ABSTRACT

PHYTOCHEMICAL SCREENING AND ASSESSMENT OF BIOLOGIC ACTIVITY OF DIFFERENT EXTRACTS OBTAINED FROM *HELIOTROPIUM HIRSUTISSIMUM*

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In this study, Phytochemical content screening of extracts (petroleum ether, diethyl ether, ethyl acetate, methanol and water (infusion and decoction) which were obtained by using aerial parts from *Heliotropium hirsutissimum* and prepared on different concentration was performed, and antioxidant activity, total phenolic content, hydrogen peroxide (H_2O_2) scavenging and iron chelating activities of extracts were determined. Whether the cytotoxic effect of *H. hirsutissimum* plant exists or not was investigated by *Artemia salina* Brine Shrimp Lethality Assay (BSLA) method.

When DPPH free radical scavenging activity of different extracts obtained from plants was compared with H_2O_2 scavenging and iron chelating activities control, it showed differences depending on either the extract type or the application concentration increase. It was also found that while the extract with the highest radical scavenging activity became the infusion extract, free radical scavenging activities and H_2O_2 scavenging and iron chelating activities of the other extracts were weak.

In the phytochemical analyses performed for extracts obtained from *Heliotropium hirsutissimu,* differences according to the extract type were observed ,and it was determined that mostly alkaloids existed in other extracts except methanol extract. Following alkaloids, phenols (in petroleum ether, infusion and decoction extracts) and saponins (in methanol, infusion and decoction extracts) were the most encountering phytochemicals in the extracts. It was determined that the antraquinon existence was weak ,and flavonoids did not exist in any extracts as well.

Brine Shrimp toxicity test showed that petroleum ether, diethyl ether, ethyl acetate, methanol and water (infusion and decoction) extracts obtained from H.hirsutissimum did not have a cytotoxic effect on *Artemia salina* by comparison with umbelliferone which is the positive control in applied concentration ranges (100µg/ml–1000µg/ml).

Key Words: Antioxidant activity, Brine Shrimp Lethality Assay, DPPH scavenging activity, *Heliotropium hirsutissimum*, Phytochemical analysis, cytotoxic effect.