**INTRODUCTION**

Medicinal plants are universally considered as important sources of new chemical substances with potential therapeutic effects. *Teucrium polium* L. (syn *Teucrium capitatum* L. or felty germander) is one of the 300 species of the genus *Teucrium* from Lamiaceae family (El Oualidi et al., 1999). It is believed that *T. polium* contains several subspecies and/or varieties including aragonense, aurasia-cum, capitatum cylindricum, expansum, gnaphalodes, pilosum, polium, vincentum, yalentinum and many others (El Oualidi et al., 1999). *T. polium* is a perennial shrub, 20–50 cm high, distributed widely in the dry and stony places of the hills and deserts of almost all Mediterranean countries, South Western Asia, Europe and North Africa. Sessile, oblong or linear leaves have a length of about 3 cm (Feinbrun-Dothan, 1978). The bruised foliage releases a pleasant aromatic odor and the flowers are small, in clusters and range from pink to white. *T. polium* (locally called kalpooreh) is abundantly found in Iran.

Phytochemical investigations have shown that *T. polium* contains various compounds such as terpenoids, flavonoids and iridoids (Piozzi et al., 2005). The composition of the essential oil of *T. polium* has recently been summarized by Cozzani et al. (2005). This review considers the plant traditional medical application, phytochemistry, pharmacology and toxicology of different extracts and compounds isolated from *T. polium* since the early-1970s, providing a comprehensive resource on these aspects of the plant.

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**TRADITIONAL MEDICINAL USES**

*T. polium* is used in traditional Iranian medicine (TIM), its tea being used to treat many diseases such as abdominal pain, indigestion, common cold and type 2 diabetes. Based on this background, many studies have been followed for scientific confirmation of the above-mentioned properties. In this review, 100 articles published from 1970 to 2011 in the area of phytochemistry, pharmacology and toxicology of extracts and compounds isolated from *T. polium* have been evaluated. During the past 40 years, different classes of compounds have been isolated from various parts of *T. polium* of which the main groups are terpenoids and flavonoids. It has been found that these compounds possess a broad spectrum of pharmacological effects including antioxidant, anticancer, antiinflammatory, hypoglycemic, hepatoprotective, hypolipidemic, antibacterial and antifungal. The results of data analyses on the chemical, pharmacological and toxicological characteristics of *T. polium* support the view that this plant has beneficial therapeutic properties. However, further studies to identify the active components and further verify their relevant pharmacological activities are warranted. Copyright © 2012 John Wiley & Sons, Ltd.

**CHEMICAL COMPOSITION**

Plants belonging to *Teucrium* genus have been shown to contain different classes of compounds such as neoclero-dane diterpenoids (Piozzi, 1981, 1994; Piozzi et al., 1987, 1998), the chemotaxonomic markers of the genus (Piozzi et al., 2005), monoterpenes (Bruno et al., 2002), sesquiterpenes (Bruno et al., 1993), polyphenols, flavonoids (Kawashity et al., 1999; Rizk et al., 1986) and fatty acid