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Impact of Nutritional Practices on Rural Women through Series of Extension Games

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A B S T R A C T

Nutritional knowledge for maintaining good health is necessarily required for the upliftment of country. Food products including cereal, pulses, fruits, vegetables, milk etc. contains high amount of protein, vitamins, minerals, calcium, carbohydrates, calories, dietary fibre and fats and have numerous therapeutic benefits. Due to their health beneficial properties they were incorporated with other ingredients or treated with processing technologies and turned into a new product and projected for estimation of moisture, protein, fat, carbohydrate, calcium and iron. It is necessary to have the knowledge of nutrient contain in food and different technologies to enhance nutritional value. Learning through fun is today's need. For imparting any knowledge games can be the effective source. Present study was conducted in the year 2015-16 with the women of Arjunpura and Raipura villages of Kota District of Rajasthan. In the present study series of games on 6 different aspects Like nutrients and its sources, diseases due to nutritional deficiencies, enhancement in nutritional content of food, processing and value addition of food products and adulteration in food products were prepared and introduced to 60 women in 5groups (12 women in each group). They played in different groups alternatively 3 times each group and their extent of awareness, knowledge, development in skills, adoption, change in behavioural practices influential practices were judged through mean influence by high, moderate and low category. Result showed that nutritional awareness, knowledge, and influential practices towards nutrient content and its enhancement in food were highly increased (86.66%, 81.66%, 83.33%) respectively. It was also found out that skill development, adoption and their behavioural practices were moderately influenced (30.00%, 31.66%, 35.00%) respectively whereas low adoption was found in the area of adoption, influential practices, skill development and behavioural changes 16.66%, 13.33%, 11.66%, 10.00%) respectively

Introduction

It is necessary to have the knowledge of nutrient content in food and different technologies to enhance nutritional value. Learning through fun is today's need. For imparting any knowledge games can be the effective source. Nutritional knowledge for maintaining good health is necessarily required for the upliftment of country. Significantly enhanced the Level of nutritional knowledge among young women (Jain *et al.*, 2013a). Nutrition information of food labels provide information related to

food ingredient, nutrient contents and preparation methods. Thus all people should be promoted for the habit of reading nutrition label while purchasing any food items (Jain *et al.,* 2013b). These types of information can be imparted through recreation. Food processing and preservation of food items is very essential for development of any new food items. Food products including cereal, pulses, fruits, vegetables, milk etc. contains high amount of protein, vitamins, minerals, calcium, carbohydrates, calories, dietary fibre and fats and have numerous therapeutic benefits. Due to their health beneficial properties they were incorporated with other ingredients or treated with processing technologies and turned into a new product and projected for estimation of moisture, protein, fat, carbohydrate, calcium and iron. Some examples of novel food items are fruit yoghurt (Jain *et al.,* 2013f), instant kheer mix (Gupta *et al.,* 2014), Vegetable cereal mix (Gupta *et al.,* 2016).

Nutrameal- shakti aahar (Tiwari *et al.,* 2017) etc. Area of food and Nutrition is very wide and is applicable in day to day life of individual to uplight their health status. With the slight change in their life they can change their health and nutritional status. Therefore in present work influence of series of extension games was assessed in Nutritional practices of rural women.

Materials and Methods

Present study was conducted in the year 2015-16 with the women of Arjunpura and Raipura villages of Kota District of Rajasthan. In the present study series of games on 6 different aspects like Nutrients and its sources, diseases due to nutritional deficiencies, enhancement in nutritional content of food, processing & value addition of food products and adulteration in food products were prepared and introduced to 60 women in 5groups (12 women in each group). They played in different groups alternatively 3 times each group and their extent of awareness, knowledge, development in skills, adoption, change in behavioural practices influential practices were judged through mean influence by high, moderate and low category.

Results and Discussion

After playing and practicing the game the nutritional awareness, knowledge, and influential practices towards nutrient content and its enhancement in food, skill development, adoption and the behavioural practices of rural women were found out.

Table.1 Mean influence on nutritional practices of rural women through series of extension games

S. No.	Aspects of Nutritional Development	Mean Influence		
		High	Moderate	Low
1.	Awareness of Nutrients in food	52 (86.66%)	6 (10.00%)	2 (3.34%)
2.	Knowledge of sources of Nutrients/ deficiency deceases	49 (81.66%)	6 (10.00%)	5 (8.34%)
3.	Skill Development in enhancing/saving nutrients in food	35 (58.34%)	18 (30.00%)	7 (11.66%)
4.	Adoption through improvement in nutritional habits	31 (51.67%)	19 (31.66%)	10 (16.66%)
5.	Behaviour Changes in selection and preparation of food	33 (55.00%)	21 (35.00%)	6 (10.00%)
6.	Influential Practices during intake of nutritional food	50 (83.33%)	2 (3.34%)	8 (13.33%)

Series of Extension games, Krishi Vigyan Kendra, Kota, Agriculture University, Kota

Sources of Nutrients

Protein	Calcium	Iron	Rice, bananas, cashews, ghee, grain, groundnut	Pulses, Egg, Milk	Lemon, orange, tomato, Amla, green chilli, turnips, ginger
Vitamin-'A'	Vitamin-'B'	Vitamin-'C'	Cucumber, potato, raisins	Potato, Sweet potato, beetroot	Spinach, pumpkin, almond, tofu
Calorie Energy	Carbo hydrates	Kalium	Eggs, milk, butter, fruit, yellow carrots	Cabbage, radish, garlic, onion	Almond, cheese, white sesame, spinach, milk, tomato powder
Florin	Copper	Vitamin 'E'	Milk, milk products, papaya, banana	Dry fruits, grain, bitter, gourd, leafy vegetables, oilseed	Podina, turmeric, pomegranate
Antibodies	Vitamin 'B' 12	Riboflavin	Peanut, Beans, peas, Garlic	Salt, grapes, dates, pineapple, black pepper, radish	Grain, cheese, milk & milk products
Nicine Vitamin 'B' 3	Zink	Sulfer	Garlic, honey, apple, amla, cabbage	Mushrooms, linseed, walnut, soybean	Radish, Cabbage,
Vitamin 'D'	Magnesium	Sodium	Green leafy vegetable, saunf, spices, clove, omum	Coffee, peanut, peas	Banana, dry fruits, mustard, cocoa, roasted seasame seeds
Vitamin 'K'	Cadmium	Iodine	Sunshin, milk, whole grains	Barley sesame, pulses, cocoa powder	Rice, grain, banana

Processed Food Products

Amla Candy	Amla Squashes	Amla Murabba	
Laddu	Soybean Milk	Cheese	
Garlic Puree	Garlic Cloves	Garlic Oil	
Tomato Powder	Tomato Sauce	Tomato Puree	
Orange Powder	Lemon Squash	Orange Toffee	
Garlic Powder	Lemon Squash	Pickle	
Ginger Candy	Ginger Murabba	Mango Toffee	
Mango Slice	Mango Murabba	Mango Squash	

Enhancement of Nutritional Content of Food

Germination	Fermentation	Mixing			
Grain+ Vegetable Mixing	Grain+Pulses Mixing	Pulses+ Vegetable Mixing			
Milk+Grain Mixing	Milk+Sweet Mixing	Egg+ Vegetable Mixing			
Milk Fruit Mixing	Rice+ Vegetable Mixing	Sprouted+ Grain+ Vegetable Mixing			
Guava Processing					
Jam	Jelly	Squashes			
Garlic Processing					
Paste	Puree	Pickle			
Spices Processing					
Coriander	Chilli	Turmeric			
Soybean Processing					
Biscuits	Chapatti Bread	Gulab Jamun			

Deficiency Diseases

Vitamin 'A' Deficiency	Nicine Deficiency	Riboflavin Deficiency	Heart disease	Night blindness	Scurvy
Calcium Deficiency	Energy Deficiency	Vitamin 'C' Deficiency	Goiter	Malnutrition (kwashiorkor)	Rickets
Fat Excess	Protein Deficiency	Antibodies Deficiency	Osteoporosis	Florosis	Cholities
Iodine Deficiency	Iron Deficiency	Vitamin Deficiency	Pellagra	Skin disease	Allergy
Copper Deficiency	Thiamin Deficiency	Magnesium Deficiency	Malnutrition (Marasmus)	A blood clot	Beri-Beri
Kalium Deficiency	Sulfur Deficiency	Florin Excess	Nervous disorder	Anemia	Impotency
Tension, Smoking Excess	Zink Excess	Vitamin 'K' Deficiency	Blood pressure	Paralysis / Muscular weakness	Mental imbalance
Sodium Deficiency	Energy Excess	Vitamin 'E' Deficiency	Peptic ulcer	Semi physical development	Obesity

Adulteration in food products

Salt	Red Chilli	Tea leaves	Charcoal Grass Seed	White Stone Sawdust	Chicken Seed
Milk Slim	Pure Ghee	Coffee	Ararot	Papaya Seeds	Cheap Oil
Cumin	Black Pepper	Pies Spices	Water	Kesari Pulse	Sugar Syrup
Milk Thick	Alcohol	Vegetable Ghee	Brick Color	Wood Powder	Husk Powder
Saffron	Cloves Cardamom	Honey	Vegetable Ghee	Chalk gum Starch	Oil Pulling
Jaggery	Coriander	Pulse	Jute Clipping	Methanol poisonous liquor	Use of cadmium characters
Wheat Flour	Apple	Asafoetida	Led chromate	Metenyl yellow color	Lead arsenate
Turmeric	Silver Lining	Fruit Juice	Sand Chalk Powder	Cow-dung	Lead Work

Answer Sheet

Game Series 1 to 5

Question Code			*Answer Code*		
1	2	3	7	1	6
4	5	6	10	8	12
7	8	9	4	18	15
10	11	12	2	3	9
13	14	15	5	21	14
16	17	18	13	11	24
19	20	21	22	16	20
22	23	24	19	17	23

Table 1 revealed that nutritional Awareness of Nutrients in food, knowledge of sources of Nutrients/ deficiency deceases, and Influential Practices during intake of nutritional food towards nutrient content and its enhancement in food were highly increased (86.66%,

81.66%, 83.33%) respectively. It was also found out that skill development, adoption and their behavioural Changes in selection and preparation of food were moderately influenced (30.00%, 31.66%, 35.00%) respectively whereas low adoption was found in the area of adoption, influential practices, Skill Development in enhancing/saving nutrients in food and behavioural changes 16.66%, 13.33%, 11.66%, 10.00%) respectively

It can be concluded that knowledge regarding nutrient content and nutritional practices can be easily imparted in rural/semiliterate individual through fun/recreational activities. These types of nutritional recreational activities will not only help to ease their stress but also will help them to learn and adopt right nutritional practices in a fun manner. The effects of these activities will be long lasting and will help the individuals to improve their health and nutritional status through their indulgence towards healthy and nutritional practices.

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