

## Media Accessibility, Utilization and Preference for Food and Nutritional Information by Rural Women of India

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**ABSTRACT** The study investigated media utilization, preferences and prospect for use in nutrition education service delivery in three villages of Uttarakhand State. A total of 223 women respondents in the age group of 18-45 years were selected using a random sampling technique. Questionnaires/interview schedules were administered to them. Data collected were analyzed using frequency, mean, percentage, regression and weighted average. Media possession data showed that the TV was most commonly possessed and used media. Print media was found to be less popular compared to electronic media. Major reasons for TV usage/ preference were effectiveness for information dissemination, better understanding and entertainment. A regression analysis between respondents' personal and socio-economic characteristics and preference for media to obtain nutritional information indicated that age, income, marital status, and educational status determine media preference. The study revealed that media preference in descending order were: television, radio, poster, calendar, lecture, audiocassettes, booklets, charts and newspaper. It is, therefore, recommended that development agencies should take advantage of women's preferences to ensure optimum effect of various food and nutrition related extension programmes.

### INTRODUCTION

A country cannot progress until its women progress. In India, women constitute 48.2 per cent of the total population, bulk of which reside in rural areas (Adalakha 2011). Nutritional problems are common throughout the country including in the women. Some people lack adequate food while some people though have adequate amount of food yet make poor choices (Vijayraghavan 2002). Because of these reasons, nutritional problems not only affect their growth and development but also in future would adversely affect their livelihood as adults. Occurrence of series of nutritional problems like under nutrition, anemia, vitamin A deficiency, iodine deficiency and overweight or obesity may develop in them. For prevention of these problems, WHO (2009) has emphasized that mass information and awareness programmes should be organized to alert government and communities about the importance of health and nutrition.

The importance of nutrition education as a

means for improving the nutritional status of the country has been increasingly realized (Joachim and Swaminathan 2004). In the Indian set up, food is cooked and served by the women. If women are given special attention and insight into matters related to foods and nutrition, they could come up as a main resource with the possibility to change the attitude of the whole family. Thus, it could help to improve the lives of present and future generation.

Mass media can play a strong advocacy role in creating awareness and bringing about action for health. Currently media serves as the most popular source of nutrition information for the public (Hindin et al. 2004). Researchers have found that health practices are directly influenced by media availability and change. The inter relationship between communication media and the establishment of desirable practices in food, nutrition and health has been elucidated, highlighting the importance of media in raising health /nutrition/food related awareness (Houts 2006). Hence, nutrition education through appropriate communication procedure is an important tool to increase awareness and to improve consumption of nutritious foods (Vijayraghavan 1995). Communication planning and media can be seen as tools or frameworks for implementing the theories to facilitate changes in both behaviour and mediating variables, such as beliefs, values and attitudes (Gillespie and Mason 1991). The Food and Nutrition Board is also carrying out and emphasizing mass media activities involv-

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ing development of educational and training material including audio and video aids (GOI 2010). Many food and nutrition education related activities are being taken up in the country. But studies showing preferences and utilization of various media as a source of information by women are lacking. Keeping in view the above said facts, the present study had been designed to find out the preferences of rural women for various media about nutrition information sources in hill areas of Uttarakhand state, India. The specific objectives of the study were to:

- Examine the different mass media utilized by the rural women;
- Determine the relationship between utilization of media and socio-demographic characteristics of the rural women;
- Identify media preference of rural women for dissemination of food and nutrition related information.

## METHODOLOGY

**Sample Selection:** Present study was conducted in three villages of hill areas of Uttarakhand state of India. The state lies between 28° 44' and 31°28' N latitude and 77°35' and 81°0'E longitude. The villages selected were in Bhimtal block of Nainital district which is situated in lower parts of Kumaon hills and is characterized by long and severe winters, short summer and heavy rainfall.

Malnutrition is highly prevalent in the state. Prevalence of anaemia in the women is 55.2 percent. Anaemia, vitamin A, and iodine deficiency exist as public health problems in the study area. 32 percent of women in Uttarakhand are undernourished. Nutritional deficiency is more prevalent for women in rural areas. Overall 55.2 percent of women in Uttarakhand have some degree of anaemia compared with 52 percent in India as a whole (NFHS-3 2007).

Economics and Statistics Officer of District Nainital was contacted to find the number of villages and their population. A total of three villages were selected using purposive sampling based on accessibility. The study was confined to women of the age group 18-45 years. Randomly 223 subjects willing to participate in the study were chosen.

The data were collected by the help of a well-structured and validated interview schedule. The survey instrument was designed to assess the

media utilization and media preference of typical rural hill women in the state of Uttarakhand. The survey instrument was then given to a panel of 5 experts to determine face validity, and to examine reading level and clarity of wording and instructions. Percentages, mean and frequencies were used to analyse the socio-demographic, preference and media utilization data of the respondents, while regression analysis was employed to ascertain the relationship between socio-demographic characteristics of the respondents and the utilization of mass media.

## RESULTS AND DISCUSSION

### General Information on Socio-economic Indicators

The general information collected included age, educational status, marital status, family income. Height and weight of the respondents were taken to calculate the body mass index. Table 1 presents general information of the respondents. Majority (37.67 %) of women were in the age group of 25-35 years. A good proportion of women were found to be literate. Only a small segment (14.34 %) reported that either they were primary school dropouts or never attended school. Use of print media in any area is dependent on the literacy rate. As literacy rates rises, the print media gains better importance. However, electronic media is not dependent on literacy. It can be deduced that understanding of information is affected by educational qualification.

Marital status data revealed that 72.65 percent subjects were married. None of them were divorced. Divorce in India and especially in rural areas is socially unacceptable. Rural areas of India are recognized for a low divorce rate. The same trend could be seen in studied area.

In agricultural sector of Uttarakhand, women play a leading role. The contribution of women in agriculture of Uttarakhand is 90 percent (Mittal et al. 2008). In the present study, 59.64 percent women were engaged in farming. A good proportion of the respondents (81.16 %) had kitchen gardens which they used for cultivation of seasonal vegetables and seasonal crops viz. maize, pulses only for consumption purpose and not for commercial sale. Body Mass Index (BMI) was calculated by utilizing height and weight data collected from respondents. Height

**Table 1: General information on socio-economic indicators**

| <i>Variable</i>              | <i>Frequency</i> | <i>Percentage</i> |
|------------------------------|------------------|-------------------|
| <i>Age (years)</i>           |                  |                   |
| 18-25                        | 63               | 28.25             |
| 25-35                        | 84               | 37.67             |
| 35-45                        | 76               | 34.08             |
| <i>Educational Level</i>     |                  |                   |
| No formal education          | 28               | 14.34             |
| Primary school               | 14               | 7.62              |
| High school                  | 94               | 46.20             |
| University degree            | 62               | 31.84             |
| <i>Marital Status</i>        |                  |                   |
| Single                       | 58               | 26.01             |
| Married                      | 162              | 72.65             |
| Widowed                      | 3                | 1.34              |
| Divorced                     | -                | -                 |
| <i>Family's Income</i>       |                  |                   |
| Less than INR 4,000          | 86               | 38.57             |
| INR 4,000-INR 7,000          | 117              | 52.47             |
| INR 7,000-INR10,000          | 10               | 4.48              |
| Above INR 10,000             | 10               | 4.48              |
| <i>Engaged in Farming</i>    |                  |                   |
| Yes                          | 133              | 59.64             |
| No                           | 80               | 40.36             |
| <i>Body Mass Index (BMI)</i> |                  |                   |
| CEDII                        | 3                | 1.35              |
| CED I                        | 28               | 12.56             |
| Low weight normal            | 42               | 18.83             |
| Normal                       | 130              | 58.29             |
| Obese grade I                | 20               | 8.97              |

was calculated by using an anthropometric rod and weight was calculated by using an electronic weighing balance. Weight was calculated by an electronic weighing machine. BMI data revealed that only 59.6 % of women were normal and rest were suffering from various degree of malnutrition. Family income data revealed that 52.47 per cent of the subjects were having monthly family income in the range of Rs 4000 to 7000. Income of the families ranged between Rs.1250 to 15000. Family income may affect the number and type of media utilized. As the income rises, the spending pattern also rises. So it can be deduced that high income families might afford more variety of media.

Nutritional status data calculated indicates that 58.29 % were normal and rest was suffering from either over nutrition or under nutrition. A variety of functional disabilities such as reduced working capacity, defective immune response, impairment of learning ability and physical fitness occur in presence of malnutrition. It has been observed in several studies that in performing the same level of work malnourished women pro-

duced less and took more time (Bains et al. 2002; Harishree and Sharda 1997). Since almost 60 per cent of studied women were engaged in farming, the presence of malnutrition may be affecting their work performance and reducing their productivity.

### Possession and Utilization of Mass Media by Rural Hill Women

Respondents were asked about their existing information sources from which they get information and the responses regarding these aspects are presented in Table 2. The data given in Table 2 show clearly that television, radio, print media, were the existing media possessed by rural women. It was observed that 86 per cent subjects possessed TV even though they belonged to middle income group. Total TV viewership was 89.62 per cent. The viewership data was more than possession data because it included those who used neighbor's TV and at the same time excluded those who possessed but did not view it. Daily viewership of TV was observed to be 41.67 per cent (Table 3), while a very small segment did not view it. Radio was owned by 60 per cent of the families. But its utilization was quite low as compared to TV Only 9.22 percent subjects listen to it daily, 33.31 percent reported that they never listen it. As there was no cinema hall in the locality, viewing cinema in the hall was negligible. However, due to availability of video cassettes and cable TV connection 80 per cent of the subjects reported watching feature films.

**Table 2: Media possession and utilization of rural hill women (N= 223)**

| <i>S. No.</i> | <i>Particulars</i>                                             | <i>Percentage</i> |           |
|---------------|----------------------------------------------------------------|-------------------|-----------|
|               |                                                                | <i>Yes</i>        | <i>No</i> |
| 1.            | Radio possession                                               | 60.08             | 39.92     |
| 2.            | Listening to radio                                             | 44.84             | 15.24     |
| 3.            | Listening to radio by the subject even when not possessing it. | 4.93              | 34.97     |
| 4.            | T.V. possession by the subject                                 | 87.44             | 12.55     |
| 5.            | T.V. viewing                                                   | 81.16             | 6.27      |
| 6.            | Viewing T.V. while not possessing it.                          | 8.52              | 4.03      |
| 7.            | Video viewing                                                  | 15.24             | 84.75     |
| 8.            | Newspaper subscribers                                          | 24.66             | 75.33     |
| 9.            | News paper readers                                             | 12.10             | 87.89     |
| 10.           | Visit to <i>Kisan Mela</i>                                     | -                 | 100.00    |

**Table 3: Media utilization by hill women (N=223)**

| Communi-<br>cation | Frequency of utilization |       |          |       |      |       |        |       |        |       |       |       |
|--------------------|--------------------------|-------|----------|-------|------|-------|--------|-------|--------|-------|-------|-------|
|                    | Daily                    |       | 2-5 /wk. |       | 1/wk |       | 1-2/mo |       | Rarely |       | Never |       |
|                    | N                        | %     | N        | %     | N    | %     | N      | %     | N      | %     | N     | %     |
| Radio              | 21                       | 9.42  | 11       | 4.93  | 37   | 16.59 | 26     | 18.83 | 26     | 11.65 | 86    | 38.56 |
| T.V.               | 93                       | 41.71 | 38       | 17.04 | 39   | 17.48 | 30     | 13.45 | 11     | 4.93  | 12    | 5.38  |
| Feature film       | 11                       | 4.93  | 34       | 15.24 | 72   | 32.28 | 61     | 27.35 | 21     | 9.41  | 24    | 10.76 |

2-5 wk: Two to five times per week

1/wk: Once per week

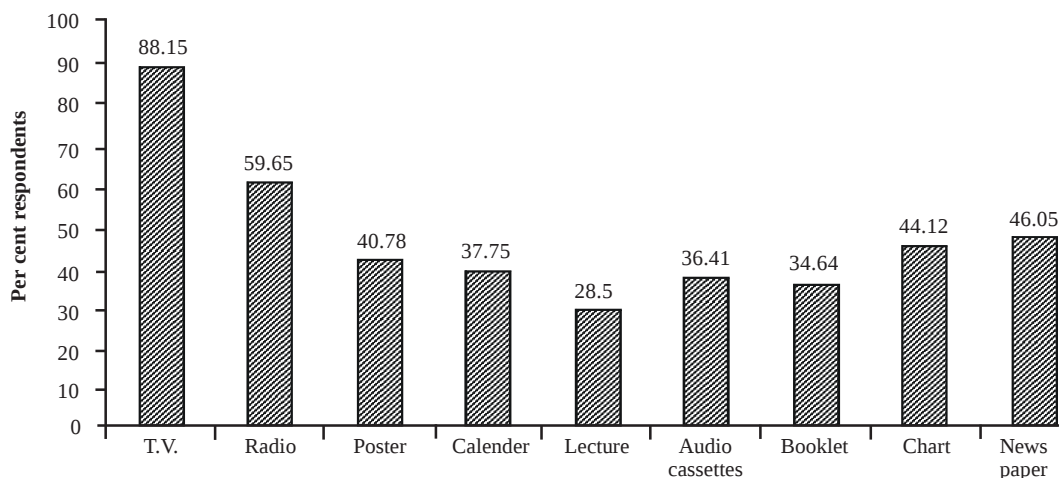
1-2 mo: Once to twice per month

Though 85% literacy was observed amongst the subject's majority of the families were not subscribing newspaper (75%). Newspaper subscription was only in 25 percent families. Only 11.84 percent read it. Topic of interest for all of them reading newspaper was about films and celebrities and not about general affairs and politics. Kisan mela (Farmer's Fair) that is organized in nearby places like Pantnagar Agriculture University was not found to be popular among the women. None of them ever visited it.

Reasons for more utilization of TV and radio could be that TV and radio cuts across the literacy barriers required in books, newspapers, journals, bulletins, pamphlets etc. TV and radio in essence often do not require higher educational qualification or back-ground to be effective. Moreover, these media bear more entertainment value than print media. Radio has an added advantage that it can be carried easily anywhere without necessarily interfering with their daily activities at homes or in fields.

### Preference of Media for Nutrition Related Information

Media preference of women is shown in Figure 1. Respondents were asked to give their preferences about different information sources that they thought better for dissemination of food and nutrition related information to them. Their preferences were prioritized as 1st, 2nd, 3rd, 4th and 5<sup>th</sup> as presented in Table 4. TV emerged as the most popular media as 88.15 per cent of subjects reported TV as their first preference. In today's world, television is considered to be an important medium which is being extensively used to impart information to its viewers. Moreover, besides performing the motivational function it also helps in providing discovery learning and cognitive development of its viewers. Research reveals that television differs from other media in the way it can combine various kinds of information, better accessibility and has the potential to bring the learning materials to the

**Fig. 1. Media preference of hill women**

masses in a more direct and personal way (Pokharapurkar 1993; Das and Mishra 2010).

**Table 4: Ranking of respondents' preference about different media information sources**

| <i>Communication media</i> | <i>Rank Order</i> | <i>Mean</i> | <i>SD</i> | <i>Weighted score</i> |
|----------------------------|-------------------|-------------|-----------|-----------------------|
| T.V.                       | 1                 | 6.13        | 0.52      | 1773                  |
| Radio                      | 2                 | 7.34        | 1.46      | 1072                  |
| Poster                     | 3                 | 6.39        | 1.37      | 630                   |
| Calendar                   | 4                 | 4.30        | 1.99      | 516                   |
| Lecture                    | 5                 | 3.97        | 1.89      | 320                   |
| Audio cassettes            | 6                 | 4.47        | 1.41      | 332                   |
| Booklet                    | 7                 | 3.30        | 1.78      | 234                   |
| Chart                      | 8                 | 3.21        | 2.07      | 224                   |
| News paper                 | 9                 | 3.15        | 2.34      | 105                   |

Radio acquired second position with 59.6 per cent subjects showing it preference. Radio possession was found in 60.08 per cent subjects and only about 49 per cent subjects reported to listen it, but as far as media preference is concerned a larger percentage preferred radio after TV. In the age of television revolution, radio listening habits have reduced to a considerable extent but still it was able to hold second place as far as respondent's preference. Radio is the only mass medium which is accessible to both rural and urban audiences in plenty. Findings of the present study support the views of Conroy et al. (2005) that radio and television are the most preferred electronic media by people. He further recommended that greatly large supply of learning aids through radio and television programmes can spread the message more effectively, quickly and accurately. Ngimwa et al. (1997) in their study on Kenyan rural women and Garforth et al. (2003) in Eritrea and Uganda found that women preferred radio most for food and agriculture related information. Study conducted by Sadaf et al. (2006) in Faisalabad district of Pakistan also found preference of TV and Radio over print media. However, in their study most preferred mode of agriculture extension work as reported by rural women was personal contacts. The difference in the results of Sadaf et al.'s (2006) study and the present study could be because of differences in the kind of information, study area and socio-demographic backgrounds.

About 60 percent subjects preferred poster within third place. Calendar was the fourth preferred media. Studies show that text accompanied by pictures is better remembered than text

alone. This so-called 'pictorial superiority effect' is especially strong when people see pictures with an oral explanation and later see the same pictures to remind them of what they heard (Houts et al. 2006). As far as print media is concerned it lacks oral explanation this could be probable reason for giving print media a lower preference over electronic media.

Muhammad and Garforth (2001) reported that radio was the major source followed by television in farmers. In their study, electronic mass media appeared relatively more popular than any other method of communication among farmers. Similarly, in the present study also respondents kept TV and radio as the two most preferred media for food and nutrition related information. However, the difference between the studies is that TV was the most preferred media in present study while in Muhammad and Garforth (2001) study it occupied second position after radio.

Lectures, audio cassettes, booklets, charts were given the 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> place. Newspaper emerged as least preferred media. It may be because of low subscription and poor newspaper reading habits of women. Audio cassettes, booklets, charts and news paper were the four least preferred media reported by subjects. Reason for this may be that these involve non-interactive mode of communication and does not induce subjects to read it again and again.

Raad and Agahi (2003) conducted a study in 11 provinces of Iran and reported the preference given by the respondents for different information sources. They found that books were considered the least important source of information by 23 percent of the respondents.

In order to know the relative ranking of the respondents' priorities given to different food and nutritional information sources, their weighted scores were calculated by multiplying the frequency counts of 1st order priority with 9, 2nd with 8, 3rd with 7, 4th with 6 and 5th with 5, 6<sup>th</sup> with 4, 7<sup>th</sup> with 3, 8<sup>th</sup> with 2 and 9<sup>th</sup> with 1. The weighted scores computed in this way are presented in Table 4. The potential of television as a mass communication medium in creating awareness, educating and motivating the people is unmatched. The data given in Table 4 indicate that as food and nutritional information source for rural women, television gained a very distinct position and it fell in between 1st and 2nd priority categories and got highest score of 1773 and was ranked 1st.

The main reason of preferring television was because of its entertainment value. Research demonstrates that people are more likely to pay attention to information that is accompanied by explanatory pictures (Katz et al. 2006; Levie 1987); this is particularly true for television.

In this study, electronic mass media appeared relatively more popular than the print media or direct contact method of communication among rural women. This finding is similar to the findings of Ani and Baba (2009), who reported popularity of electronic media over other method of communication in farmers of Nigeria.

### Effect of Socio-demographic Factors on Media Utilization

Table 5 contains information on regression analysis of socio-demographic variables influencing utilization of mass media as sources of nutritional information. The data indicate that family income ( $X_1$ ) and educational level of the respondents ( $X_3$ ) had positive coefficients and significant relationship with the utilization of various mass media as sources of information in the study area. This means that an increase in any of these variables would lead to increased utilization of the mass media studied. Age ( $X_2$ ) is negative in its coefficient, but statistically significant at 1 percent level. This could mean that the higher the age of respondents, the less is the utilization of mass media and vice versa. The effect of age can be because the younger respondents had better educational level and were thus utilizing more media, other than this the younger age group had mostly unmarried respondents so could have more leisure time and lesser family responsibilities as compared to married respondents. Thus effect of marriage could be attributed to the lesser free time available on the part of the respondents which substantially could limit their utilization of mass media.  $X_4$  that is marital status was negatively related to utilization of media, indicating that respondents who were not married utilized more media compared to their married counterparts. This could be because of more family responsibilities on married women as compared to unmarried women. The  $X_1$ ,  $X_2$  and  $X_3$  variables are significant at the 1 percent level, while  $X_4$  is relevant at 5 percent significant level.

These findings correspond to those of Ani and Baba (2009) who reported that relationships

**Table 5: Regression analysis of selected characteristics of respondents**

| Variables                       | Coefficients | Standard error | t-value  |
|---------------------------------|--------------|----------------|----------|
| Income ( $X_1$ )                | 0.268        | 0.047          | 2.462*   |
| Age ( $X_2$ )                   | -0.312       | 0.061          | 3.837*   |
| Educational level ( $X_3$ )     | 0.438        | 0.158          | 5.569*   |
| Marital status ( $X_4$ )        | -0.117       | 0.074          | -1.973** |
| Engagement in farming ( $X_5$ ) | -0.341       | 0.043          | 1.091    |
| Body Mass Index ( $X_6$ )       | 0.139        | 0.361          | 1.002    |
| Constant                        | -0.417       |                |          |
| R-squared ( $R^2$ )             | 0.459        |                |          |

\* Significant at 1% level

\*\* Significant at 5 % level

exist between socio-economic characteristics of farmers and dependent variables. Various analyses by Ani and Baba (2009) showed relationship of socio-economic factors such as age of farmers, level of formal education, and accessibility of credit facilities, household size, farm size and income of farmers, which were found to be significant. The significance and positiveness of some of these explanatory variables (income, age, educational level and marital status) could be due to the influence of understanding and exposure and other predictor variables. The implication therefore, is that the higher the level or status of women's education the more will be the utilization of mass media organs as sources of information.

Engagement in the farming and Body Mass Index were found not to be relevant with the media utilization.

However, the coefficient of determination ( $R^2$ ) is 0.417. This means that all the selected independent variables included for the regression analysis explained 41.7 percent of the variation of the use of mass media by the respondents. This therefore, indicates that these variables — income, age, educational level and marital status could be good predictors and determinants of the use of mass media by rural women as sources of food and nutritional information.

### CONCLUSION

This study was on assessment of preference of selected mass media as sources of nutritional information by rural women in hill areas of Uttarakhand State of India. Majority of the sub-

jects were in the age group of 25-35 years, with a high level of formal schooling, indicating that they were able bodied individuals with a great scope on contribution in the society's and family's productivity. Television, radio, print media, was the existing media possessed by rural women. TV emerged as most utilized media followed by radio. Television and radio were rated as first and second most preferred media for receiving nutrition related information. The findings of the study also show that income, age of respondents, their educational level and marital status had positive and significant relationship with the utilization of mass media. It was concluded that majority of the respondents were in favour that nutrition related information were essentially needed by the rural women. It was also concluded that according to the preferences given by rural women for receiving these information television gained a very distinct position and it fell in between 1st and 2nd priority categories.

### RECOMMENDATIONS

On the basis of results and conclusion extracted from the study following recommendations and policy implications are extracted:

1. Government should launch specific training and educational programmes for rural women keeping in view their problems. Content of media should be tailored specifically for subjects. Because culturally tailored pictures help make information personally salient.
2. Women specific programmes should be broadcast through television and radio.

Pictorial information delivery should be an important theory-based element of the interventions, contributing to four components: engagement, comprehension, information retention and behavior change

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