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AVAILABILITY AND CONSUMPTION FREQUENCY OF UNDERUTILIZED GREEN LEAFY VEGETABLES IN LOCAL AREAS OF ALLAHABAD

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ABSTRACT
The dilemma of food and nutritional security is of paramount importance in India. Underutilized crops have promising nutritive value, which can prevent malnutrition and nourish the ever increasing human population. This study was aimed to assess the availability and consumption frequency of underutilized green leafy vegetables in local areas of Allahabad. The four villages namely Budava and Khatangiya from Jasra block, Bagbana and Dhabaon from Chaka block were purposively selected for the study. A total number of 200 women beneficiaries aged between 25-40 years were randomly selected for the study. The data was collected through a developed questionnaire as per pre exposure data. The pooled data shows that Drumstick leaves (*Moringa oleifera*), Pakar *(Ficus infectoria)* and Chirchita (*Achyranthes aspera*), Loni *(Portulaca quadrifida*), Karamwa *(Ipomoea aquatica)*, Lehsua *(Digera arvensis)*, Surwari *(Celosia argentea)* and Sanai *(Crotolaria juncea)*, Indian sorrel leaves (*Oxalis corniculata)* and Pathari *(Boerhavia diffusa)* underutilized green leafy vegetables are available in plenty amount at different seasons. Consumption frequency of available underutilized green leafy vegetable was found that 51.7 percent respondents had never consumed any types of underutilized green leafy vegetables followed by occasionally consumed (18.5 %), weekly consumed (15.35%) ,monthly consumed(11.3 %) and only 3.15 percent respondents were consumed daily. Hence, it is concluded that there is a need to aware them about locally available underutilized green leafy vegetables in order to alleviate micro nutrient deficiencies.

KEYWORDS: Consumption, Availability, Underutilized, Green leafy vegetables**,** Nutrients.

INTRODUCTION
The problem of food and nutritional security is of paramount importance in India. Although, India has achieved national food security, however, chronic food insecurity and nutritional food insecurity persists and is reflected in the form of micronutrient deficiency. With the ever increasing population pressure and fast depletion of natural resources, it has now become necessary that required attention is paid to explore the possibilities of exploiting new plant resources in order to meet the growing need of the human society. In, addition to this, dietary diversity increases the chances of meeting individual's dietary requirements (Pandey, 2008).

Local food crops which generally grow in arid, hilly and tribal areas are rich sources of vitamins, minerals and other nutrients and can provide a solution to the problem of malnutrition to a great extent, provided the masses are exposed to their nutritional and medicinal values through various extension strategies. Most micronutrient rich nutritious foods are considered expensive however, several plant-sources micronutrients rich foods are inexpensive and easy to access but their utilization is minimum. Indigenous foods which are undervalued and classified as food of the poor can play an important role in alleviating hunger and malnutrition. There is a need to focus on the utilization of locally available indigenous food items, encouraging a revaluation of forgotten and neglected foods which are often largely underutilized. This study was aimed to assess the availability and consumption frequency of underutilized green leafy vegetables in local areas of Allahabad.

Methodology
The present study was entitled "Availability and consumption frequency of underutilized green leafy vegetables in local areas of Allahabad".

Location of study
Jasra and Chaka blocks of Allahabad district were purposively selected for conducting this study because it was convenient for the researcher and the researcher had good access to it so regular visits were made for authentic collection of data.

Selection of village
The four villages namely Budava and Khatangiya from Jasra block, Bagbana and Dabhaon from Chaka block were purposively selected for the study.

Sample Selection
A total number of 200 women beneficiaries aged between 25-40 years were randomly selected for the study.

METHODS OF ENQUIRY AND DATA COLLECTION
The data was collected through a developed questionnaire as per pre exposure data.
The interview schedule were enclosed with following information-

1. General profile.
2. Availability and consumption frequency of underutilized green leafy vegetables.

1. General profile
Data regarding general profile of respondents was collected using the developed schedule. The information included name, age, family type, occupation, educational status of the rural women and other related general information.

2. Availability and consumption frequency of underutilized green leafy vegetables
A diet survey was conducted with help developed questionnaire to find out the Names of underutilized green leafy vegetables and the season in which they are available. Food consumption frequency of underutilized green leafy vegetables was also recorded (Kumar et. al , 2003)

RESULTS AND DISCUSSION
The data collected and tabulated under the study are presented with appropriate illustrations and discussed in this chapter.

General information
Table 1: Distribution of the respondents according to the general information

S. No.	Particulars	Female (N=200)	Percentage (%)
1.	**Age (year)**		
	25-30	105	52.5
	30-35	41	20.5
	35-40	33	16.5
	40-45	21	10.5
2.	**Education level**		
	Illiterate	140	70
	Primary	30	15
	High school	6	3
	Intermediate	6	3
	Graduate	18	9
3.	**Caste**		
	General	0	0
	OBC	99	49.5
	SC	82	41
	ST	19	9.5
4.	**Type of family**		
	Nuclear	140	70
	Joint	60	30
5.	**Children**		
	1-2	69	34.5
	3-4	74	37
	5-6	25	12.5
	7-8	11	5.5
	No child	21	10.5

Age
The pooled data showed that in the 52.5 percent respondents were age group 25-30 years, 20.5 percent were age group 31-35 years where as 16.5 percent were in the age group 36-40 years. In the same way only10.5 percent women's were in the group 41-45years.

Education Level
Out of total 70 percent respondents are illiterate, 15 percent of them are educated up to primary, 9 percent of respondent are graduate, 3 percent educated up to high school, 3 percent up to intermediate.

Cast
Out of 200 respondents not a single respondent belongs to general category, 49.5 from OBC category, 41 percent were from SC, 9.5 percent were from ST category.

Type of family
The above data shows that 70 percent have belonged to nuclear families where as 30 percent of women have belonged to joints family.

Children
The data depicts that, among the respondent 34.5 percent women's had 1-2 child, 37 percent had 3-4, 12.5 percent had 5-6 children, 5.5 percent women's had 7-8 numbers of children and 10.5 percent women's had no children.

Table 2: List of underutilized green leafy vegetables available in local areas of Allahabad

S. No.	Names of available underutilized green leafy vegetables	Season
1	Drumstick leaves (Moringa oleifera)	All the year round
2	Pakar (Ficus infectoria)	
3	Chirchita (Achyranthes aspera)	
4	Loni (Portulaca quadrifida)	February-June
5	Karamwa (Ipomoea aquatica)	June-October
6	Lehsua (Digera arvensis)	July-September
7	Surwari (Celosia argentea)	
8	Sanai (Crotolaria juncea)	
9	Indian sorrel leaves (Oxalis corniculata)	July-August
10	Pathari (Boerhavia diffusa)	

The pooled data (Table no. 2) shows that the underutilized green leafy vegetables which are available all the year round are Drumstick leaves (Moringa oleifera), Pakar (Ficus infectoria) and Chirchita (Achyranthes aspera). The underutilized green leafy vegetable available in the month of February-June is Loni (Portulaca quadrifida). The vegetable which is found between the months from June-October is Karamwa (Ipomoea aquatica). The vegetables which are available between the months from July-September are Lehsua (Digera arvensis), Surwari (Celosia argentea) and Sanai (Crotolaria juncea). Whereas, the vegetables found between the months of July-August are Indian sorrel leaves (Oxalis corniculata) and Pathari (Boerhavia diffusa).

Table 3: Frequency distribution of the respondents according to their consumption of locally available Underutilized Green Leafy Vegetables

Underutilized Green Leafy Vegetables	Daily		Weekly		Monthly		Occasionally		Not at all	
	No.	%	No.	%	No.	%	No.	%	No.	%
Indian sorrel leaves (Oxalis corniculata)	0	0.00	0	0.00	0	0.00	0	0.00	200	100
Drumstick leaves (Moringa oleifera)	0	0.00	0	0.00	0	0.00	0	0.00	200	100
Loni (Portulaca quadrifida)	32	16	30	15	47	23.5	48	24	43	21.5
Pathari (Boerhavia diffusa)	11	5.5	34	17	39	19.5	50	25	66	33
Lehsua (Digera arvensis)	20	10	27	13.5	71	35.5	21	20.5	61	20.5
Karamwa (Ipomoea aquatic)	0	0.00	16	8	69	34.5	31	15.5	84	42
Surwari (Celosia argentea)	0	0.00	0	0.00	0	0.00	200	100	0	0.00
Pakar (Ficus infectoria)	0	0.00	0	0.00	0	0.00	0	0.00	200	100
Chirchita (Achyranthes aspera)	0	0.00	0	0.00	0	0.00	0	0.00	200	100
Sanai (Crotolaria juncea)	0	0.00	190	95	0	0.00	0	0.00	10	0.00
Mean	6.3 (3.15 %)		29.7 (15.35 %)		22.6 (11.3 %)		35 (18.5 %)		106.4 (51.7 %)	

The pooled data (Table no. 3) shows that out of 200 respondents, 32 respondents consumed Loni (Portulaca quadrifida), 20 respondents consumed Lehsua (Digera arvensis) and only 11 respondents consumed Pathari leaves (Boerhavia diffusa) daily.

Majority of respondents (190) consumed Sanai (Crotolaria juncea), 34 respondents consumed Pathari (Boerhavia diffusa), 30 respondents consumed Loni (Portulaca quadrifida), 27 respondents consumed Lehsua (Digera arvensis) and only 16 respondents consumed Karamwa leaves (Ipomoea aquatic) weekly.

Lehsua (Digera arvensis) was consumed by 71 respondents whereas about 69 respondents consumed Karamwa (Ipomoea aquatic), 47 respondents consumed Loni (Portulaca quadrifida) and only 39 respondents consumed Pathari leaves (Boerhavia diffusa) monthly.

Surwari leaves (Celosia argentea) was consumed by all respondents, 50 respondents consumed Pathari (Boerhavia diffusa), 48 respondents consumed Loni (Portulaca quadrifida), 31 respondents consumed Karamwa (Ipomoea aquatic) and only 21 respondents consumed Lehsua (Digera arvensis) consumed these underutilized green leafy vegetables occasionally.

Indian sorrel leaves (Oxalis corniculata), Pakar (Ficus infectoria), Chirchita (Achyranthes aspera) and Drumstick leaves (Moringa oleifera) were never consumed by all respondents. About 84 respondents never consumed Karamwa (Ipomoea aquatic), 66

respondents never consumed Pathari (Boerhavia diffusa), 61 respondents never consumed Lehsua (Digera arvensis), 43 respondents never consumed Loni (Portulaca quadrifida), and only 10 respondents never consumed Sanai leaves (Crotolaria juncea).

Pooled Data shows that the Consumption frequency of available underutilized green leafy vegetable was found that 51.7 percent respondents had never consumed any types of underutilized green leafy vegetables followed by occasionally consumed (18.5 %), weekly consumed (15.35%) ,monthly consumed(11.3 %) and only 3.15 percent respondents were consumed daily.

CONCLUSION

On the basis of findings it is concluded that Drumstick leaves (Moringa oleifera), Pakar (Ficus infectoria) and Chirchita (Achyranthes aspera), Loni (Portulaca quadrifida), Karamwa (Ipomoea aquatica), Lehsua (Digera arvensis), Surwari (Celosia argentea) and Sanai (Crotolaria juncea), Indian sorrel leaves (Oxalis corniculata) and Pathari (Boerhavia diffusa) underutilized green leafy vegetables are available in plenty amount at different seasons. Consumption frequency of available underutilized green leafy vegetable was found that 51.7 percent respondents had never consumed any types of underutilized green leafy vegetables followed by occasionally consumed (18.5 %), weekly consumed (15.35%) ,monthly consumed(11.3 %) and only 3.15 percent respondents were consumed daily.

REFERENCES

1. Geetanjali K., Subhdra K., Rana K. and Chengappa, (2005); "Nutritional knowledge, attitude and practices of competitive Indian sportsman". The Indian Journal of Nutrition and Dietitics, 2006; 43; 293-304.
2. Kumar, A. R., Gupta, S. and Gupta, N. "Production and impact study of vitamin A related video for school children". The Indian Journal of Nutrition and Dietetics, 2003; 40(6): 225 – 229.
3. Pandey, A. K. "Underutilized vegetable crops". Delhi, Satish serial publishing house, XIV, 2008; 366. tables, ISBN 81-89304-53-4.