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Nutritional Composition of Selected Commercially Sold Ready-to-eat Indian Meat and Vegetable Curried Dishes

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Abstract: A significant influence of dietary and nutrition transition is on the food behaviour of populace reflected in higher dependence on processed or catered foods. The traditional home cooked meals have been largely replaced by street or restaurant foods. While the nutritional composition of processed foods is declared on the label, there is no such information available regarding catered foods and the consumer cannot make an informed choice while selecting food at an eatery. With this premise, the present study was undertaken to analyse the nutritional composition of selected meat and vegetables based Indian dishes sourced from three different catering establishments. Similar dishes were also prepared in laboratory and the nutritional value computed using food composition database. The dishes selected were curries made with chicken, mutton, fish, mixed vegetable, *Malai kofta* (potato and cheese balls in creamy gravy) and *Gobi Manchurian* (deep fried spiced cauliflower snack). The results revealed that there were wide variations in the energy and fat content of foods sourced from different eateries. In general, the fat content of dishes was very high. In comparison, laboratory prepared items had lesser energy and fat content. The information will help in creating a nutrient database of ready-to-eat foods and help the consumer in selectin of dishes.
Keywords: Restaurant foods; Nutrient content; Nutrient density; Standardized dishes.

1. Introduction

Good nutrition is a pre-requisite for adequate growth and development of human body. Nutritional composition research has shown that eating a well-balanced food can improve human health. Food materials either from plant or animal origin are consumed to provide nutritional support for the body. A variety of foods, including vegetables, fruits, grains, eggs, meat and fish are essential to get the full range of nutrients which are assimilated by the human body to provide energy, maintain life, or to stimulate growth. A healthy diet contains all nutrients in balanced proportions along with phytochemicals.

Meat is an important animal food that fulfils our major protein requirement and has been a part of human diet since pre-historic ages. From the popular and scientific point of view, meat is recognized as a highly nutritious health giving food being an excellent source of high quality biologically superior proteins, B-complex vitamins and good source of certain minerals especially iron, zinc, some other micronutrients in highly assimilable form. Apart from providing sound nutrition, it also offers great sensory satisfaction due to its pleasant flavor and texture. The consumption of meat is influenced by various factors depending on the cultural or religious preferences as well as product characteristics [1]. Fishes are also good sources of high quality protein, vitamins and essential minerals but, above all, a virtually unique, rich source of omega-3 long-chain poly-unsaturated fatty acids (PUFA). These nutrients are very important for maintaining the health of individuals [2].

Vegetables enhance and diversify the human diet with a wide variety grown worldwide. They are considered as primary source of nutrients i.e. minerals, vitamins, secondary plant metabolites and other compounds essential to support human health and nutrition [3]. Vegetables contribute a wide range of colour, flavour and texture making the food more appealing and appetizing. These characteristics are generally imparted by their non-nutritive components like chlorophyll, carotenoids, phenolics, flavonoids, sulphoraphane, indole and anthocyanins [4]. Most of the micro-nutrient requirements of vegetarians are met through consumption of vegetables. They are also used as a source of plant protein in the human diet. Dietary fibre, the main constituent of vegetables has potential health benefits to reduce cholesterol, diabetes and coronary heart disease and ease constipation [5]; it is also effective in gastrointestinal problems and weight management. The fibre matrix transports significant amount of minerals and phytochemicals to the body through the human gut. Health benefits of vegetables are more effective with a balanced diet that includes more than one type of vegetables and is likely to provide better protection [6]. Vegetables are preferably consumed after processing with few exceptions which are consumed as such. Processing

of vegetables enhances palatability and digestibility of vegetables, improves shelf life and quality and also inactivates nutritional inhibitors that increase protein and other nutrients availability. During processing, substantial quantities of nutrients are lost which can be minimized by following suitable processing technique [4].

The growing incidence of several chronic diseases such as cancer and cardiovascular diseases has motivated extensive research into the foods associated with increased risk. Despite its nutritional richness, meat has been considered as a disease promoting food, and vegetables are considered healthy options. Thus, it is very important to know the nutrient content of dishes prepared from these foods to ensure inclusion of the right proportion of food in the diets required to maintain a healthy life. To this end, nutrient database of ready- to- eat dishes are required to help determine the exact intake through a particular dish.

With demographic transition happening world over, there is increase in urbanization, working women force, disposable income and a change in food behaviour aptly termed as dietary and nutrition transition. A noticeable trend is ever increasing purchase of processed foods and episodes of people eating out. Dependence on catered food is increasing. While the nutritional composition of packed and processed food is declared on the label and the consumer can make an informed choice, same is not true for catered foods. The nutritional value of food eaten in restaurants in not known and since one standard recipe is not followed in all, variations in nutrient density of food ordered from different sources is bound to be encountered. Thus, in this situation the consumers do not know what they have consumed in terms of nutrients [7].

The study was undertaken with the objectives to analyse the nutritional composition of meat and vegetables based commonly eaten curried dishes obtained from different commercial eateries and to determine the nutrient content of similar dishes by preparing in the laboratory.

2. Methodology

The study design in first phase included procurement of catered dishes from 3 different sources and analysis of their nutritional composition to determine nutrient density. And in second phase similar dishes were standardized and prepared in laboratory and their nutrient value was computed using food composition tables.

2.1 Materials

The materials mainly taken for the study were chicken, mutton, fish and vegetables which were procured from the local market. Other ingredients needed for cooking such as oil, spices and condiments were also procured from local market. Chemicals used for the analysis were all of analytical grade and procured from the SD Fine chemicals, Rankem, Nice, Fisher scientific, Qualigens and Loba chemicals, India. The enzymes used for the study, viz., heat-stable α-amylase, pepsin and pancreatin were obtained from Himedia Company, Mumbai, India.

2.2 Methods

2.2.1 Phase 1

In Phase one, meat, poultry and fish based products i.e., chicken curry, mutton curry and fish curry from the animal foods category and mixed vegetable curry, '*malaikofta'* [potato and paneer (cottage cheese) balls in creamy gravy] and '*gobhi manchurian'* [cauliflower marinated with spices and deep fried] from the plant foods category were purchased from three different commercial establishments. The samples were selected from a roadside eatery, a restaurant, and a comparatively larger size star hotel to represent different scales of operations in catering. This was done to understand the variability of dishes served in these three different places with varying turnover and business scale. These samples were analysed for the proximate composition in duplicates to estimate the nutrient content. All the samples were homogenized, dried in cabinet drier at 50 - 60°C, cooled, powdered using pestle and mortar and then stored in zip lock covers under refrigeration for further nutritional analysis.

2.2.2 Phase 2

In Phase two, the preparation of similar curried dishes was standardized in laboratory and dishes were prepared with accurate record of weights and measures. The nutritive value of these prepared dishes was calculated using food composition tables for Indian foods [8]. For computing energy, the formula used was, kcal = proteinx4.0 + CHOx4.0 + fatx9.0 + dietary fibrex2.0 [9]. The recipes used for the study are compiled in Appendix A as supplementary information for reference purposes.

2.2.3 Nutrient composition

The samples were analysed for moisture, fat, protein, total ash, calcium and iron using standard techniques [10]. Moisture was estimated by hot air oven method, protein by Kjeldahl nitrogen distillation and multiplying the nitrogen value with 6.25, fat was extracted using petroleum ether in Soxhlet apparatus, ash by direct incineration,

calcium by titrimetric procedure and iron by Wong's method [11]. Dietary fibre consisting of both insoluble and soluble fibres was estimated by enzymatic gravimetric method [12].

2.2.4 Statistical analysis

The data presented represent the mean and standard deviation of duplicate measurements.

3. Results and discussion

3.1 Nutritional composition of ready-to-eat meat based curries

The nutritional composition of curry preparations procured from three different eateries is compiled in Table 1 on as-such basis. The energy content of chicken curry was highest ranging from 341-386 kcal/100g followed by fish curry (147-188 kcal/100g) and mutton curry (127-157 kcal/100g). Moisture content was observed to be very high i.e., 75% in both mutton and fish sample, while chicken sample had 50% of moisture content. The fat content was observed to be very high in chicken curry and ranged from 30-35%. This could be due to the addition of extra fat while preparing the dish. Fat content was observed to be less in mutton and fish curry. Meat and meat products are considerable sources of cholesterol in the diet. A high meat intake contributes to a higher than recommended total and saturated fat and cholesterol intake. Another concern is that meat may replace sources of other important nutrients in the diet. Therefore, the consumers are advised to prefer lean meats and low-fat meat products and use meat in moderation only [13]. Commercially chickens are primarily divided into layer chickens which lay eggs for human consumption, and meat chickens (also called broilers) which are specifically bred for producing meat. Research conducted in the past has shown that the body composition of chicken varies with age, gender and bird breed [14]. As a broiler chicken grows the composition of its carcass changes [15] and fat deposits increase. This is seen earlier in the female chicken for reproductive purposes [16]. Ultimately the nutrient composition of chicken is a response to the diet they consume, particularly in the early stages of life [15, 17]. Knowing the nutritional composition of the product is central to communicating ways in which chicken may form part of a healthy diet.

Table 1. Nutritional composition of ready-to-eat commercial meat curries (per 100g) from three sources

Sl No.	Energy (kcal.)	Moisture (g)	Fat (g)	Protein (g)	Dietary Fibre (g)		Ash (g)	Calcium (mg)	Iron (mg)
					Insoluble	Soluble			
Chicken Curry									
1	386	48.0 ± 0.7	37.5 ± 0.03	6.6 ± 0.03	1.14 ± 0.10	0.05 ± 0.03	1.78 ± 0.03	67 ± 0.16	3.90 ± 0.04
2	342	51.4 ± 0.7	31.6 ± 0.05	9.6 ± 0.07	1.69 ± 0.19	0.04 ± 0.05	1.81 ± 0.03	92 ± 0.38	2.79 ± 0.01
3	341	51.8 ± 0.3	31.5 ± 0.04	7.8 ± 0.00	1.02 ± 0.06	0.18 ± 0.06	1.87 ± 0.00	62 ± 0.38	2.84 ± 0.05
Mutton Curry									
1	127	74.6 ± 0.2	7.6 ± 0.06	6.5 ± 0.03	0.38 ± 0.04	0.06 ± 0.04	2.91 ± 0.01	33 ± 0.20	3.15 ± 0.0
2	157	70.8 ± 0.3	10.2 ± 0.02	9.1 ± 0.03	0.32 ± 0.02	0.14 ± 0.05	2.43 ± 0.01	57 ± 0.43	4.23 ± 0.05
3	151	69.5 ± 0.0	8.5 ± 0.43	11.4 ± 0.07	0.57 ± 0.09	0.10 ± 0.09	2.79 ± 0.01	66 ± 0.50	4.63 ± 0.03
Fish Curry									
1	172	76.3 ± 0.1	15.9 ± 0.03	3.1 ± 0.03	0.14 ± 0.02	0.04 ± 0.01	1.07 ± 0.00	11 ± 0.09	2.39 ± 0.02
2	188	75.7 ± 0.1	18.7 ± 0.05	1.9 ± 0.00	0.15 ± 0.02	0.08 ± 0.00	0.98 ± 0.01	11 ± 0.13	1.67 ± 0.01
3	147	76.1 ± 0.4	12.0 ± 0.03	4.4 ± 0.00	0.37 ± 0.12	0.04 ± 0.01	1.84 ± 0.00	20 ± 0.27	3.98 ± 0.03

The fat content of cooked chicken varies depending on whether it is cooked with the skin on or off, the portion of the bird, and the bird's diet and breed. Breast meat contains less than 3.0 g fat/100g. An average value for dark meat (skin off) is 5.0 to 7.0 g/100 g. About half of the fat from chicken meat is made up of the desirable monounsaturated fats, and only one-third of the less healthy saturated fats. There are much higher proportions of saturated fats in most cuts of red meat, which also vary considerably in total fat. Chicken meat is therefore seen as a healthy meat. Chicken meat can make many positive contributions to the diet of those on low incomes. Although not all meat is seen as healthy, chicken meat is, and is frequently more affordable than other meats. It is of a

consistently high quality, is low in saturated fats, can be enriched with some essential nutrients and is sought after worldwide [18].

The protein present in mutton, fish and chicken is of high biological value. The protein content of chicken and mutton curry was in similar range, and fish had a lower content. The amount of protein differs in each dish depending on the quantity of meat being used for the preparation of dish. Generally, both mutton and chicken have around 18-19% protein, whereas fish has slightly higher content of 20%. Cooking is essential for meat before consumption and cooking temperature have been reported to affect the meat digestion process. A direct and quantitative relationship has been shown between protein carbonylation and aggregation induced by cooking and proteolytic susceptibility to digestive enzymes, in particular, pepsin. However, no such correlations have been observed with trypsin and alpha-chymotrypsin. Well cooked meat digests better and quicker [19, 20].

There was a wide range of differences observed in the calcium content of curry samples which could be mainly due to the different proportion of ingredients being used for preparing the dishes. Chicken curry had a higher calcium content (62 – 92 mg/100g) followed by mutton (33 - 66 mg/100g) and fish curry with least amount (11 - 20 mg/100g). Iron content was in narrower range for all dishes, the least being 1.67 mg/100g for one sample of fish curry and highest being 4.63 mg/100g for one sample of mutton curry. Meat curries can be a significant source of iron in the diet as they carry a highly absorbable form of haem iron and are specially beneficial for population with iron deficiency. A study reported by Wheal et al., [21] reported total iron concentration ranging from 0.55 – 14.13 mg/100g of fresh weight in twenty five species of fish, prawn and shrimp from local markets of Bangladesh. Meat dishes are not a good source of dietary fibre and the minimum fibre contribution is mainly from added ingredients such spices. The total dietary fibre content of meat curries in present study was in the range of 0.18-1.73%.

3.2 Nutritional composition of ready-to-eat vegetable-based dishes

Mixed vegetable curry and *Malai kofta* are gravy based products, served as side dish with common cereal based staple dishes such as Indian flatbreads, and other fermented pancake like products (*dosai*) or along with rice. *Gobi Manchurian* is a popular evening snack being served as street foods or in hotels. Its spicy and crispy taste attracts all the age group of people especially the younger group. The nutrient composition of ready-to-eat vegetable-based dishes are presented in Table 2.

Table 2. Nutritional composition of ready-to-eat commercial vegetable-based dishes (per 100g) from three sources

Sl No.	Energy (kcal.)	Moisture (g)	Fat (g)	Protein (g)	Dietary Fibre (g)		Ash (g)	Calcium (mg)	Iron (mg)
					Insoluble	Soluble			
Mixed vegetable curry									
1	51	87.5 ± 0.1	2.2 ± 0.1	1.5 ± 0.0	1.9 ± 0.2	0.32 ± 0.02	1.87 ± 0.02	0.26 ± 0.01	0.07 ± 0.01
2	81	81.5 ± 0.8	4.8 ± 0.3	2.2 ± 0.1	3.7 ± 0.1	0.61 ± 0.01	2.01 ± 0.09	0.21 ± 0.02	0.05 ± 0.01
3	81	83.8 ± 0.4	5.8 ± 0.1	2.1 ± 0.1	3.4 ± 0.1	0.35 ± 0.01	1.34 ± 0.02	0.23 ± 0.01	0.03 ± 0.01
Malaikofta									
1	134	73.9 ± 0.1	11.4 ± 0.2	3.3 ± 0.1	4.2 ± 0.0	0.64 ± 0.00	1.93 ± 0.01	0.86 ± 0.0	0.05 ± 0.0
2	185	62.8 ± 0.5	13.1 ± 0.1	5.8 ± 0.0	5.2 ± 0.0	0.81 ± 0.01	1.20 ± 0.01	1.11 ± 0.01	0.04 ±0.01
3	252	53.4 ± 0.1	20.4 ± 0.1	5.6 ± 0.0	5.8 ± 0.2	1.41 ± 0.00	1.97 ± 0.04	1.12 ± 0.01	0.06 ± 0.01
Gobi manchurian									
1	368	40.7 ± 0.6	31.2 ± 0.3	2.8 ± 0.1	3.1 ± 0.1	1.47 ± 0.34	0.05 ± 0.0	0.28 ± 0.01	1.71 ± 0.01
2	389	45.0 ± 0.5	37.8 ± 0.6	2.2 ± 0.0	2.8 ± 0.7	0.83 ± 0.08	0.03 ± 0.0	0.26 ± 0.0	1.29 ± 0.01
3	322	45.5 ± 0.5	25.5 ± 0.1	2.5 ± 0.0	2.7 ± 0.1	1.63 ±0.26	0.11 ±0.01	0.37 ± 0.0	1.53 ± 0.07

Among the procured read-to-eat dishes slight difference was observed in nutritional composition, which can be attributed to several factors such as cooking method adopted or proportion of ingredients. Vegetables constitute about 80-90% of moisture, thus the dishes prepared out of it had greater moisture content. Among the analysed dishes, mixed vegetable curry showed higher moisture content ranging from 81-87% due to its thinner consistency whereas *malai kofta* had slightly thicker consistency. These are used as accompaniments with staple cereal dishes.

Comparatively, *Gobi Manchurian*, is a drier deep-fried product wherein moisture is lost during deep frying. The protein content was within 2% in all the analysed samples, *malai kofta* had slightly higher protein of about 5% due to the presence of milk cream or *paneer* (cottage cheese) as a component. Fat level was lowest in mixed vegetable curry as oil is added only for seasoning the curry. *Malai kofta* from different sources showed variation in fat content, the curry from third source had double amount of fat present in the curry of other two sources, and the reason could be probably the addition of extra oil to make the dish tastier. Highest fat level was observed in *Gobi Manchurian* ranging from 20-37%, consequently energy value was higher too. *Gobi Manchurian* provided more than 320 kcal of energy per 100g and least was found in mixed vegetable curry. The mineral content was observed to be in similar range in all the dishes. *Malai kofta* had the highest levels of calcium, which could be due to the presence of milk cream in the dish. Iron in all the dishes was in the range of 0.03 to 0.11mg/100g. The total dietary fibre of mixed vegetable curry and *Gobi Manchurian* was almost similar and comparatively higher in *malai kofta*. The total dietary fibre content is dependent mainly on the amount of vegetables added in the dish. All the three dishes contained nearly identical amounts of both insoluble and soluble dietary fibre content. Research has indicated that increasing the amount of fibre intake in the diet has a positive influence on various diseases such as diabetes and CHD heart disease, and decreases the incidence of colon cancer [22,23].

3.3 Nutrient density of standardized meat and vegetable-based dishes

Meat and meat products are important sources of proteins, vitamins and minerals, but they also contain fat, saturated fatty acid, cholesterol, salt etc. In order to produce healthier meat products we need to fully understand their positive and negative effects on health. Generally meat dishes in Indian cuisine are prepared with many spices. Spices have antioxidant properties and help in preserving meat quality for a longer time apart from contributing immensely to flavor quality. Spices have been shown to improve the shelf life of meat sausages on storage [24].

Table 3. Nutritive value of standardized dishes prepared in laboratory (per 100g)

Energy (kcal)	Protein (g)	Fat (g)	CHO (g)	Dietary fiber (g)	Calcium (mg)	Iron (mg)	Vitamin (mg)		
							B_1	B_2	B_3
Chicken curry									
160	8.4	12.2	3.7	0.7	16	1.0	0.07	0.09	3.88
Mutton curry									
265	18.3	19.6	3.3	1.3	191	2.7	0.2	0.16	6.7
Fish curry									
72	3.7	4.3	3.6	2.0	285	1.2	0.02	0.03	0.4
Mixed vegetable curry									
63	1.6	3.3	5.5	2.4	24.4	0.8	0.10	0.01	0.40
Malai Kofta									
134	2.3	10.2	7.3	1.7	31.1	0.70	0.10	0.01	0.40
Gobi manchurian									
334	6.4	19.9	29.1	6.2	50.3	2.6	0.40	0.20	1.7

Nutritive value of three dishes prepared and standardized in the laboratory are compiled in Table 3. The chicken curry is generally prepared with thick gravy made of onions, tomatoes and other spices. The nutrient density of chicken curry was found to be 160 Kcal and 8.4 g of protein per 100g. The calorie content of prepared dish was much lower in comparison to commercial dish as the amount of visible fat added was much lesser. Slight variations were also observed on other nutrients as the amount of added ingredients were different. It is well known that diets high in fat and cholesterol, particularly saturated fat, coupled with a sedentary lifestyle, can lead to the development of risk factors associated with premature cardiovascular disease, which is considered to be a leading cause of death and disability [25]. Furthermore, high fat diets are also considered major causes of obesity, which is a common public health concern [26].

Mutton is a tough and strongly-flavored meat that needs to be marinated and cooked well to bring out its unique taste. Spices like cloves, cardamom, coriander powder, mace and nutmeg are used generously to enhance the flavour of meat. The energy content of the dish was 265 kcal and protein 18.3 g/100g. The fat content was higher at 19.6%. Dietary fibre content was less than 2.0 g. The nutrient density of prepared mutton curry was much higher than commercial curry. The reason could have been a smaller amount of meat used and more of moisture content in the commercial sample. The iron content of mutton was higher than chicken curry.

Fish curry had a much lower energy density (72 kcal/100g) with a lesser fat and protein content. It also had a much higher calcium content, hence fish based dishes are healthier to eat. Commercial preparations had a much higher fat content, hence a higher energy density also. Fish has long been recognized as a valuable source of high-quality protein in the human diet. In recent years, fish lipids have also assumed great nutritional significance owing to their protective role against the development of cardiovascular diseases and rheumatoid arthritis [27].

Consumption of fish, both freshwater and marine, is therefore being encouraged. Marine fish contain comparatively lower fat than freshwater fish, it may also be desirable to promote marine fish consumption to those who are advised to maintain a restricted calorie diet.

The energy content of vegetable-based dishes was lower than most of the commercial preparations. Considerable variations were seen based on the type of dish. Mixed vegetable curry had least energy density followed by *malai kofta*, which has a higher content on account of added fat and highest was seen in *gobi manchurian* as it is a deep-fried product. All vegetable-based dishes provided a higher content of dietary fiber, which is beneficial.

4. Conclusion

The results of the study revealed that in commercially procured foods, there was a wide variability seen in the nutritional composition. The ingredients used and the added fat varied considerably influencing the energy content of prepared dishes. For the consumer, it will be of great benefit to know the nutrient content of dishes sold in commercial eateries to make healthy food choices as the added fat content in some of the dishes is extremely high. Moreover, the present study concentrated only on the nutrient content and not on the quality of ingredients [for example, the type of fat used], and the hygienic practices followed during preparation, which can also impact health considerably.

5. Appendix A. Recipes for standardized dishes

A.1 Mutton Curry

Ingredients	Method
Mutton-350g Onion pieces-54g Garlic, peeled-20g Ginger, shredded-5g Oil-4 tbsp Fresh grated coconut-30g Tomato-48g Cinnamon-2g Cloves-2g Coriander seeds – 10g Red chilli powder – 10g Turmeric-½ tsp Fenugreek leaves-½bunch Coriander leaves-½bunch Salt - 2 tsp	– Grind onion, garlic, ginger, cloves, cinnamon, coriander seeds and red chilli powder and keep aside (paste-1). – Grind fresh coconut and tomato together and keep aside (paste-2). – Heat oil in a pressure cooker, add mutton pieces, salt and turmeric and sauté for 5 min. – Add ground paste-1 and sauté till an aroma develops. – Add two cups of water, close pressure cooker and cook for about 15 – 20 min, so that mutton gets cooked. – Allow to rest for sometime, then open the lid and add paste-2. At this stage, add appropriate amount of water to get desired consistency. – Finally add fenugreek leaves and coriander leaves and cook for another 10 min. **Yield: 780g**

A.2 Chicken curry

Ingredients	Method
Chicken-600g Onion-150g Ginger-14g Garlic-30g Chilli powder-½ tbsp Coconut -50g Oil-2 tbsp Coriander leaves-9g Fenugreek leaves-13gTomato-100g Salt – 2 tsp	– Shallow fry onion, ginger, garlic, chilli powder, and coconut in a pan with 1 tbsp of oil. Add tomato, grind and keep it aside. – Heat remaining oil in a pan, add chicken pieces and cook till water is evaporated. – Add the ground gravy mix and mix well. – Add salt and two cups of hot water. – Add finally chopped coriander and fenugreek leaves and cook till done. **Yield: 1700g**

A.3 Fish curry

Ingredients	Method
Fish-327g Onion-60g Tomato-40g Fresh coconut-30g Chilli powder - 1 tbsp Coriander powder -2 tbsp Tamarind-1 lime size Oil-5g Salt to taste-1 tbsp	– Marinate fish pieces with salt and set aside. – Soak tamarind in hot water, extract the juice and keep aside. – Blend onion, tomato, chilli powder, coriander powder and fresh coconut in a mixer. – In a pan, heat oil, add the blended mixture and cook with water. – Add tamarind extract and cook for some more time. – To this add fish pieces, more salt if needed, and cook till done. **Yield: 860g**

A.4 *Mixed vegetable curry*

Ingredients		Method
Potato – 145g Peas – 65g Carrot – 70g Beans – 160g Capsicum – 40g Fresh coconut – 40g Roasted chickpea - 35g Onion – 75g Tomato – 65g Ginger garlic paste - 15g	Fenugreek leaves – 5g Mint leaves – 5 Cinnamon – 3g Clove- 3 g Coriander powder - 2 tbsp Cumin powder - ½ tsp Red chilli powder- 1 tbsp Salt – 1 tbsp Oil – 30ml. **Yield: 1520g**	– Wash vegetables and cut into small pieces. – Grind coconut gratings, cinnamon, cloves and roasted chickpea. – Add oil to the hot pan, followed by ginger garlic paste, fenugreek leaves, mint leaves, onion and tomato. – Cook for about 5 min with stirring, add ground gravy mix, and cut vegetables and continue stirring. – Add rest of the spices and salt and mix well. – Finally, add one cup of water, and cook till done by closing the lid. Adjust desired consistency by addition of water, if required.

A.4 *Malai kofta*

Ingredients		Method
For kofta (balls): Potato – 300g Peas – 65g Carrot – 80g Paneer – 100g Green chillies – 10g Coriander powder – 2 tsp Cumin powder – 1 tsp Red chilli powder – ¾ tsp Cashew nuts – 25g Coriander leaves – 2 tbsp Corn flour – 30g Salt – 1 tsp Oil – 150ml	*For gravy :* Onion – 150g Ginger-garlic paste – 2 tsp Tomato – 250g Turmeric powder – ¼ tsp Cumin powder – 1 tsp Coriander powder – ¾ tsp Red chilli powder – ¾ tsp Oil – 1tbsp Salt – 1 tsp **Yield: 1890g**	– Wash and cook potatoes in a pressure cooker. – In a bowl add grated carrot, grated paneer, mashed potatoes, chopped green chilli, coriander powder, cumin powder, red chilli powder, ground cashew paste, chopped coriander leaves, corn flour and salt and mix to form dough. – Make small balls out of the dough, roll over corn flour and deep fry in oil. – To a hot pan, oil, ginger garlic paste, turmeric powder and onion were added and sautéed. – To this add chopped tomato, cumin seed powder, coriander powder, red chilli powder and salt, cook for 10 min and allow to cool. – Ground to fine paste, heat well and add fried kofta balls. Cook till a desired consistency is reached.

A.6 *Gobi Manchurian*

Ingredients	Method
Corn flour – 53g Refined wheat flour – 60g Cauliflower – 150g Garlic – 27g Ginger-garlic - ½ tbsp Green chillies – 14g Onion – 57g Green capsicum – 93g Soy sauce – 2tbsp Tomato sauce – 2 tbsp Chilli sauce – 2 tbsp Oil for frying, Salt to taste	– Boil Cauliflower florets in salt water for 3-4 minutes and drain excess water. – Make a batter with refined wheat flour, corn flour, garlic paste and salt. Add cauliflower florets to it and mix well for uniform coating. – In a pan, heat oil and deep fry battered florets and keep aside. – Take 2 tbsp of oil in a pan, add ginger-garlic paste, chopped green chillies, capsicum and onions and sauté on high flame for 3-4 minutes. – Add soy sauce, tomato ketchup, chilli sauce and salt and stirred continuously for some time. – Add deep fried floret and toss for 1-2 minutes. Transfer to a serving bowl and garnish with spring onion. **Yield: 234g**

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