

INTRODUCTION

Acne vulgaris is the most common skin disease seen in dermatological practices worldwide. It affects many teenagers and may continue into adulthood. It is a follicular disorder that affects susceptible pilo-sebaceous follicles and is characterized by both non-inflammatory and inflammatory lesions (*Xiu-Li et al., 2010*).

Severity of acne varies markedly from patient to patient due to many factors. Although acne is not a dangerous or life-threatening condition, it is not only a cutaneous problem, but facial acne lesions can lead to social phobia and depression. Intractable severe acne lesions can be a challenge to treat (*Van de Kerkhof et al., 2006*).

Although familial and ethnic factors are implicated in acne prevalence, this observation is complicated by the finding that incidence rates of acne have increased with the adoption of Western lifestyles (*Berra and Rizzo, 2009*).

Smith et al., (2007) suggests that lifestyle factors, including diet, may be involved in acne pathogenesis, although the pathogenesis of acne is not understood fully, recent epidemiological studies suggest that dietary factors, including the glycemic load (GL), may be involved.

Even if the relationship between glycemic index (GI), GL, and acne is controversial, a recent randomized controlled trial showed an improvement of acne, which is related to an enhancement of insulin sensitivity (*Kaymak et al., 2007*).

Leptin is a protein composed of 167 amino acids, encoded by the obesity gene, it is proposed to serve as a satiety factor and causes weight loss in rodents through reduction of food intake and increasing energy metabolism, many studies have focused on the role of leptin in body weight regulation; however, emerging evidence suggests that leptin not only plays an important role in the regulation of food intake and energy balance, but also functions as a metabolic and neuro-endocrine hormone (*Liu et al., 2009*).

There is no difference in serum leptin levels between patients and controls and Kilic et al., suggested that it does not play a major role in acne pathogenesis, however serum leptin levels were elevated more in patients consuming a carbohydrate rich diet which is expected since oral food intake and dietary composition influence leptin concentrations (*Kilic et al., 2004*).