

Knowledge of homemakers regarding base materials used for cooking utensils

■ D. Mittal, M. Sidhu* and S. Bal

Department of Family Resource Management, College of Home Science, Punjab Agricultural University, LUDHIANA (PUNJAB) INDIA

(Email: muninderkaur@pau.edu)

ARTICLE INFO :

Received : 28.08.2014
Revised : 06.11.2014
Accepted : 20.11.2014

KEY WORDS :

Food grade plastics, Knowledge, Non-food grade plastics, Stoneware, Surgical steel

HOW TO CITE THIS ARTICLE :

Mittal, D., Sidhu, M. and Bal, S. (2014). Knowledge of homemakers regarding base materials used for cooking utensils. *Adv. Res. J. Soc. Sci.*, 5 (2) : 175-179.

*Author for correspondence

ABSTRACT

One cannot imagine any home without any cooking utensil. Satisfactory use of these utensils include their correct selection, arrangement, use and care so that homemaker can accomplish her work without any physical and mental stress. Vessels and pots are usually made from a wide range of metals. The homemaker is always interested in the properties of the materials from which her kitchen appliances and utensils are made. The knowledge enables her to select with confidence the best material for a given task and to care for it successfully. Due to the dual responsibility of the homemakers at home as well as at work places outside the home, there is a greater pressure for productivity enhancement and quality work. It was felt important to study the general awareness of the end users regarding the different materials used for cooking vessels used in any Indian kitchens. Hence, the choice of suitable utensils of right metal and appropriate size has become complex subject for the homemakers. Study revealed that all the rural and urban respondents were aware of aluminium and hindalium metal that was used for the construction of utensils for Indian cooking. Hindalium was the most commonly used material for cooking utensils followed by aluminium, stainless steel. Earthenware, chinaware and stoneware were the least used materials by both the categories of the respondents. All respondents found aluminium, hindalium and stainless steel cookware 'easy to clean' as well as 'durable materials'. None of the selected respondents reported that glass, earthenware, chinaware, stoneware and pottery utensils were durable.

INTRODUCTION

Technological advances during industrialization brought major changes to the kitchen. The development of bronze and iron metal, working skills allowed for cookware made from metal to be manufactured. The adoption of the new cookware was slow due to the much higher cost. After the development of metal cookware there was little new development in cookware, with the standard Medieval kitchen utilizing a cauldron and a shallow earthenware pan for most of the cooking tasks, with a spit employed for roasting.

A wide variety of materials, used for the construction of cooking utensils, as well as for equipment parts and tools, is

available in today's market. These are such as cast iron, aluminium, hindalium, stainless steel, copper, brass etc. Right selection of these commonly used materials for kitchen gadgets can be of a great help in resource saving as well as in contributing to the health of the family. Kitchen gadgets selected for cooking should be durable, simple in design and of suitable size and shape. To be efficient, these selected gadgets must be easy to operate that in a reasonable length of time and without undue expenditure of human efforts and fuel, it will accomplish the task for which it was made. Sidhu *et al.* (2007) also reported that right selection of commonly used different metal utensils can be of a great help in resource saving while cooking.

Due to the dual responsibility of the homemakers at home

as well as at work places outside the home, there is a greater pressure for productivity enhancement and quality work. It was felt important to improve the general awareness of the end users regarding the different materials and finishes used for cooking vessels used in any Indian kitchens. Hence, the choice of suitable utensils of right metal and appropriate size and finish has become complex subject for the homemakers. As the right kind of utensil should cook fast, retain heat for long time, not allow the food to get stuck to it, not require too much of fat and lastly easy to clean along safety features. Since resources of the families are always scarce as compared to their needs, a wise selection becomes all the more important. Therefore, the present study 'Knowledge of homemakers regarding base materials used for cooking utensils' was planned to improve the productivity and profitability and to decrease the problems faced by the homemakers while performing various activities in the kitchen.

MATERIAL AND METHODS

The data for the present study was collected from 80 homemakers comprising of 40 rural and 40 urban respondents. The respondents were selected randomly. Rural data was collected from randomly selected villages *i.e.* *Ballawal* and *Gujarwal* of *Pakhawal* block of Ludhiana district. Similarly urban homemakers were randomly selected from *Krishna Nagar* and *Bhai Randhir Singh Nagar* of west zone of Ludhiana. The homemakers who were performing most of the activities in the homes were selected as the respondents for the study as they can provide more accurate information regarding utilization and management practices adopted. An interview schedule was prepared which sought information about the knowledge of homemakers regarding the materials and finishes they were aware of and preference for the various kitchen gadgets. The information was collected by personal interview method with open ended and pre-tested interview schedule. The data collected were coded and tabulated. For analyzing the data, simple averages, percentages, mean scores, t-test were used.

OBSERVATIONS AND ANALYSIS

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

Age :

As regards the age of the respondents shown in Table 1, it varied from 25 to 45 years. It was observed that among rural respondents maximum (52.50 %) respondents were from age group 30-35 years and from urban group 40.00 per cent respondents belonged to age group of 35-40 years and they were actively involved in the selection and purchase of kitchen gadgets either individually or with the help of other family

members. Minimum (10 % rural and 12.50 % urban) respondents belonged to the age category *i.e.* 40-45 and 25-30 years, respectively.

Education of the home maker :

The level of education of the selected respondents was observed to be higher in case of urban respondents in comparison to the rural respondents. In the urban category, 55.00 per cent of the respondents were graduate followed by 35.00 per cent who were matriculate. None of the urban respondent was illiterate and 7.50 per cent of these urban respondents had acquired some additional professional diploma such as beautician, baking etc. On the contrary maximum (37.50 %) of rural respondents were just matric followed by 22.50 per cent who were graduate only. It was also observed that 15.00 per cent of the selected rural respondents were illiterate.

Marital status :

All rural respondents and 90.00 per cent of urban respondents were married. It can also be seen from the table that only 5.00 per cent of the urban respondents were single.

Occupation of the homemakers :

Both education and occupation of the homemakers play an important role regarding the knowledge and use of the different materials and finishes used for the construction, use and maintenance of kitchen gadgets. It is evident from the Table 1 that in rural area 70 per cent respondents were housewives where in urban area only 30 per cent respondents were housewives. Table further shows that in rural area only 12 per cent respondents and in urban area 50 per cent respondents were employed outside. It was also found that 1/4 of the selected respondents from both areas were running their own business.

Family type :

As we know, that urbanization and industrialization have led to more number of nuclear families especially in urban areas. Similar trend was observed in the selected samples of respondents. As regards the type of family, 52.50 per cent respondents in rural category and 32.50 per cent in urban category were from joint type of family. In case of type of family 52 per cent families were found to be from joint families in rural area where in urban area only 32 per cent families from joint families. In rural area 47 per cent respondents belonged to nuclear type of families where in urban area 67 per cent respondents belonged to nuclear families.

Family size :

Table 1 portrays the information of family size of the selected families. It can be seen that in urban area most of the

Table 1 : Background information of selected respondents and their families (n=40)

| Sr. No. | Background information | Respondents | |
|--|------------------------|-------------|-----------|
| | | Rural | Urban |
| 1. Age (Years) | 25-30 | 9(22.50) | 5(12.50) |
| | 30-35 | 21(52.50) | 13(32.50) |
| | 35-40 | 6(15.00) | 16(40.00) |
| | 40-45 | 4(10.00) | 6(15.00) |
| 2. Education | Illiterate | 12(15.00) | 0(00.00) |
| | Matric | 15(37.50) | 14(35.00) |
| | Graduate | 9(22.50) | 22(55.00) |
| | Post graduate | 2(05.00) | 1(02.50) |
| | Any other | 2(05.00) | 3(07.50) |
| 3. Marital status | Single | 0(00.00) | 4(05.00) |
| | Married | 40(100.0) | 36(90.00) |
| 4. Occupation | Housewives | 28(70.00) | 12(30.00) |
| | Employed outside | 5(12.50) | 20(50.00) |
| | Self employed | 7(17.50) | 8(20.00) |
| 5. Type of family | Joint | 21(52.50) | 13(32.50) |
| | Nuclear | 19(47.50) | 27(67.50) |
| 6. Size of family | Upto 2 | 3(07.50) | 2(05.00) |
| | 3-5 | 14(35.00) | 33(82.50) |
| | More than 5 | 23(57.50) | 5(12.50) |
| 7. Monthly family income in (Rs.) | Up to 15,000 /- | 19(47.50) | 8(20.00) |
| | 15,001/- to 30,000 /- | 16(40.00) | 23(57.50) |
| | 30,001/- and above | 5(12.50) | 9(22.50) |

Figures in parenthesis indicate percentages

Multiple responses

Table 2 : Awareness of respondents regarding base materials of cooking utensils

| Base material | Awareness of respondents (n=80) | | | | | | | |
|-------------------------|---------------------------------|--------------|-----------------------|--------------|---------------|--------------|--------------|--------------|
| | Never seen | | Seen in advertisement | | Actually seen | | In use | |
| | Rural (n=40) | Urban (n=40) | Rural (n=40) | Urban (n=40) | Rural (n=40) | Urban (n=40) | Rural (n=40) | Urban (n=40) |
| Iron | 8 (20.00) | 9 (22.50) | 0 (00.00) | 0 (00.00) | 32 (80.00) | 31 (77.50) | 28 (70.00) | 24 (60.00) |
| Brass | 21 (52.50) | 20 (50.00) | 2 (05.00) | 2 (05.00) | 17 (42.50) | 18 (45.00) | 14 (35.00) | 17 (42.50) |
| Aluminum | 0 (00.00) | 0 (00.00) | 0 (00.00) | 0 (00.00) | 40 (100.0) | 40 (100.0) | 40 (100.0) | 40 (100.0) |
| Hindalium | 0 (00.00) | 0 (00.00) | 0 (00.00) | 0 (00.00) | 40 (100.0) | 40 (100.0) | 40 (100.0) | 40 (100.0) |
| Steel | 0 (00.00) | 0 (00.00) | 0 (00.00) | 0 (00.00) | 40 (100.0) | 40 (100.0) | 40 (100.0) | 40 (100.0) |
| Surgical steel | 31 (77.50) | 32 (80.00) | 0 (00.00) | 2 (05.00) | 9 (22.50) | 6 (15.00) | 3 (07.50) | 2 (05.00) |
| Glass | 0 (00.00) | 0 (00.00) | 6 (15.00) | 4 (10.00) | 34 (85.00) | 36 (90.00) | 18 (45.00) | 22 (55.00) |
| Food grade plastics | 2 (05.00) | 3 (07.50) | 0 (00.00) | 0 (00.00) | 38 (95.0) | 37 (92.50) | 19 (47.50) | 21 (52.50) |
| Non-food grade plastics | 9 (47.50) | 10 (25.00) | 10 (25.00) | 10 (25.00) | 21 (52.50) | 20 (50.00) | 13 (32.50) | 12 (30.00) |
| Earthen | 17 (42.50) | 18 (45.00) | 2 (05.00) | 6 (15.00) | 21 (52.500) | 16 (40.00) | 7 (17.50) | 4 (10.00) |
| Chinaware | 4 (10.00) | 4 (10.00) | 5 (12.50) | 6 (15.00) | 31 (77.50) | 30 (75.00) | 21 (52.50) | 21 (52.50) |
| Stone ware | 24 (60.00) | 28 (70.00) | 0 (00.00) | 2 (05.00) | 16 (40.00) | 10 (25.00) | 2 (05.00) | 1 (02.50) |
| Pottery | 32 (80.00) | 32 (80.00) | 3 (07.50) | 2 (05.00) | 5 (12.50) | 6 (15.00) | 0 (00.00) | 2 (05.00) |

Figures in parenthesis indicate percentages

Multiple responses

respondents (82 %) were from the families having 3 to 5 members in their family and in rural area 57.00 per cent had more than 5 members in the family.

Only 7.50 per cent of rural respondents were from the families with family size of up to 2 members. Family size of the rural respondents was found more may be that majority of the rural families were from joint family.

Monthly income :

Among rural families 47.50 per cent families had an income up to Rs. 15,000 per month, 40.00 per cent had earnings in the range of Rs.15,001 - 30,000 per month, and 12.50 per cent had earnings more than Rs. 30,000 per month. As far as urban respondents were concerned majority of the respondents were having their family income in the range of Rs. 15,001/- to Rs.

30,000/- per month, followed by families having their monthly income more than Rs. 30,001/-. Only 20.00 per cent respondents were from the families who were having monthly income less than Rs. 15,000/-.

Awareness regarding base materials for cooking utensils :

Table 2 highlights the awareness of respondents regarding base materials used for cooking utensils. Results showed that all the rural and urban respondents were aware of aluminum and hindalium metal used for the construction of utensils for Indian cooking followed by 70 per cent respondents who were having knowledge of iron as base material used for cooking utensils. Rural respondents *i.e.* 45.00 per cent and 47.50 per cent were found having knowledge of glass and food grade plastic, respectively as base material used for cookware and

| Base material | Extent of use | | | |
|-------------------------|---------------|------|--------------|------|
| | Rural (n=40) | | Urban (n=40) | |
| | Mean score | Rank | Mean score | Rank |
| Iron | 1.17 | IV | 0.80 | VII |
| Brass | 0.57 | VII | 0.45 | IX |
| Aluminum | 3.30 | II | 3.47 | I |
| Hindalium | 3.67 | I | 3.37 | II |
| Stainless steel | 2.67 | III | 2.97 | III |
| Surgical steel | 0.20 | XI | 1.17 | V |
| Glass | 0.55 | VIII | 0.85 | VI |
| Food grade plastics | 1.02 | V | 2.67 | IV |
| Non-food grade plastics | 0.52 | IX | 0.42 | X |
| Earthen | 0.42 | X | 0.10 | XI |
| Chinaware | 0.60 | VI | 0.55 | VIII |
| Stone ware | 0.07 | XII | 0.02 | XII |

| Base material | Advantages | | | | | | | 0.751* |
|-------------------------|---------------|--------------|--------------|---------|--------------|--------------|--------------|--------|
| | Easy to clean | | | t-value | Durable | | | |
| | Rural (n=40) | Urban (n=40) | Total (N=80) | | Rural (n=40) | Urban (n=40) | Total (N=80) | |
| Iron | 0 (00.00) | 0 (00.00) | 0 (00.00) | - | 28 (70.00) | 24 (60.00) | 52 (65.00) | 1.77 |
| Brass | 0 (00.00) | 0 (00.00) | 0 (00.00) | - | 14 (35.00) | 17 (42.50) | 31 (38.75) | 1.00* |
| Aluminum | 40 (100.0) | 40 (100.0) | 80 (100.0) | 1.00* | 40 (100.0) | 40 (100.0) | 80 (100.0) | 1.00* |
| Hindalium | 40 (100.0) | 40 (100.0) | 80 (100.0) | 1.00* | 40 (100.0) | 40 (100.0) | 80 (100.0) | 1.00* |
| Stainless steel | 40 (100.0) | 40 (100.0) | 80 (100.0) | 1.00* | 40 (100.0) | 40 (100.0) | 80 (100.0) | - |
| Surgical steel | 3 (07.50) | 2 (05.00) | 5 (06.25) | - | 3 (07.50) | 2 (05.00) | 5 (06.25) | - |
| Glass | 18 (45.00) | 22 (55.00) | 40 (50.00) | 2.08 | 0 (00.00) | 0 (00.00) | 0 (00.00) | 1.43* |
| Food grade plastics | 4 (10.00) | 2 (05.00) | 6 (07.50) | 1.43* | 19 (47.50) | 21 (52.50) | 40 (50.00) | 1.00* |
| Non-Food grade plastics | 13 (32.50) | 5 (12.50) | 18 (22.50) | 3.12 | 13 (32.50) | 12 (30.00) | 25 (92.00) | - |
| Earthen | 7 (17.50) | 4 (10.00) | 11 (13.75) | 1.77 | 0 (00.00) | 0 (00.00) | 0 (00.00) | - |
| Chinaware | 21 (52.50) | 21 (52.50) | 42 (52.50) | 1.77 | 0 (00.00) | 0 (00.00) | 0 (00.00) | - |
| Stone ware | 2 (05.00) | 1 (02.50) | 3 (03.75) | - | 0 (00.00) | 0 (00.00) | 0 (00.00) | - |
| Pottery | 0 (00.00) | 0 (00.00) | 0 (00.00) | - | 0 (00.00) | 2 (05.00) | 2 (02.50) | - |

Note: Figures in parentheses indicate percentages

Multiple responses,

* indicate significance of value at P=0.05

55.00 per cent and 52.50 per cent urban respondents, respectively were also aware of these materials and use this for cooking. Minimum responses from rural and urban homemakers were observed for earthen ware, stoneware and pottery. Britten and Nossahan (1986) also reported that respondents were aware of traditional base material such as iron and aluminum used for cooking vessels.

Extent of use for cooking utensils :

It can be observed from the Table 3 that the rural respondents ranked hindalium as the most commonly used material for cooking utensils followed by aluminum, stainless steel with mean score of 2.67, iron with mean score 1.17. On the other hand aluminum was placed at rank I with mean score of 3.47, hindalium at rank II with mean score 3.37 by the urban respondents. Stainless steel was placed at rank III by the urban respondents. Earthenware, chinaware and stoneware placed at the last rank with mean score of 0.42, 0.60 and 0.07, respectively by the rural respondents. However, urban respondents ranked stoneware, earthen wares and non-grade plastic in the last with mean score of 0.02, 0.10 and 0.40, respectively. Surgical steel utensils with low mean score 0.20 as given by the rural respondents indicated that this metal has not found a place in rural kitchens yet. Reason seems to be not easy availability of this material in the open market and high price may also be another reason. Datta (1998) also reported that hindalium skillet was the most liked and preferred by the homemakers for traditional Indian cooking.

Perceived advantages of base materials of the cooking utensils:

From the Table 4 it may be observed that all rural and urban respondents found aluminum, hindalium and stainless steel cookware 'easy to clean' as well as 'durable materials'. Further 52.50 per cent respondents from both the categories reported that chinaware and glass utensils were 'easy to clean' but 'not durable'. None of the selected respondents reported that glass, earthenware, chinaware, stoneware and pottery

utensils were durable. The t- test value shows that the difference in awareness of respondents from rural and urban categories was statistically significant. As far as non-food grade plastics were concerned, 32.50 per cent rural and 12.50 per cent urban respondents considered them to be 'easy to clean'. On the other hand 47.50 per cent rural and 52.50 per cent of urban respondents reported that food grade plastics as more durable. These findings are in line with the findings of Dhablania (1992) who had also reported that respondents preferred the gadgets which were 'easily available', 'easy to maintain due to good quality of material' and durable also.

Conclusion :

It can be concluded that the awareness of aluminium and hindalium metal, generally used for manufacturing of kitchen utensils, was by all the selected rural and urban respondents. Hindalium was the most commonly used material for cooking utensils followed by aluminium, and then stainless steel in the kitchens of the selected families. Earthenware, chinaware and stoneware utensils were the least used materials by rural and urban homemakers. All respondents found aluminium, hindalium and stainless steel cookware 'easy to clean' as well as 'durable materials'. All the selected respondents reported that glass, earthenware, chinaware, stoneware and pottery utensils were non-durable materials.

REFERENCES

- Britten and Nossahan (1986). Use of iron cookware. *Home Econ. Res. J.*, **15**(1) : 43-51.
- Datta, S. (1998). Functional design and cooking efficiency of different skillets (karahis) used for household cooking. M.Sc. Thesis, Punjab Agricultural University, Ludhiana, PUNJAB (INDIA).
- Dhablania, P. (1992). Trends in the possession and use of time and energy saving devices by rural and urban families. M.Sc. Thesis, Punjab Agricultural University, Ludhiana, PUNJAB (INDIA).
- Sidhu, M., Bhutani, A., Bakhshi, R. and Sandhu, P. (2007). Cooking efficiency of selected skillets used in Indian kitchens : A comparative study. *Soc. Res.*, **2**(2) : 95-102.