

Impact of supplementation of *Aloe vera* L. gel powder and nutrition counseling on dietary intake and anthropometry of non-insulin dependent diabetics

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Ninety non - insulin dependent diabetic male patients in the age group of 35-65 years free from serious complications of diabetes were selected from the Punjab Agricultural University and Civil hospitals of Ludhiana. The selected subjects were given two treatments. In first treatment, the subjects were supplemented with 100 mg and 200 mg of *Aloe vera* L. gel powder for a period of three months and in second treatment *i.e.* nutrition intervention, supplementation was continued along with nutrition counseling for the next three months. Data regarding anthropometric measurements and dietary intake was recorded. The mean daily intake of green leafy vegetables, other vegetables and fruits increased significantly ($P \leq 0.01$) and the mean energy, carbohydrates, protein and fat intake decreased significantly ($P \leq 0.01$) in the selected subjects. There was a significant reduction ($p \leq 0.01$) in body mass index (BMI), mid upper arm circumference (MUAC) and triceps skin fold thickness (TFST) of the subjects after nutrition intervention. Supplementation of 100mg and 200mg of *Aloe vera* L. gel powder along with nutrition counseling improved the food intake, anthropometric measurements and total knowledge scores of selected subjects.

Key Words : *Aloe vera* L., Supplementation, Anthropometry, Dietary intake, Nutrition counseling

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INTRODUCTION

Diabetes is a chronic disease marked by the higher level of blood glucose from defects in insulin production, insulin action or both. Diabetes is fast becoming a leading cause of morbidity, mortality and disability across the world. Diabetes is a global metabolic epidemic affecting essential biochemical activities in almost every age group (Gupta *et al.*, 2008). The prevalence of diabetes has drastically increased in the latter half of the 20th century, largely due to the ready availability of large quantities of calorie rich foods and the technology driven reduction in routine daily exercise. According to International Diabetes Federation, diabetes currently affects 366 million

people worldwide and India has the largest number of people with diabetes *i.e.* 61.3 million. India has been declared as the “Diabetic capital of world”. By 2030 there would be 552 million diabetics throughout the world and 101.2 million diabetics would be in India alone (IDF, 2011). Obesity and physical inactivity independently contribute to the development of type 2 diabetes. However, the magnitude of risk contributed by obesity is much greater than that imparted by lack of physical activity (Rana *et al.*, 2006).

These days great attention is being given to management of diabetes with medicinal plants along with dietary restriction (Thorfeldt, 2005). Being a medicinal plant, *Aloe vera* L. has been used for many centuries for its curative and therapeutic properties. *Aloe vera* is a perennial succulent xerophyte, which develops water storage tissue in the leaves to survive in dry areas of low or erratic rainfall. The aloe leaf can be divided into two major parts, namely the outer green rind, including the vascular bundles, and the inner colourless parenchyma containing the aloe gel. The ten main areas of chemical constituents of *Aloe vera* include: amino acids, anthraquinones,

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