Biochem. Cell. Arch. Vol. 18, No. 2, pp. 1569-1576, 2018 | www.connectjournals.com/bca | *ISSN 0972-5075*

IMPROVING THE QUALITY AND SHELF LIFE OF GOAT MEAT PATTIES WITH HERB AND HUSK INCORPORATION

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(Accepted 23 July 2018)

ABSTRACT : The aim of this study to evaluate the effect of fenugreek leaves (herb) and psyllium husk in partial replacement of mutton burger patties (MBP) on refrigeration (4 ± 1°C) stability for most important quality criteria of MBP. Fortification of herb and husk into MBP decreased their fat content as well as improved their fibre content. The mean value of pH and overall acceptability showed significantly ($p < 0.05$) decreasing trend for both fortified samples as well as control sample whereas total plate count (log cfu/g) showed significantly ($p < 0.05$) increasing trend with storage of 45 days. MBP with fortification of Fenugreek leaves caused an enhancement of pH, sensory characteristics during refrigerated state at 45 days, as well as improvement of microbiological quality when compared to a control sample and psyllium husk incorporated MBP. So, fortification of herbs and husk into MBP considerably improved functional quality as compare to control mutton burger patties. Therefore, it could be concluded that the fenugreek leaves incorporated MBP was much better at storage condition as compared to psyllium husk incorporated MBP.

Key words : Meat patties, fenugreek leaves, psyllium husk, dietary fiber.

INTRODUCTION

In India, the market for meat and meat products are in various forms as according to conveniences of the consumer's choice. Today's consumers do not consume meat products only for satiety; they prefer nutritious and convenient ready to eat meat products. These meat products must be convenient economically and cost-effective and interesting changes of menu further improvement in shelf-life quality, nutritional quality and acceptability than traditional products. In the 21st century, demand for functional meat has been grown sharply as compared to plant food meat, which has good sources of protein and a wide range of vitamins and minerals salts. The demand is increasing as a result of industrialization and globalization mainly in developing countries of Asia stimulating growth per capita income and living standards. Meat's iron is well absorbed as compared to plant food's iron and stimulates the absorption of iron from other foods. Meat has a concentrated source of B vitamins, especially vitamin B12 which is absent in plant foods (Sharma, 2006). Additionally, red meat has some drawbacks such as high level of saturated fatty acids, cholesterol, sodium, fat, low fiber and high-calorie content. Meat and meat products lack in many key ingredients dietary fibers, hence regular consumption of these products is being associated with a number of health disorders. A number of reports showed that fiber intake reduces the risk of diseases namely obesity, cardiovascular diseases, coronary heart diseases, diabetes mellitus type II, several types of cancer and hypertension making consumers doubtful about meat (Arihara, 2006). People rely on the dietary recommendation for preventing cardiovascular diseases by reducing saturated fat intake (Siri-Tarino *et al*, 2010). Therefore, the reduction of saturated fat in meat products with the incorporation of fibers and antioxidant could result in healthier products. Food nutritionist gives a great effort and develops functional meat products containing low fat and sodium contents and natural antioxidants and antimicrobials enriched with fibre and ù-3 and ù -6 fatty acids (Hygreeva *et al*, 2014). Functional foods have food-bearing beneficial characteristics such as cholesterol lowering, antioxidant and anticancer properties. Functional foods are mainly endorsed in developed countries due to their high life expectancy, advancement in food and ingredients technology, high health care costs and also their importance (Ioannis and Maria, 2005). Several studies reported a positive association between vegetables and fruit consumption with reduced incidences of diseases like coronary heart disease, cancer, aging and Alzheimer's disease (Tangkanakul, 2006). Various