



IJFANS

International Journal of Food
And Nutritional Sciences

Volume 2, Issue 2, Apr-Jun-2013, www.ijfans.com

e-ISSN: 2320-7876



Official Journal of IIFANS

OATS SOY MOGHLAI

Bhagyashree Solanki*

Dr. B.M.N. College of Home Science, 338 R.A.Kidwai Road, Matunga, Mumbai

*Corresponding author: bhagyashreesolanki3@gmail.com

ABSTRACT

Cardiovascular disease (CVD) is very prevalent now-a-days and is the major cause of death in India. Hence, a food product, OATS SOY MOGHLAI was developed which has ingredients that are heart healthy and help to reduce the risk of CVD. It is basically a kofta and gravy recipe in which kofta are shallow fried to reduce the use of oil and it contains kabuli chana (Chick Pea) which is a very good source of protein and reduces low density lipoprotein (LDL) and total cholesterol levels, contains significant amount of folate that reduces the level of amino acid homocysteine and strengthens the blood vessels. Soy granules contains polyunsaturated fats, fibre, vitamins, minerals and low content of saturated fat and isoflavones that decreases the serum cholesterol, low density lipoprotein (LDL) cholesterol and triglycerides. Carrots have a lot of antioxidants and phytonutrient called polyacetylenes which have anti-inflammatory properties. Oats are used in the gravy, as the soluble fibre, beta glucan, helps to reduce the cholesterol levels and the antioxidant compound in oats called avenanthramides prevents the free radicals to damage low density lipoprotein (LDL) cholesterol. A sensory evaluation was carried out for this product by which changes were made based on the suggestion given and was modified to suit the palatability of the product.

Keywords: Cardiovascular disease, Oats, Soy granules, Kabuli chana.

INTRODUCTION

Cardiovascular disease (CVD) is the largest cause of mortality in India and is expected to be the fastest growing chronic disease. Nutrition is the most important concept of our life and by following healthy lifestyle and healthy eating habits we can reduce the incidence of such chronic diseases. A development of food product was a part of our curriculum and hence a food product, OATS SOY MOGHLAI, was developed which has ingredients that are heart healthy and help to reduce the risk of CVD. It is basically a kofta and gravy recipe in which kofta are shallow fried to reduce the use of oil and it contains Chickpea (Scientific name-*Cicer arietinum L*; Common name kabuli chana) which is a good source of carbohydrate, protein. It reduces low density lipoprotein (LDL) and total cholesterol levels (Pittaway *et.al* from The Journal of American Dietetic Association, 2008) and Beta Sitosterol (a dominant phytsterol in Chickpea) helps in reducing serum cholesterol level and incidence of Coronary Heart Disease (Moreau RA *et.al* from The Progress in lipid Research, 2002). Soy granules (Scientific Name- *Glycine Max*) contain high amounts of polyunsaturated fats, fibre, vitamins, minerals and low

content of saturated fat. The isoflavones present in it decreases the serum cholesterol, low density lipoprotein (LDL) cholesterol levels and triglycerides (Anderson *et.al* from The New England Journal of Medicine, 1995). The gravy mainly contains oats (Scientific Name- *Avena Sativa*), as the soluble fibre, beta glucan, in it helps to reduce the total and LDL cholesterol levels (Elke Naumann *et.al* from The American Journal Of Clinical Nutrition, 2006) and the antioxidant compound in oats called avenanthramides prevents the free radicals to damage low density lipoprotein (LDL) cholesterol (Collins FW *et.al* from The Journal Of Nutrition, 2004). Normal spices like turmeric (haldi), red chilli powder, ginger-garlic are also present in the gravy.

METHODOLOGY

STANDARDIZATION OF THE PRODUCT

The first recipe of oats soy moghlai was not successful as same amount of chickpea and soy granules was used. When again tried, by changing the amounts of the ingredients, it came out as a good and tasty recipe. Hence, it was made as the standardized recipe.

For kofta		For gravy	
Chick pea(Kabuli chana)	20g	Oats	5g
Soy granules	10g	Onion	50g
Carrot	15g	Tomato	25g
Oil for shallow frying		(turmeric) Haldi	As required
		red chilli powder	As required
		oil	1tsp
		Kitchen king masala	As required
		salt	As required
		(cumin seeds) jeera	As required
		Ginger-garlic	As required

METHOD OF PREPARATION

FOR KOFTA

- Pressurecook the Chickpea and boil soy granules till soft.
- Chop carrots in small pieces and mix with the soft soy granules and chickpea
- Shape them into small balls like koftas.
- Shallow fry the koftas in non-stick pan.

FOR GRAVY

- Cut onions, tomatoes, ginger and garlic
- Put them in mixer along with oats and make a puree of it

- In a kadai, add oil and cumin seeds. When cumin seeds crackles and the puree of onion, tomato and oats
- Add water to make its consistency like gravy
- Add salt and bring to a boil.
- Finally, simmer the gravy and add koftas and switch off the flame after 2 minutes
- Oats soy moghlai is ready to eat.

NUTRITIVE VALUE OF THE PRODUCT

The nutrients such as energy, carbohydrate, protein, fat and total dietary fibre were determined using standard procedure. All the analysis was done triplicates.

SENSORY EVALUATION

To find the acceptability of the product, sensory evaluation was conducted with the help of naive panel comprising of 19 students, periodically for 3 weeks. The product was evaluated using a composite scoring method with the following characteristics- Appearance, Colour, Texture, Taste and Aftertaste. Taste the product and evaluate it according to its characteristics and mark them according to the scale given above. It is carried out for 3 consecutive weeks.

RESULTS

NUTRITIVE VALUE OF THE OATS SOY MOGHLAI

The nutrient analysis of the developed oats soy moghlai was shown in table 1.

Table-1-Nutrient analysis of the oats soy moghlai

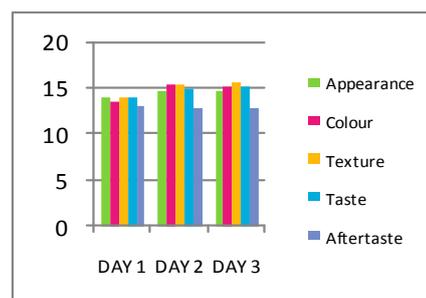
Ingredients	Amount (gm)	Energy (kcal)	CHO (g)	Protein (g)	Fat (g)	TDF (g)
Kabuli chana	20	86	4.18	8.64	3.9	4.6
Soy granule	10	36	6.09	1.71	0.53	2.83
Carrot	15	7	1.59	0.135	0.03	0.66
Onion	50	29	6.3	0.05	0.05	-
Tomato	50	11	1.8	0.95	0.05	0.85
Oats	5	19	0.75	3.14	0.009	1
Ginger-garlic	2	0.97	1.57	0.086	0.01	0.11
Oil	3 tsp	135	-	-	15	-
	Total	324	22.28	15.56	19.99	10.05

The nutrient analysis of the oats soy moghlai was 324kcal of energy, 22.28g of carbohydrate, 15.56g of protein, 19.99g of fat and 10.05g of total dietary fibre respectively.

SENSORY EVALUATION

The sensory evaluation of the developed oats soy moghlai was shown in the figure.

Figure-1-Sensory evaluation of the developed oats soy moghlai



From the graph it is observed that the appearance on day 2 and 3 is better than day 1. Also, the colour, texture and taste are accepted on day 2 and 3 than on day 1. However, the aftertaste was decreased on day 2 and 3 than on day 1.

DISCUSSION

Along with Chickpea, Soy Granules and Oats the other ingredients like onion, tomato, are also beneficial to CVD patients. Ingestion of onion which is high in quercetin helps in inhibiting platelet aggregation (Hubard GB *et.al* from The Journal of Thrombosis and haemostasis, 2004). Tomato helps to decrease LDL cholesterol and increased LDL resistance to oxidation (Silaste ML *et.al* from The British Journal of Nutrition, 2007). Based on the results of sensory evaluation, it was found when the product was made for the second time the amounts of chickpea and soy granules were changed and the amount of oats used in the gravy was also reduced which made the product acceptable and very tasty.

CONCLUSION

Cardiovascular disease (CVD) is affecting a lot of people now-a-days and along with medical treatment, nutrition is also very important for these people. "The food you eat can either be the safest and the most powerful medicine or the slowest form of poison"- lines by Ann Wigmore depicts that food can either act as a medicine or slowest form of poison and hence, the foods chosen to eat by CVD patients are very important which can help them reduce the adverse complications of CVD. In normal kofta and gravy recipe the koftas are mainly made of potatoes and also they are deep fried which makes it unhealthy for CVD patients. Oats soy moghlai is a very beneficial recipe for CVD patients as it contains ingredients which are heart healthy and people of other age groups can also enjoy it. It is a recipe by which the CVD patients can include a healthy and tasty recipe in their lunch, too. The heart healthy ingredients like Chickpea, Soy, the use of less oil by shallow frying koftas and incorporating oats in the normal gravy makes it a healthy recipe for CVD patients.

REFERENCES

- Nutritive value of Indian foods by Gopalan (used for nutritional content of the product).
- Pittaway *et.al* "Chickpeas may influence fatty acid and fibre intake in an ad libitum diet, leading to small improvements in serum lipid profile and glycemic control". J Am Diet Assoc, Jun; 108(6):1009-13.
- K. Jukanti *et.al* "Nutritional quality and health benefits of chickpea" A review article, British Journal of Nutrition 2012 Aug; vol 108: S11-S26.
- Anderson JW *et.al* "Meta-Analysis of the Effects of Soy Protein Intake on Serum Lipids". N Engl J Med, 1995 Aug 3; 333(5):276-82.
- Elke Neumann *et.al* "Beta glucan incorporated in a fruit drink effectively lowers serum LDL cholesterol concentrations", Am J Clin Nutr March 2006 vol. 83(3): 601-605.
- Collins FW *et.al* "Avenanthramides phenolic acids from oats are bioavailable and act synergistically with vitamin C to enhance hamster and human LDL resistance to oxidation", J. Nutr. June 1, 2004 vol. 134(6): 1459-1466.
- Hubbard GP *et.al* "Ingestion of onion soup high in quercetin inhibits platelet aggregation and essential components of the collagen-stimulated platelet activation pathway in man: a pilot study", The British Journal of Nutrition, Sept 2006 Vol 96(03): 482-488.
- Silaste ML *et.al* "Tomato juice decreases LDL cholesterol levels and increases LDL resistance to oxidation", The British Journal of Nutrition, Dec 2007 Vol 98(06):1251-1258.
- www.wikipedia.org
- <http://whfoods.org/>