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Organolptic Evaluation of Sweet and Salty Iron Rich Food Preparation Using Commonly Available Food Stuffs in Haryana

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Abstract – Iron from the diet is the essential part of the hemoglobin which carries oxygen in the blood, therefore, essential at all the stages of life for blood to work efficiently. Low intake of iron was found in various surveys in India by many researchers. Keeping it in view, efforts have been made to develop low cost nutritious recipes using locally available and acceptable ingredients. Organolptic evaluation of the prepared recipes has also been carried out.

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INTRODUCTION

Iron is an essential component required for energy metabolism as well as for neurological development. Its deficiency at any age affects the physical and mental health of the individual (Scrimshaw, 1990). Deficiency of this vital mineral can make people feel tired, irritable and less able to concentrate (www.britishnutrition.org.uk). A survey carried out by National Family Health Survey (NFHS-3) in 2005-06, reported more than 82 per cent children in Haryana are anemic. In case of females of rural area, prevalence of anemia was 82.9 per cent. Kripalani (2006) also stated that 70 per cent of women are affected with iron deficiency anemia. Research work carried out by Gupta and Kochar (2008) also indicated anemic rate in adolescent girls was 99.23 per cent.

Pursuing with this review, it is noticed that meager work has been done so far to combat with anemia. Literature available on the use of low cost nutritious recipes that are rich in iron content and can be consumed comfortably by the people of Haryana is very less. Hence, keeping in view, a need has been felt to develop iron rich food supplement without adding much to the cost to widely acceptable recipes prepared with commonly available food stuffs in order to overcome anemia.

PREPARATION OF IRON RICH FOOD SUPPLEMENTS

Commonly available and acceptable Iron rich food stuffs namely -Rice-Flakes, Peanuts, Bengal gram (roasted), Black Til, Coconut powder (de-oiled), Jaggery, Ajwain, Spinach and Fenugreek leaves (dried and fresh) were used for the preparations of various sweet and salty recipes. The food stuffs were purchased in bulk from the grocery shop. Fresh green leafy vegetables were taken from the kitchen garden and these were dried hygienically in the laboratory. Food products used were prepared daily in the laboratory taking into consideration the hygiene. The developed products were Rice-flakes *namkeen, Til laddu, Paushtic laddu, Methi & til mathri,* Coconut *burfi,* palak- *methi pakora* and *poha.* Composition of the food ingredients used to prepare iron rich nutritious recipes with iron content in each recipe is given in Table -I

Table I

COMPOSITION OF DEVELOPED RECIPES

Ingredients (gms)	Palak Methi Pakoda	Rice Flakes Namkeen	Poha	Til laddu	Coconut burfi	Paushtic laddu	Palak til matar
Rice flakes	-	40	50	-	-	-	-
Ground nut	-	25	25	-	30	25	-
Black gram	-	25	15	-	-	25	-
Black til	-	-	-	25	-	30	20
Deoiled coconut powder	-	-	-	-	20	-	-
Jaggary	-	-	-	10	-	20	-
Wheat floor	-	-	-	-	-	-	75
Besan	50	-	-	-	-	-	-
Spinach	(fresh)20	-	-	-	-	-	(Dried)10
Methi leaves	(fresh)10	-	-	-	-	-	(Dried)10
Sugar	-	-	-	-	40	-	-
Oil	For frying	For frying	5	-	-	-	For frying
Iron Content	**7.39**	**15.69**	**15.09**	**15.31**	**15.21**	**22.46**	**16.34**

The perusal of Table- 1, indicate that the major ingredients used to prepare iron rich recipe were rich in iron as per ICMR (1989). Iron content of each recipe ranges from 7.39 to 22.46 mg, depending on the amount of ingredients used. This quantity would be sufficient if provided along with regular diet to the females suffering from iron deficiency. These preparations were made by using different methods

of cooking like roasting, shallow frying and deep frying.

Developed recipes were subjected to the sensory evaluation by a panel of ten judges in the Department of Home science, Kurukshetra University and evaluated for colour, appearance, aroma, texture, taste and overall acceptability (Table II). The judges were instructed to sip water before and after testing each product. Quality characteristics of each sample was recorded on a nine point Hedonic Rating Scale, i.e. 9, 8, 7, 6, 5, 4, 3, 2, 1 for- like extremely, like very much, like moderately, like slightly, neither like nor dislike, dislike slightly, dislike moderately, dislike very much, dislike extremely, respectively. Only mean scores of each characteristic were calculated.

TABLE II

MEAN SCORES OF ORGANOLEPTIC CHARACTERISTICS OF DEVELOPED RECIPES

	Colour	Appearance	Aroma	Texture	Taste	Overall Acceptability
Rice Flakes Namkeen	7.9 ±0.3	8.3 ±0.1	7.8 ±0.2	8.1 ±0.2	8.5 ±0.2	7.9 ±0.1
Til Laddu	7.2 ±0.2	7.0 ±0.3	7.5 ±0.1	7.1 ±0.1	7.7 ± 0.2	7.4 ±0.2
Coconut Paustik Burfi	7.7 ±0.3	7.2 ±0.2	7.0 ±0.3	7.3 ±0.3	7.2 ±0.3	7.3 ±0.1
Poha	7.4 ± 0.2	7.7 ±0.1	7.9 ±0.3	7.3 ±0.1	7.9 ±0.1	7.5 ±0.2
Palak Methi Matar	7.3 ±0.3	7.1 ±0.3	7.2 ±0.2	7.0 ±0.2	7.1 ±0.2	7.2 ±0.3
Palak Methi Pakora	7.9 ±0.2	8.0 ±0.2	8.0 ±0.1	7.0 ±0.1	7.6 ±0.1	7.9 ±0.2
Paushtik Laddu	7.2 ±0.3	7.1 ±0.1	6.5 ±0.3	6.6 ± 0.1	7.0 ±0.2	7.1 ±0.3

(VALUES ARE MEAN ± S)

Overall maximum acceptability/sensory scores given to Rice flakes *namkeen, palakmethi pakora* and *poha* were 7.91 ± 0.1, 7.9 ± 0.2 and 7.5 ± 0.2, respectively. However, the respective acceptability scores of *til laddu,* coconut *paushtic burfi,* Palak Methi Mattur and Paushtik Laddu were 7.4 ± 0.2, 7.3 ± 0.1, 7.2 ± 0.3 and 7.1 ± 0.3 respectively.

CONCLUSION

Going through the evaluation rating of the products, it is concluded that either of the product can be included in the daily diet of human beings especially the women, who are more prone to iron deficiency for keeping better health.

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