

Abstract

Despite advances in medical science, Libya, like many other nations, maintains a health system that incorporates complementary and alternative medicine. Heavy metals and phytochemicals were investigated in *Teucrium polium*. Plants produce a wide variety of chemicals referred to as secondary metabolites, or phytochemicals, which collect in different parts of their bodies and are potential sources of new drugs such as phenolic compounds, steroids, coumarins, alkaloids, and flavonoids. The level of heavy metals were analyzed by using Flame Atomic Absorption Spectrophotometry (FAAS), while qualitative analyses were used to find the presence of phenolic, gelatin, terpenoids, tannin, steroids, and saponin. The results of the study indicated that heavy metals in *T.polium* were detected in the medicinal herb that was examined in tea extract including iron, nickel, copper, zinc, and cadmium while the heavy metals in *T.polium* acid digest extract including iron, copper, zinc, nickel, manganese, cadmium and chromium. In addition to that the results obtained in the present study show that the phytochemical concentration in *T.polium* terpenoids and phenolic are found in higher concentrations, tannin, gelatin, and steroids are present in medium amounts while saponin is found in low amounts. Due to its high concentration of phytochemical compounds, *T.polium L* is thought to have greater medicinal value than synthetic drugs with side effects.

Keywords: Heavy metals, Phytochemicals, Phytochemicals, *Teucrium polium*, Traditional drugs.