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Nutritional Enhancement of Some Popular Rice Based Traditional Recipes of Chhattisgarh

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Abstract: ***The inhabitants of Chhattisgarh the "Rice Bowl" of India, eat rice in all the meals as a staple cereal and they also use rice as a main ingredient in all their other food preparations. Rice is a good source of carbohydrate and hence is quite energy dense but is deficient in a number of essential amino acids. So this study was undertaken and ten traditional recipes popularly consumed in Urban, Rural as well as Tribal belts of Chhattisgarh were value added by functional ingredients like soy flour, soy milk, soy curd, bengal gram, spinach & groundnut. Three different samples along with control samples were prepared and evaluated nutritionally. Nutritive value was calculated using Food Composition Table in terms of energy, protein, calcium, iron & vitamin A. It was observed that the energy value of such recipes rose in a range of 16.8 kcal to 103.2 kcal while the protein content dramatically shooted up in a range of 5.38 g to 16.32 g. The micronutrient content like calcium, iron & vitamin A rose in a range of 17.55 mg to 89.7 mg, 1.58 mg to 4.13 mg & 16.95 µg to 941.5 µg, respectively. Thus the results revealed a dramatic improvement in proteins and other important micronutrients. The study supports the view that to combat malnutrition, existing in Chhattisgarh specifically & in the entire country in general value addition of popular recipes can play a major role.***

Keywords: Nutritive value, Protein quality, Rice based traditional recipes, Value addition

1. Introduction

Traditional Recipes are those which are specific of the region and are prepared and eaten since time immemorial. Traditional recipes are generally prepared out of the staple crop grown in that region. The staple food of the Rice Bowl of the country-"Dhan ka Katora" is Rice. Quite naturally the typical Chhattisgarhi cuisine is a take-off on Rice preparations. A regular Chhattisgarhi meal comprises rice, pulses, and a green leafy vegetable. A green fresh chutney of tomatoes, green chillies and coriander leaves is a much relished item of Chhattisgarhi meal. The Chhattisgarhi meal is high in carbohydrates and some micronutrients but the quality of Protein is not very good.

New Rice which is harvested in the month of November is used for the preparation of number of traditional recipes. Cheela, Farah, Muthia, Murrah Laddu, Lai laddu, Murku, Chaur Pedia, Aairsa, Khaja, Biria, Gulgula, Chousela, Dehrori, Lapsi and Babra are mouth-watering traditional delicacies of Chhattisgarh.

Though rice can meet out the daily calorie requirement of a person very well, as it is rich in carbohydrate, but is deficient in a number of essential amino acids and micronutrients. So all the recipes made out of rice are generally deficient in the above nutrients. To enhance the nutritive value of the rice based recipes by adding functional ingredients to them and also to improve their appearance, taste and texture is the basic objective of Value addition. **Blah & Joshi (2013)** performed a study on various traditional foods consumed by ethnic Khasi tribe of Meghalaya, India. A total of 80 dissimilar most preferred recipes of vegetarian and non-vegetarian were selected and standardized. A panel of 10 women assessed the recipes for sensory acceptance. The Nutritive value of the standardized recipes were calculated for one portion size meal for all the major & micronutrients such as energy, protein, fat, carbohydrate, fibre, calcium, iron, vitamin C and carotene. **Dorner (2009)** has suggested that those people who are unable to get enough nutrition from their diets and those people who have poor diet can take Value added products in the form of calorie and protein boosters.

2. Review of Literature

Li et al. (2013) analyzed on Composition, Utilization of Soybean curd residue. Throughout the world production of soybean products has been increasing. The problem of dumping of SCR can be solved due to its contamination of environment. Soybean curd residue is high in protein, vitamins, fat, fiber and trace elements. The objective of this study was to fully investigate, review and summarize the existing literature in order to build up a comprehensive knowledge base for the composition and reuse of SCR. It was proved that SCR has good potential as a functional food material.

Singh & Grover (2014) showed a study on standardize iron rich cereal based traditional recipes with dried Bengal gram leaves for iron security. In blanched Bengal gram leaves rehydration ratio (4.07), chlorophyll content (16±0.42mg/g) and total iron content (93.61±0.08mg/100g) were recorded. Dehydrated Bengal gram leaves powder was incorp--orated into 'Chapatti', deep fried 'Poori' and shallow fried 'Paratha' at 5, 7.5 & 10% stages. The result of this study was concluded that total iron content was higher in chapatti (14.7mg/100gm) supplemented with dehydrated Bengal gram leaves than Poori (12.8mg/100gm) and Paratha (13.33mg/100gm).

So, in order to assess the Nutritive value of traditional recipes of Chhattisgarh this study was planned. The selected recipes were assessed nutritionally for their energy, protein, calcium, iron & vitamin A content. Value addition of the recipes was done using soya products, bengal gram, spinach

and groundnut. Again the Nutritive value of the enriched recipes was calculated using Food Composition Tables of ICMR.

3. Methodology

An experimental study was planned to supplement the recipes with suitable ingredients in order to enhance their Nutritive value. Popular rice based traditional recipe samples were selected from different areas of Chhattisgarh state namely Urban, Rural and Tribal. Ten selected recipes were prepared in laboratory using standard techniques. The whole experiment had one control sample A and three Value added sample as sample B, C and D with 10%, 20% and 30% Value addition, respectively. Value addition of the traditional recipes was done to improve its Nutritive value, its appearance, & its taste. For Value addition soy flour, soy milk, soy curd, bengal gram, spinach and groundnut was used. Calculation of Nutritive value of control and Value added recipes was carried out using Food Composition Tables of (ICMR). Nutritive value was calculated in terms of Macronutrients such as energy, protein and Micronutrients such as calcium, iron & vitamin A. Simple statistics in terms of percentage and difference was calculated from the collected data. The percentage increase in Nutritive values determined by the following formula:

Value added sample – Control sample % increase in Nutritive value = **/ Control sample * 100**

4. Results and Discussions

The results of the study are depicted in Table No.1 to Table No.6.

The recipes selected for Value addition were some of the most popular dishes used in the Urban, Rural and Tribal Chhattisgarh. A total of 10 recipes were selected, out of which five were Rice based salty recipes while five were Rice based sweet recipes mostly used as snacks and during festive occasions. Out of the 10 selected recipes, all the 10 recipes were popularly used in Urban Chhattisgarh, seven in Rural Chhattisgarh while only six recipes were popularly used in Tribal Chhattisgarh. The distribution of the recipes is depicted in Table No.1 and 2.

Table 1: Distribution of the Selected Recipes on the basis of their Usage in population

S. No.	Name of recipe	Urban	Rural	Tribal
1	Angakar Roti	✓	✓	✓
2	Cheela	✓	✓	✓
3	Chousela	✓	✓	----
4	Farah	✓	✓	✓
5	Muthia	✓	✓	✓
6	Aairsa	✓	----	----
7	Dehrori	✓	----	----
8	Dudh Farah	✓	✓	✓
9	Lai Laddoo	✓	✓	✓
10	Chaur Pedia	✓	----	----

Table 2: Calculation of Nutritive value of the Selected Rice based Recipes "Before" & "After" Value Addition in terms of Energy (kcal)

S. No.	N ame of recipe	Type of recipe	Control sample A	10% Value addition sample B	20% Value addition sample C	30% Value addition sample D
1	Angakar Roti	Salty	737	809 (9.7)	794 (7.7)	779 (5.7)
2	Cheela	Salty	526	598 (13.6)	583 (10.8)	568 (8.0)
3	Chousela	Salty	526	618 (17.5)	624 (18.6)	629 (19.6)
4	Farah	Salty	810	816 (0.7)	821 (1.4)	827 (2.1)
5	Muthia	Salty	867	873 (0.7)	879 (1.4)	884 (2.0)
6	Aairsa	Sweet	850	866 (1.9)	881 (3.6)	897 (5.5)
7	Chaur Pedia	Sweet	1350	1356 (0.4)	1362 (0.9)	1367 (1.3)
8	Dehrori	Sweet	808	813 (0.6)	819 (1.4)	824 (2.0)
9	Dudh Farah	Sweet	493	498 (1.0)	504 (2.2)	509 (3.2)
10	Lai Laddoo	Sweet	729	741 (1.6)	754 (3.4)	766 (5.1)

Values in parentheses ( ) show percentage change.

The five salty preparations consisted of Angakar Roti, Cheela, Chousela, Farah & Muthia, while the sweet preparations were Aairsa, Chaur Pedia, Dehrori, Dudh farah & Lai Laddoo.

Table No. 2 depicts the energy content of the ten selected recipes "before" and "after" Value addition. It was found that "**Angakar Roti**" which is a thick chapati made out of boiled rice, rice flour, salt & oil had a calorie value of 737 kcal. But after Value addition with bengal gram, spinach and soy milk its calorie content was 809 kcal, 794 kcal & 779 kcal in 10%, 20% & 30%, respectively. "**Cheela**" which is salted thin rice pancake had a calorie value of 526 kcal. But after Value addition with bengal gram, spinach and soy curd its calorie content was 598 kcal, 583 kcal & 568 kcal in 10%, 20% & 30%, repectively. "**Chousela**" which is the salty poorie made out of rice flour had a calorie value of 526 kcal. But after Value addition with bengal gram, soy flour and soy milk its calorie content was 618 kcal, 624 kcal & 629 kcal in 10%, 20% & 30%, respectively. "**Farah**" which is very tasty dish made up of boiled rice, rice flour, til, salt and oil. Its nutritive value in terms of calorie was 810 kcal. But after Value addition with bengal gram and soy flour its calorie content became 816 kcal, 821 kcal & 827 kcal in 10%, 20% & 30%, respectively. "**Muthia**" which is the traditional dish made up of boiled rice, rice flour, gingelly seeds (til) & salt had a calorie value of 867 kcal. But after Value addition with bengal gram & soy flour its calorie content was 873 kcal, 879 kcal & 884 kcal in 10%, 20% & 30, respectively. "**Aairsa**", the sweet, semi hard fried disces made out of rice flour, jaggery and gingelly seeds had a calorie value of 850 kcal. But after Value addition with soy flour & groundnut its calorie content was 866 kcal, 881 kcal & 897 kcal in 10%, 20% & 30%, respectively."**Chaur Pidiya**" which is a very

traditional Chhattisgarhi sweet dish. Chaur Pidiya is sweet, hard, coconut coated elliptical balls made out of rice flour, sugar, ghee & coconut had a calorie value of 1350 kcal. But after Value addition with soy flour and bengal gram its calorie content became 1356 kcal,1362 kcal & 1367 kcal in 10%, 20% & 30%, respectively. "**Dehrori**" which is energy dense, fried soft ball made out of rice, ghee and coated with jaggery syrup had a calorie value of 808 kcal. But after Value addition with soy flour and bengal gram its calorie content was 813 kcal, 819 kcal & 824 kcal in 10%, 20% & 30%, respectively. "**Dudh Farah**" is a popular recipe of natives of Chhattisgarh which is sweet boiled rice product cooked in milk had a calorie value of 493 kcal. But after Value addition with soy flour and bengal gram its calorie content was 498 kcal, 504 kcal & 509 kcal in 10%, 20% & 30%, respectively. "**Lai Laddoo**" which is sweet traditional Chhattisgarhi preparation, made out of lai & jaggery syrup had a calorie value of 729 kcal. But after Value addition with roasted channa and groundnut its calorie content was 741 kcal, 754 kcal & 766 kcal in 10% 20% & 30%, respectively.

Table 3: Calculation of Nutritive value of the Selected Rice based Recipes "Before" & "After" Value Addition in terms of Protein (g)

S. No.	Name of recipe	Type of recipe	Control sample A	10% Value addition sample B	20% Value addition sample C	30% Value addition sample D
1	Angakar Roti	Salty	13	22 (69.2)	22 (69.2)	23 (76.9)
2	Cheela	Salty	6	16 (166.6)	16 (166.6)	17 (183.3)
3	Chousela	Salty	6	18 (200)	20 (233.3)	23 (283.3)
4	Farah	Salty	14	16 (14.2)	19 (35.7)	21 (50)
5	Muthia	Salty	15	17 (13.3)	20 (33.3)	22 (46.6)
6	Aairsa	Sweet	9	11 (22.2)	14 (55.5)	17 (88.9)
7	Chaur Pedia	Sweet	9	12 (33.3)	14 (55.5)	17 (88.9)
8	Dehrori	Sweet	7	9 (28.5)	12 (71.4)	14 (100)
9	Dudh Farah	Sweet	10	12 (20)	15 (50)	17 (70)
10	Lai Laddoo	Sweet	7	9 (28.5)	10 (42.8)	12 (71.4)

Values in parentheses ( ) show percentage change

Table No. 3 depicts the protein content of the ten selected recipes "before" and "after" Value addition. It was found that "**Angakar Roti**" had a protein value of 13 g. But after Value addition with 10%, 20% & 30% its protein content was 22 g, 22 g, & 23 g, respectively. "**Cheela**" had a protein value of 6 g. But after Value addition with 10%, 20% & 30% its protein content was 16 g, 16 g, & 17 g, respectively. "**Chousela**" had a protein value of 6 g. But after Value addition with 10%, 20% & 30% its protein content was 18 g, 20 g, & 23 g, respectively. "**Farah**" had a protein value of 14 g. But after Value addition with 10%, 20% & 30% its protein content was 16 g, 19 g, & 21 g, respectively. "**Muthia**" had a protein value of 15 g. But after Value addition with 10%, 20% & 30% its protein content was 17 g, 20 g, & 22 g, respectively. "**Aairsa**" had a protein value of 9 g. But after Value addition with 10%, 20% & 30% its protein content was 11 g, 14 g, & 17 g, respectively "**Chaur Pedia**" had a protein value of 9 g. But after Value addition with 10%, 20% & 30% its protein content was 12 g, 14 g, & 17 g, respectively. "**Dehrori**" had a protein value of 7 g. But after Value addition with 10%, 20% & 30% its protein content was 9 g, 12 g, & 14 g, respectively. **"Dudh Farah"** had a protein value of 10 g. But after Value addition with 10%, 20% & 30% its protein content was 12 g, 15 g, & 17 g, respectively. **"Lai laddoo"** had a protein value of 7 g. But after Value addition with 10%, 20% & 30% its protein content was 9 g, 10 g, & 12 g, respectively.

Table No. 4: Calculation of Nutritive value of the Selected Rice based Recipes "Before" & "After" Value Addition in terms of Calcium (mg)

S.No.	Name of recipe	Type of recipe	Control sample A	10% Value addition sample B	20% Value addition sample C	30% Value addition sample D
1	Angakar Roti	Salty	18	72 (300)	77 (327.7)	83 (361.1)
2	Cheela	Salty	9	39 (333.3)	68 (655.4)	74 (722.2)
3	Chousela	Salty	9	71 (688.8)	85 (844.4)	99 (1000)
4	Farah	Salty	91	104 (14.2)	118 (29.6)	132 (45)
5	Muthia	Salty	99	112 (13.1)	126 (27.2)	140 (41.4)
6	Aairsa	Sweet	210	225 (7.1)	240 (14.2)	255 (21.4)
7	Chaur Pedia	Sweet	161	175 (8.6)	188 (16.7)	202 (25.4)
8	Dehrori	Sweet	49	63 (28.5)	77 (57.1)	91 (85.7)
9	Dudh Farah	Sweet	131	145 (10.6)	159 (21.3)	173 (32)
10	Lai Laddoo	Sweet	89	95 (6.7)	101 (13.4)	107 (20.2)

Values in parentheses ( ) show percentage change

Table No. 4 depicts the calcium content of the ten selected recipes "before" and "after" Value addition. It was found that "**Angakar Roti**" had a calcium value of 18 mg. But after Value addition with 10%, 20% & 30% its calcium content was 72 mg, 77 mg, & 83 mg, respectively. "**Cheela**" had a calcium value of 9 mg. But after Value addition with 10%, 20% & 30% its calcium content was 39 mg, 68 mg, & 74 mg, respectively. "**Chousela**" had a calcium value of 9 mg. But after Value addition with 10%, 20% & 30% its calcium content was 71 mg, 85 mg, & 99 mg, respectively. "**Farah**" had a calcium value of 91 mg. But after Value addition with 10%, 20% & 30% its calcium content was 104 mg, 118 mg,

& 132 mg, respectively. "**Muthia**" had a calcium value of 99 mg. But after Value addition with 10%, 20% & 30% its calcium content was 112 mg, 126 mg, & 140 mg, respectively. "**Aairsa**" had a calcium value of 210 mg. But after Value addition with 10%, 20% & 30% its calcium content was 225 mg, 240 mg, & 255 mg, respectively. "**Chaur Pedia**" had a calcium value of 161 mg. But after Value addition with 10%, 20% & 30% its calcium content was 175 mg, 188 mg, & 202 mg, respectively. "**Dehrori**" had a calcium value of 49 mg. But after Value addition with 10%, 20% & 30% its calcium content was 63 mg, 77 mg, & 91 mg, respectively. **"Dudh Farah"** had a calcium value of 131 mg. But after Value addition with 10%, 20% & 30% its calcium content was 145 mg, 159 mg, & 173 mg, respectively. **"Lai laddoo"** had a calcium value of 89 mg. But after Value addition with 10%, 20% & 30% its calcium content was 95 mg, 101 mg, & 107 mg, respectively

Table 5: Calculation of Nutritive value of the Selected Rice based Recipes "Before" & "After" value Addition in terms of Iron (mg)

S. No.	Name of recipe	Type of recipe	Control sample A	10% Value addition sample B	20% Value addition sample C	30% Value addition sample D
1	Angakar Roti	Salty	2	4 (100)	5 (150)	5 (150)
2	Cheela	Salty	1	3 (200)	4 (300)	4 (300)
3	Chousela	Salty	1	4 (300)	5 (400)	5 (400)
4	Farah	Salty	2	3 (50)	4 (100)	5 (150)
5	Muthia	Salty	3	3 (0)	4 (33.3)	5 (66.6)
6	Aairsa	Sweet	4	4 (0)	5 (25)	5 (25)
7	Chaur Pedia	Sweet	3	3 (0)	4 (33.3)	5 (66.6)
8	Dehrori	Sweet	2	3 (50)	4 (100)	4 (100)
9	Dudh Farah	Sweet	1	2 (100)	3 (200)	3 (200)
10	Lai Laddoo	Sweet	4	4 (0)	5 (25)	5 (25)

Values in parentheses ( ) show percentage change

Table No. 5 depicts the iron content of the ten selected recipes "before" and "after" Value addition. It was found that "**Angakar Roti**" had iron value of 2 mg. But after Value addition with 10%, 20% & 30% its iron content was 4 mg, 5 mg, & 5 mg, respectively. "**Cheela**" had iron value of 1 mg. But after Value addition with 10%, 20% & 30% its iron content was 3 mg, 4 mg, & 4 mg, respectively. "**Chousela**" had iron value of 1 mg. But after Value addition with 10%, 20% & 30% its iron content was 4 mg, 5 mg, & 5 mg, respectively. "**Farah**" had iron value of 2 mg. But after Value addition with 10%, 20% & 30% its iron content was 3 mg, 4 mg, & 5 mg, respectively. "**Muthia**" had iron value of 3 mg. But after Value addition with 10%, 20% & 30% its iron content was 3 mg, 4 mg, & 5 mg, respectively. "**Aairsa**" had iron value of 4 mg. But after Value addition with 10%, 20% & 30% its iron content was 4 mg, 5 mg, & 5 mg, respectively."**Chaur Pedia**" had iron value of 3 mg. But after Value addition with 10%, 20% & 30% its iron content was 3 mg, 4 mg, & 5 mg, respectively. "**Dehrori**" had iron value of 2 mg. But after Value addition with 10%, 20% & 30% its iron content was 3 mg, 4 mg, & 4 mg, respectively. **"Dudh Farah"** had iron value of 1 mg. But after Value addition with 10%, 20% & 30% its iron content was 2 mg, 3 mg, & 3 mg, respectively. **"Lai laddoo"** had iron value of 4 mg. But after Value addition with 10%, 20% & 30% its iron content was 4 mg, 5 mg, & 5 mg, respectively.

Table 6: Calculation of Nutritive value of the Selected Rice based Recipes "Before" & "After" Value Addition in terms of Vitamin A (µg)

S. No.	Name of recipe	Type of recipe	Control sample A	10% Value addition sample B	20% Value addition sample C	30% Value addition sample D
1	Angakar Roti	Salty	38	408 (973.6)	694 (1726)	979 (2476)
2	Cheela	Salty	150	521 (247.3)	806 (437.3)	1092 (628)
3	Chousela	Salty	150	263 (75.3)	291 (94)	318 (112)
4	Farah	Salty	78	106 (35.8)	134 (71.7)	161 (106.4)
5	Muthia	Salty	133	161 (21.0)	188 (41.3)	216 (62.4)
6	Aairsa	Sweet	156	177 (13.4)	199 (27.5)	220 (41.0)
7	Chaur Pedia	Sweet	387	415 (7.2)	443 (14.4)	470 (21.4)
8	Dehrori	Sweet	210	232 (10.4)	266 (26.6)	293 (39.5)
9	Dudh Farah	Sweet	53	81 (52.8)	109 (105.6)	136 (156.6)
10	Lai Laddoo	Sweet	0	6	11	17

Values in parentheses ( ) show percentage change

Table No. 6 depicts the vitamin A content of the ten selected recipes "before" and "after" Value addition. It was found that "**Angakar Roti**" had a vitamin A value of 38 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 408 µg, 694 µg, & 979 µg, respectively. "**Cheela**" had a vitamin A value of 150 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 521 µg, 806 µg, & 1092 µg, respectively. "**Chousela**" had a vitamin A value of 150 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 263 µg, 291 µg, & 318 µg, respectively. "**Farah**" had a vitamin A value of 78 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 106 µg, 134 µg, & 161 µg, respectively. "**Muthia**" had a vitamin A value of 133 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was

161 µg, 188 µg, & 216 µg, respectively. "**Aairsa**" had a vitamin A value of 156 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 177 µg, 199 µg, & 220 µg, respectively. "**Chaur Pedia**" had a vitamin A value of 387 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 415 µg, 443 µg, & 470 µg, respectively. "**Dehrori**" had a vitamin A value of 210 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 232 µg, 266 µg, & 293 µg, respectively. **"Dudh Farah"** had a vitamin A value of 53 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 81 µg, 109 µg, & 136 µg, respectively. **"Lai laddoo"** had a vitamin A value of 0 µg. But after Value addition with 10%, 20% & 30% its vitamin A content was 6 µg, 11 µg, & 17µg, respectively

5. Conclusion

Traditional food items are generally made out of single food grain and hence do not contain multiple nutrients. Value addition of these popular traditional recipes can certainly improve their nutritional content qualitatively as well as quantitatively (Dorner 2009). The ingredients used for Value addition are also very important. In the present study these ingredients were soy flour, soy milk, soy curd, bengal gram, groundnut and green leaves like spinach. This study is in line with the work of many other researchers of the field (Blah & Joshi 2013, Li et al 2013, Nair et al 2013, Patil & Khan 2011, Rahman et al 2006, Singh & Grover 2014). In the present study, from the results it can be observed that any three forms of Value addition i.e. 10%, 20% and 30% is good but the Nutritional attributes were found to be the best with 30% Value addition. The energy value of the recipes after 30% Value addition rose in a range of 16.8 kcal to 103.2 kcal while the protein content dramatically shooted up in a range of 5.38 g to 16.32g. The micronutrient content like calcium, iron & vitamin A rose in a range of 17.55 mg to 89.7 mg, 1.58 mg to 4.13 mg & 16.95 µg to 941.5 µg, respectively. Thus the results revealed a dramatic improvement in proteins and other important micronutrients. These new Value added recipes need popularization among the community, so that people may get maximum advantage of it. This can be done using awareness programmes and exhibitions. The proposed study is an approach for developing a model that may serve to combat malnutrition in Chhattisgarh state by preparing nutritionally adequate recipes from traditional recipes and further promoting these recipes among the population, especially the women who are responsible for food preparation at home.

References

[1] Blah, Mandari, Mary & Joshi SR. (2013). ***Nutritional content Evaluation of Traditional recipes consumed by ethnic communities of Meghalaya***, India j. Traditional knowledge, 12 (3): 498-505.
[2] Dorner, Becky., RD, LD Today' Dietician (2009). ***Fortify to Enhance Nutritional* Value** www.becky., 11 (7): 20.
[3] Gopalan, C., Rama Sastri, B.V., & Balasubramanian S.C. (2012). Nutritive Value of Indian Foods. National Institute of Nutrition, Indian council of Medical Research (ICMR) Hyderabad-500007, INDIA, 47-84.
[4] Li, Shuhong., Zhu, Dan., Li, Kejuan., Yang, Yingnan., Lei, Zhongfang and Zhang, Zlenya (2013). ***Soybean Curd Residue: Composition, Utilization and Related Limiting Factors*** Article ISRN Industrial Engineering., 8
[5] Nair, Biji., Joglekar, Abhaya., Verma, Sandhya (2013). ***Sensory and Nutritional Quality of Soy fortified traditional product*** Int. Res. j. Pharm., 4(11): 95-97
[6] Patil, Swati, Bhauso & Khan, Md. Khalid (2011). ***Germinated brown rice as a value added rice product: A review***. J. food Sci. Technol., 48 (6):661-667
[7] Rahman, Shakeelur., Sharma, MP & Sahai, Suman (2006). ***Nutritional and*** *medicinal values of some indigenous rice varieties* Indian journal of Traditional knowledge, 5 (4): 454-458
[8] Singh, Anchal & Grover, Kiran (2014). ***Post-Harvest Processing and Standardization of Value Added Cereal Based Traditional Recipes for Iron Security.*** Asian j. Dairy and food research, 33 (4): 267-275
[9] https://en.wikipedia.org/wiki/chhattisgarh

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