Renovation and Standardization of a Historical Pharmaceutical Formulation from Persian Medicine: Chamomile Oil

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KEYWORDS: Persian Medicine, Chamomile oil, Pharmaceutic, Traditional medicine

ABSTRACT Medicinal oils were of the pharmaceutical dosage forms used since ancient Persian times to now in
Iran. Chamomile oil is one of the medicinal oils prepared by the extraction of the chamomile flowers to sesame oil as an oily vehicle. It was widely used in the history of Persian medicine and is currently used by traditional practitioners of Persian Medicine in various disorders mainly in topical form. In this study, traditional chamomile oil was prepared based on the Qarabadin books. In advanced, 600 g of chamomile flower powder was boiled in 3.6 liter of water for 3 hours. Then, powder was removed and remained water (aqueous extract of chamomile) was boiled with 0.5 liter of sesame oil for 2 hours (until all the water was vaporized and oil remained). For standardization, the essential oil of chamomile oil was obtained via Clevenger apparatus method and then analyzed with the help of gas chromatography (GC)-mass method. In addition, total phenolic and flavonoid contents of the chamomile oil were calculated based on gallic acid and quercetin, respectively. The results show that the main component of the essential oil were Caryophyllene (7.45%), Bisabolol Oxide B (2.05%), Bisabolone Oxide A (62.35%), Chamazulene (2.05%), Bisabolol Oxide A (15.54%) and Methyl ester 5,8,11-Heptadecatriynoic acid (5.52%). Besides, total phenolic and flavonoid contents were 11.0043 ± 0.4514 and 2.7640 ± 0.1776 mg/l, respectively. Our results show that the historical dosage form of chamomile oil in Persian medicine can be reproduced and is a stable and homogeneous oil and be standardized in our investigation.

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Standardization of herbal formulation requires implementation of Good Manufacturing Practices. In addition, study of various parameters such as pharmacodynamics, pharmacokinetics, dosage, stability, self-life, toxicity evaluation, chemical profiling of the herbal formulations is considered essential. Standardization and Quality control of herbal drugs involve wide array of scientific investigations, which include physical, chemical and biological evaluation employing various analytical method and tools. Chamomile is a centuries-old established traditional medicinal herb popular in the Western world. It is available in two varieties, namely German chamomile (Chamomilla recutita) and Roman chamomile (Chamaemelum nobile). The dry flower of chamomile contains approximately 120 secondary metabolites, comprising terpenoids and flavonoids, which contribute to its medicinal properties. Chamomile preparations are found to be beneficial in many human ailments. Chamomile is also well known for its essential oils with a pleasant aroma. It is used extensively for supplementing cosmetic products and in aro