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Development of food products incorporating dry powdered figs to explore their hypercholesterolemic potential

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ABSTRACT

Plants have been associated with the health of mankind from time immemorial and also the important source of medicines since the dawn of human civilization. Traditional medicines remain a potential resource for discovering of new compounds with valuable pharmacological activities and are being integrated to the field of food and food additives. The present study was an effort to investigate the reduction of hyperlipidemia by supplementing dry figs (150g/day) for a period of 8 weeks and to develop acceptable food products from dry figs to enhance its nutritional and therapeutic application. Five products were prepared viz., *Idli*, *Biryani*, cake, *Gujiya* and *Ladoo* by incorporating dry fig powder at 5, 10 and 15% levels along with the standard without incorporation of dry fig powder. Organoleptic analysis of these products was done using nine point hedonic scale by a panel of semitrained personals. Results revealed a significant difference in lipid profile of hypercholesterolemic subjects of the experimental group as compared to the ones belonging to control group. Organoleptic evaluation showed that all the products formulated by incorporating fig powder were well accepted as standard in terms of all the sensory attributes. Thus, it can be inferred that figs, despite having medicinal properties also contribute towards several taste attributes and can be consumed in daily diet by the communities for nourishment and health enhancement.

Key words : Hypercholesterolemia, Fig, Sensory evaluation, Hedonic scale

INTRODUCTION

Hypercholesterolemia is one of the major risk factors in the development of coronary artery disease (CAD) (Bok *et al.*, 1999; Evans and Charles, 2002). Nowadays; many non-prescribed treatments have been made available for lowering the cholesterol. In this regard, traditional medicines are pursued as alternative drugs for treatment of hypercholesterolemia. So far many traditional medicines have been investigated for their therapeutic effects both in humans and in experimental animals (Perez *et al.*, 1999a; Perez *et al.*, 1999b; Evans and Charles, 2002). Fig (*Ficus carica*) commonly called *Anjeer* has been used for several therapeutic effects such as hypoglycaemia (Seccaclara *et al.*, 1998), cancer suppressive (Rubnov *et al.*, 2000), anthelmintic (De-Amorin *et al.*, 1999), hypotriglyceridemia (Asadi *et al.*, 2006; Perez *et al.*, 1999a) and bovine papillomatosis (Hemmatzadeh *et al.*, 2003). Canal *et al.* (2002) showed that chloroform extract

obtained from a decoction of fig leaves improved the blood cholesterol in streptozotocin induced diabetic rats. The present study was an endeavour to extend the findings on the effects of dry fig powder on the lipid profile of hypercholesterolemic subjects to determine the proximate composition of dry fig powder and organoleptic evaluation of food products incorporating fig powder.

MATERIALS AND METHODS

The study was conducted in two phases, the first phase involved biochemical evaluation of lipid profile of hypercholesterolemic subjects in pre-and-post intervention states. Thirty hyperlipidemic subjects between the age groups 45-60 years were selected from Jindal Hospital and Research Centre, Sri Ganga Nagar, Rajasthan, India. Appropriate approval was procured from the Institution Review Board and informed consent was obtained from all the patients. Selected sample was further divided in

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