleansing agents were found to be the most popularly used cleansing agents for household cleaning.

## Consumption pattern of cleansing agents and extent of satisfaction derived :

This part of the schedule was designed to collect information related to monthly consumption and expenditure on cleansing agents, cleaning practices, such as frequency of using a particular cleansing agent, extent of satisfaction derived from the cleansing agents being used and problems experienced by the respondents while using household cleansing agents.

## ■ RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

### Consumption pattern of cleansing agents among respondents :

A number of cleansing agents are available in the market, which can be sprayed directly on the surface or can be used by mixing it with water. Every home maker follows a particular way of using these cleansers, which ultimately affects the consumption of the same. Therefore it was considered important to study the consumption pattern of the cleansing agents. The consumption pattern of cleansing agents by the respondents was studied in terms of respondent's preference for the type of cleansing agents for floor tile / toilet cleaning, factors affecting choice of cleansing agents, frequency of using different cleansing agents, their average monthly consumption and expenditure on cleansing agents.

| Table 1 : Distribution of respondents according to their preferences, consumption and expenditure on different cleansing agent for floor tiles/toilets (n=60) |                |      |                           |                                     |                                 |
|---|----------------|------|---------------------------|-------------------------------------|---------------------------------|
| Type of cleansing agents  | Preference (f) | %    | Average consumption/month | Price (Rs./kg.)<br>Or (Rs. / Litre) | Average expenditure (Rs./month) |
| Detergent powders   | 10             | 16.6 | 1.46 kg / month           | 34                                  | 49.6                            |
| Soap solutions  | 3              | 5.00 | 0.14 litre / month        | 12                                  | 1.68                            |
| Acid  | 6              | 10.0 | 0.18 litre / month        | 18                                  | 3.24                            |
| Commercial liquid cleaners  | 58             | 96.6 | 1.76 litre / month        | 58                                  | 102.0                           |

Multiple Responses f = Frequency % = Percentage

| Factors              | Mean score | Rank |
|----------------------|------------|------|
| Colour               | 4.52       | VI   |
| Odour                | 5.72       | IV   |
| Popularity           | 4.53       | V    |
| Past experience      | 6.05       | III  |
| Cleansing efficiency | 7.18       | I    |
| Price                | 6.65       | II   |
| Ingredients          | 3.10       | VII  |

### Preference of respondents for cleansing agents and average consumption / expenditure on cleansing agents :

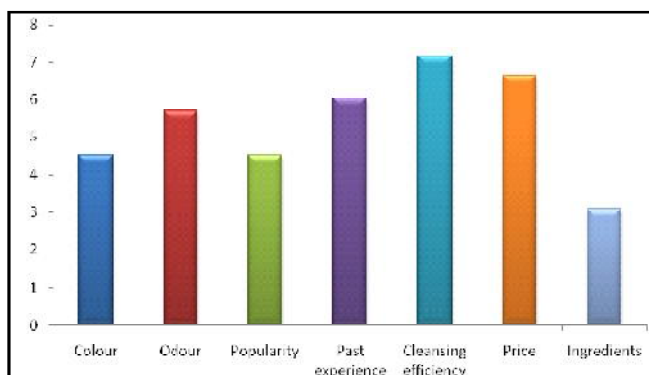
A variety of cleansing agents such as synthetic cleaners, detergent powders, acidic and alkaline cleaners are available in the market. Different methods of cleaning are followed in each household and accordingly the preference for cleansing agents varies. So, the preference of selected respondents for different cleansing agents available in market and factors affecting choice of a particular cleansing agent was studied in this section.

It is clear from the data in Table 1 that the maximum percentage of respondents (96.6 %) preferred commercial liquid cleaners for floor tiles and toilet bowl cleaning. Average quantity of commercial liquid cleaners being used was 1.76 litre / month and average monthly expenditure on these cleaners was Rs.102.0. The second

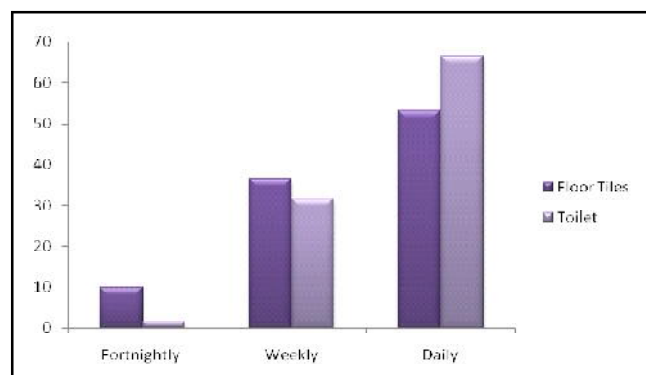
most preferred cleansing agent was detergent powders which were used by 16.6 per cent of the respondents. The average quantity of detergent powders used was 1.46 kg. / month and the total amount spent on detergent powders came out to be Rs. 49.6 / month. Acid and soap solutions were less preferred cleansing agents among the respondents. Soap solution was a least preferred cleansing agent and was being used by only 5.00 per cent of the respondents; its average quantity used was only 0.14 Lt. / month.

### Factors affecting selection of cleansing agents :

A large number of brands of various types of cleansing agents are available in the market that calls for intelligent decision making on the part of the consumers, which in turn are influenced by the consumers' past experience, popularity of the product,



**Fig. 1 :** Distribution of respondents according to the factors considered while selecting cleansing agents



**Fig. 2 :** Distribution of respondents according to their frequency of cleaning floor tiles and toilet bowls

| Frequency of cleaning | Floor tiles |      | Toilet |      |
|-----------------------|-------------|------|--------|------|
|                       | f           | %    | F      | %    |
| Fortnightly           | 6           | 10.0 | 1      | 1.67 |
| Weekly                | 22          | 36.6 | 19     | 31.6 |
| Daily                 | 32          | 53.3 | 40     | 66.6 |

f = Frequency % = Percentage

price, cleansing efficiency, ingredients used, colour and odour of the product. The results regarding factors affecting selection of a particular cleansing agent are presented in Table 2.

It is evident from Table 2 and Fig 1 that the respondents considered various attributes while selecting the detergents.

'Cleansing efficiency' was ranked first (mean score – 7.18) by the respondents followed by price of the product (mean score – 6.65) and past experience (mean score – 6.05) which obtained the second and third rank, respectively. The findings further indicate that ingredients of the product scored the last rank (mean score – 3.10) indicating that the respondents were least bothered to know the contents of the product. The above findings are supported by the findings of Nehra *et al.* (2004) and Neelam *et al.* (2004) who also reported that most of their respondents gave first preference to the most economical cleansing agents followed by those having greater cleansing efficiency and earlier experience of the respondents.

#### Frequency of cleaning floor tiles and toilet bowl :

The data in Table 3 and Fig. 2 reveal that floor tiles and toilet bowl were washed 'daily' by 53.3 per cent and 66.6 per cent respondents, respectively indicating high level of hygiene and health consciousness among majority of the respondents. However floor tiles and toilet

bowls were washed weekly by nearly one third of the respondents, *i.e.* 36.6 and 31.6 per cent, respectively.

A small percentage of the respondents *i.e.* 10.0 and 1.67 per cent were cleaning floor tiles and toilet bowl fortnightly.

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