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Development of traditional snacks products by incorporation of black gram flour and chickpea

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Abstract
This research was carried out development of the Indian traditional food products and observed the effect of use of polished and unpolished black gram on snacks products i.e. chakali and sev. This study used different levels of the chickpea and polished and unpolished black gram. In this study snacks are prepared by 50:50% chickpea flour and polished black gram flour for sev and 50:50% chickpea flour and unpolished black gram flour for chakali. The result shows that use of polished black gram flour for sev is more acceptable by taste and overall sensory property while unpolished black gram for chakali is acceptable by their nutritional value.

Keywords: traditional, incorporation, gram, chickpea

1. Introduction
In Kabuli chana had a protein substance extended from 22 to 24 percent and from 21.8 percent 23.5 percent for desi. The mean values for protein, starches, lipid and fiery debris substance of 22.5 %, 69.5 %, 5.01 % and 2.98 %, individually for chickpea flour has been like those recorded before reports (Milan Carrillo et. al., 2000) [2]. Impacts of Black gram flour cooked untreated and sprouted on the scone properties of wheat flour have been shifted. The acceptable nature of bread rolls could be readied in any case by replacing wheat flour at different stages for Black gram flours high protein which were prepared in a different way (Patel et. al., 1995) [3]. The impact of pre-treatment to Bengal gram dhal preceding processing on nature of sev. The wet pre processing (WPT) gave lower measure of fine flour than dry pre treatment (DPT) independent of crushing machine. WPT basen (chickpea flour) made in plate factory (having molecule size scope of 250 to 100 microns) gave great quality Sev. The base had simple to expel and more water retention capacity (Pratape et. al., 2005) [4]. Significance of black gram, Black gram has been utilized for green maturing crop for enhance the dirt. The Black gram has significance to disintegration control and rivals weeds successfully because of profound root framework and foliage covers on soils. Black gram contains protein at 25 percent, starches at 60 percent, fat at 1.3 percent and wealthy in phosphoric corrosive individually. Black gram utilized as dhal and as fixings in bites like idli, vada, dosa, and papad and so on. Black gram has been improves the dirt ripeness and it has fixed in climatic nitrogen.

2. Materials and Methods
The ingredients such as Chick Pea Flour (*Cicer arietinum L.*), and black gram were purchased from local market. Chemicals used in this investigation were of analytical grade.

Composite flour formulation for preparation of extruded snack
The Control flour was prepared by using 50 g Chickpea flour and 50 g of polished and unpolished black gram flour as standard (Guria, 2006) [1] It was observed that if the concentration of Chickpea flour incorporation shows normal effect on quality of the sev and chakali while used of the polished and unpolished black gram shows the effect on nutritional, colour and hardness of the snacks product. Hence, on the basis on preliminary trials, following recipes were finalized for experimentation.

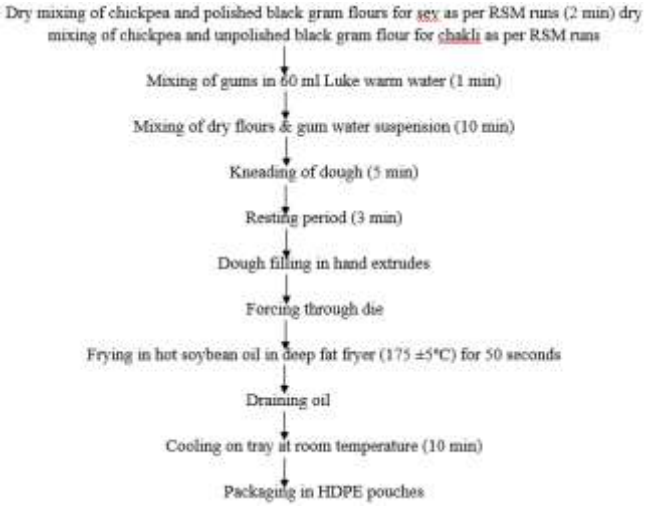

Fig 1: Flow diagram for the Sev/Chakli preparation

3. Results and Discussion
In this study there was carried to explore the possibilities of enhancing the nutritional value of snack using chickpea flour and black gram flour and to observe its effect on nutritional properties. The results obtained during present investigation are presented under different suitable headings.

Proximate composition snack food ingredients
Proximate composition in general represents the dietary value of different flours. It is essential to study the proximate composition of various flours to be used in snacks preparation. The proximate composition of major ingredients chickpea flour and black gram flour represented

in table-1

Table 1: Proximate analysis of chickpea and black gram flours

Parameters	Chickpea flour	Black gram flour
Moisture content (%)	9.2 ± 0.1	10.86 ± 0.15
Total carbohydrate (%)	57.43± 0.15	59.56 ± 0.2
Fat (%)	4.6 ± 0.2	1.83 ± 0.25
Ash (%)	2.06 ± 0.15	3.63 ± 0.15
Crude fibre (%)	2.63 ± 0.15	1.56 ± 0.15
Protein (%)	21.86 ± 0.11	24 ± 0.36

Nutritional Composition of Prepared Extruded snacks

Fried food is mostly demand is global market and it is consumed in between the meal they are now a day are most popular in daily diet. They are sum times low fat and high fibers and manufactured by the good quality of oil used for frying. During this study it was observed that both the ingredients are used to enhance the sensory quality and nutritional value of the traditional snacks product. Energy value, carbohydrates and total fat in chakli is more than sev because of the use of the unpolished black gram flour as compare to sev but hardness increases as unpolished black gram flour increases. The nutritional composition of sev and chakli show in table - 2.

Table 2: Nutritional Value of Sev and Chakli

Sr. No.	Parameters	Units	Chakli	Sev
01	Energy value	Kcal/10 gm	402.89	392.41
02	Protein	g/10 gm	15.59	18.77
03	Carbohydrates	g/10 gm	65.76	62.75
04	Total fat	g/10 gm	8.71	7.37

(Nutritional value per 10 gm of sev and chakli sample.
Source: Anacon lab Pvt. ltd. Nagpur).

In chakli and sev raw material used for the product preparation is unpolished black gram flour and polished black gram flour and chickpea, nutritional value is analysed and get the results as fallows energy value is 402.89 and 392.41, protein content 15.59 and 18.77, carbohydrates content 65.76 and 62.75, total fat content is 8.71 and 7.37 in final product.

4. Conclusion

In the light scientific data collection it is concluded that the composite flour is Unpolished and polished black gram flour and chickpea is added in 1:1 proportion, sev is more acceptable by sensory but as per nutritional point of view chakli sample is more acceptable and chakli has more nutritional value.

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