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# Evaluation of acceptability of radish poori

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## ABSTRACT

The study was undertaken to evaluate organoleptic characteristics of radish *poori* for acceptability. Three variations were prepared with different levels of incorporation of radish at 0, 15, 18 and 20 per cent and radish leaves at 0, 10, 7 and 5 per cent and also without incorporation of radish and radish leaves to serve as a control. Three variations and one control were served freshly to 10 judges for the evaluation of organoleptic characteristics like colour, flavour, taste, texture and overall acceptability. The results revealed that first variation (incorporation of radish 15% and radish leaves 10%) stood first in all sensory properties recorded by panel members. The third variation was prepared with incorporation of radish at 20 per cent level and radish leaves at 5 per cent which indicated that colour, texture and test and over all acceptibility scores were comparatively low. From this finding it can be concluded that radish added upto 15 per cent and radish leaves upto 10 per cent may serve as the preparation of supplementary food *poori*.

**Key words :** Radish, Evaluation, *Poori*.

Radish is a popular vegetables in both tropical and temperate regions. It is grown for its young tender tuberious roots, which are eaten raw as salad or cooked as a vegetable. It is relished for its pungent flavour and is considered as an appetizer. The young leaves are also cooked as vegetable and eaten. It has refreshing depurative properties. Its preparations are useful in liver and gall bladder troubles. Roots, leaves, flowers and pods are active against gram positive bacteria. The roots are said to be useful in urinary complaints, piles and gastrodynia. The juice of fresh leaves is used as diuretic and laxative. The seeds are said to be peptic expectorant, diuretic and carminative (Kirtikar and Basu, 1935).

Many people in India do not like to eat radish due to its characteristics of pungent flavour. They are not aware of its importance in diet as it has most medicinal value. Apart from this, the data available on root product is scanty. Hence, the present study was undertaken to find out the effects of different levels of radish incorporation, on the acceptability of selected supplementary food and evaluate organoleptic characteristics of developed recipe for acceptability.

## METHODOLOGY

### *Collection of materials:*

Radish and radish leaves were procured from local market of Parbhani city. They were cleaned separately and kept in refrigerator till experiment was over.

### *Procedure of poori preparation:*

Ingredients used for the preparation of *poori* are given in Table 1. Mix wheat flour 70g and 20g chickpea dal flour. Clean and roast the sesamum till light brown colour obtain, peel garlic, wash green chilli and grind it with garlic flakes into paste. Add cumin seed powder, red chilly powder, turmeric, salt, garlic paste, roasted sesamum and lime juice to wheat flour. Mix it well and knead all the ingredients by using required amount of water. Divide the dough in equal balls. Roll out the *poori* and fry it in deep frying pan till light brown colour obtain and serve hot.

**Table 1 : Ingredients used for preparation of *poori***

| Ingredients | Amount (g) |
|---|---|
| Wheat flavour | 70 |
| Besan (chickpea flavour) | 20 |
| Sesamum | 10 |
| Green chilly | 1 No. |
| Red chilly powder | 2.5 |
| Turmeric | 0.5 |
| Cumin seed | 0.5 |
| Garlic flake | 3 Nos. |
| Lime | $1/4^{th}$ |
| Salt | To taste |
| Oil | For deep frying |

### *Sensory evaluation:*

The threshold test was carried out and by 10 panel members, which obtained maximum score, were selected for sensory evaluation of developed recipe *poori*. The developed recipe was prepared with different levels of incorporation of radish and radish leaves at 0, 15, 18, 20 g and 10, 7 and 5 g in variations first, second and third. Each variation was prepared with 10 per cent addition of sesamum and 15 per cent addition of chickpea flour. The

control was also prepared without addition of radish and radish leaves. The freshly prepared 3 variations with control were served to all the selected panel members for the evaluation of organoleptic characteristics *viz*., colour, flavour, taste, texture and overall acceptability. The five point ranking scale given by Ranganna (1979) was used for organoleptic evaluation.

***Statistical analysis:***

The data of acceptability of selected recipe was statistically analysed by analysis of variance and 'F' values were calculated to find out the difference. The variations were prepared with varying levels of incorporation of radish and radish leaves.

## RESULTS AND DISCUSSION

The study was undertaken to evaluate organoleptic characteristics of supplementary food *poori* by incorporating radish at 0, 15, 18 and 20 per cent levels and radish leaves at 0, 10, 7 and 5 per cent levels. Radish and radish leaves were incorporated in the place of major ingredient wheat flour of the supplementary food *poori*. The selected supplementary food *poori* was evaluated for its organoleptic characteristics. The data obtained were analysed statistically and interpreted below.

The scores for colour of *poori*es were prepared at 0, 15, 18 and 20 per cent levels of incorporation of radish and at 0, 10, 7 and 5 per cent level of incorporation of radish leaves, which varied from 3.70 to 4.50. The first variation with 15 per cent radish and 10 per cent level of radish leaves incorporated recorded more score (4.50), while third variation recorded less score (3.70) for the colour of *poori*es. The second variation prepared with 18 per cent incorporation of radish and 7 per cent incorporation of radish leaves was at par with control that is prepared without incorporation of radish and radish leaves in sensory scores for colour of *poori*. On the whole, it can be said that the colour of *poori* prepared with 15 per cent level of radish and 10 per cent level of radish leaves incorporation was considered to be most acceptable. The results revealed that incorporation of radish upto 18 per cent and radish leaves 7 per cent did not much affect the colour, while further increase the amount of radish upto 20 per cent and radish leaves 5 per cent level was not much accepted. It was found to be gradual decrease in the scores of sensory character of colour as the per cent incorporation of radish increased. From these findings it can be indicated that radish and radish leaves can be added successfully upto 15 per cent and 10 per cent, respectively level in preparing *poori*.

The scores obtained for texture of *poori* prepared with 0, 15, 18 and 20 per cent levels of incorporation of radish and with 0, 10, 7 and 5 per cent levels of incorporation of radish leaves were 4.20, 3.90, 3.70 and 3.60, respectively. The data revealed that there was no significant differences in the sensory scores of studied variations. Even though the results were statistically non significant in incorporation of 15 per cent radish and 10 per cent radish leaves in preparation of *poori*, which scored maximum than the other variations. Sensory scores of *poori* prepared with 20 per cent level of radish and 5 per cent level of radish leaves (variation III) indicated that as the per cent of radish incorporation increased the sensory scored for colour parameters was decreased.

The scores registered for the taste of *poori* prepared with 0, 15, 18 and 20 per cent levels of incorporation of radish and with 0, 10, 7 and 5 per cent levels of incorporation of radish leaves were between 3.5 to 4.4. The maximum score (4.4) for the taste was recorded by *poori* prepared with 15 per cent level of incorporation of radish and with 10 per cent level of incorporation of radish leaves. The minimum score 3.5 for the taste was recorded by *poori* prepared with 20 per cent level of incorporation of radish and 5 per cent level of incorporation of radish leaves. The III variation was at par with the control in securing the score for the taste of *poori*. The I variation

**Table 2 : Organoleptic scores for the acceptability of radish *Poori* prepared without and with incorporation of different levels of radish and radish leaves**

| Level of radish and radish leaves incorporation | Mean value for *poori* | | | | |
|---|---|---|---|---|---|
| | Colour | Texture | Taste | Flavour | Overall acceptability |
| 0 per cent (control) | 4.00 | 4.20 | 3.90 | 4.00 | 4.10 |
| I variation : Radish 15 per cent, radish leaves 10 per cent | 4.50 | 3.90 | 4.40 | 4.20 | 4.50 |
| II variation: Radish 18 per cent, radish leaves 7 per cent | 4.10 | 3.70 | 4.00 | 4.10 | 4.00 |
| III variation: Radish 20 per cent, radish leaves 5 per cent | 3.70 | 3.60 | 3.50 | 4.20 | 3.50 |
| S.E. $\pm$ | 0.193 | 0.217 | 0.209 | 0.236 | 0.196 |
| C.D. (P=0.05) | 0.535 | NS | 0.579 | NS | 0.543 |
| 'F' value | * | -- | * | -- | * |

NS = Non-significant. Significance of value at P=0.05

was significantly higher than that of III variation.

The scores secured for flavour of *poori* were ranging from 4.00 to 4.20. The control and variations did not differ significantly in the scores for flavour of *poori*. The *poori* prepared with 0, 15, 18 and 20 per cent levels of incorporation of radish and with 0, 10, 7, 5 per cent levels of incorporation of radish leaves did not exhibit any difference at statistical level. It can be noticed that the sensory scores obtained by all the variations for flavour attribute was statistically non significant.

The scores secured for overall acceptability of *poori* varied from 3.50 to 4.50. The overall acceptability of I variation prepared with 15 per cent level of incorporation of radish and with 5 per cent level of incorporation of radish leaves scored the highest score (4.50), which was significantly higher than III variation. The overall acceptability of III variation prepared with 20 per cent level of incorporation of radish and 5 per cent level of incorporation of radish leaves secured the lowest score of 3.50. The II variation and control secured satistically similar score being at par with each other. It can be noticed that the sensory scores obtained by all the variations for flavour attribute was statistically non significant.

The scores secured for overall acceptability of *poori* varied from 3.50 to 4.50. The Ist variation prepared with 15 per cent level of incorporation of radish and 10 per cent level of incorporation of radish leaves secured the highest score, 4.50 which was significantly higher than III variations. The IIIrd variation prepared with 20 per cent level of incorporation of radish and 5 per cent level of incorporation of radish leaves secured the lowest score 3.50.

***Conclusion:***

It is revealed from results that I variation stood first in all sensory properties recorded by panel members. It can be noticed that sensory scores obtained by the variations for texture and flavour attributes were statistically not significant. Sensory scores of *poori* prepared with 20 per cent level of radish and 5 per cent level of radish leaves (variation III) indicated that as the per cent of radish incorporation increased the sensory scores for all parameters were decreased. From this findings, it can be concluded that radish can be added upto 15 per cent and radish leaves can be added upto 10 per cent successfully in preparation of *poori*.

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