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Short Communication

Antioxidant Property of *Majoon-e-Dabeed-ul-Ward*: a Traditional Herbal Formulation in Persian Medicine

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Abstract

Traditional medicine is used for treating diseases in different countries and it is a way for promoting public health especially in under developing countries. Persian medicine has a long history and has been an inseparable part of the Iranian people's life and culture. There are many herbal formulations in Iran that prepared following Persian medicine methods and prescribed for different diseases. *Majoon-e-Dabeed-ul-Ward i*s one of these products and to the best of our knowledge there is no documented study about the formulation used in Iran. In this study, Persian medicine manuscripts were explored for main ingredients of *Majoon-e-Dabeed-ul-Ward* as well as serious diseases in which this medication has been considered as a potential treatment. Additionally, the antioxidant effect of the commonly used formula in Iran was studied using DPPH method. There were different formulations with 16 or more constituents under the name of *Dabeed-ul-Ward* in Persian manuscripts; *Rosa damascena* was the main constituent of this herbal mixture. *Majoon-e-Dabeed-ul-Ward* has been prescribed for different purposes like liver disorders, pelvic inflammation, eczema, psoriasis, headache and vertigo. Commonly used *Majoon-e-Dabeed-ul-Ward* in Iran contains 16 plants in addition to sugar. *Majoon-e-Dabeed-ul-Ward* hydro- alcoholic extract possessed radical scavenging activity with IC50 value of 174 μg/mL.

Keywords: Persian medicine, *Majoon-e-Dabeed-ul-Ward*, Antioxidant

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Introduction

Traditional medicine has an important role in healthcare system of different countries. Based on WHO documents, approximately 80% of world population use herbal medicine for treating diseases [1]. Iran has a long history in traditional medicine dating back to Babylonian-Assyrian civilization [2]. Persian medicine is a branch of Arabic-Unani medicine and a collection of information from ancient scholars as well as the innovations that Persian physicians have added to this collection [3]. Persian medicine manuscripts are invaluable source of knowledge applied in diagnosis, treatment or prevention of diseases. Pharmaceutical science had been very important in ancient Persia and there were a verity of pharmaceutical textbooks called *Gharabadin (Qarabqdin)* containing pharmaceutical details of different plant, animal or mineral sources. These valuable resources can be used to search for safe and effective therapies.

During the time, traditional medicine has been an inseparable part of the Iranian people's life and culture. Nowadays, a large number of Iranian people utilize traditional medicine for treating diseases for some reasons like efficacy and economic benefits [4]. There are a number of clinics in Iran that provide Persian medicine services under the supervision of medical universities and a large number of herbs and herbal formulations are presented in pharmacies affiliated to these clinics. Some of Persian herbal formulations have been studied in terms of history and biological properties but there are still considerable uninvestigated samples. *Majoon-e-Dabeed-ul-Ward* is one of the herbal electuaries prescribed by Iranian physicians for different diseases. To the best of our knowledge there is no documented study about *Majoon-e-Dabeed-ul-Ward* in Iran. Therefore, an overview of this formula in Persian medicine manuscripts was approached. Additionally, the antioxidant effect of the commonly used formula in Iran was studied.

Methods

The major Persian traditional manuscripts [5-7] were investigated for various descriptions about *Majoon-e-Dabeed-ul-Ward*. The product was purchased from *Talaye Sabze Tooba* Company.

Extraction

50 g of *Majoon-e-Dabeed-ul-Ward* was extracted by maceration using 500 ml of ethanol-water (80:20). The extraction was repeated three times until complete extraction. Solvent evaporated to dryness. Dried extracts were stored at 2-8 C with no exposure to light and dissolved in suitable solvents in order to be used in experiments.

Evaluation of antioxidant activity by DPPH

Free radical scavenging activity was determined using DPPH spectrophotometric method which completely described in some previous articles [8]. Based on primary test, four concentrations of extract (100, 200, 300, 500 µL/ mL) were prepared via dissolving in methanol. One mL of each samples was added to fresh methanolic solution of DPPH (40 µg/ mL). After 30 minutes incubation in the dark at room temperature, the absorbance was recorded at 517 nm in comparison with proper blank. Inhibitions percentage was calculated from below equation:

$I=[(A\ blank-A\ sample)/A\ blank]\times 100$

where A blank is the absorbance of control (the

DPPH solution without sample solution). The IC50 value (concentration of examined samples which exhibited 50% scavenging activity) was calculated based on sample concentration against percentage of inhibition and reported as mean± standard deviation.

Results

Majoon-e-Dabeed-ul-Ward is an Arabic-Persian Phrase means the rose flower electuary. This herbal medicine formula has been repeated with differences in main manuscripts of traditional Persian medicine. There are different formulations with 16 or more constituents under the name of *Dabeed-ul-Ward* in Persian manuscripts; *Rosa damascena* is the main constituent of this herbal mixture. *Majoon-e-Dabeed-ul-Ward* has been prescribed for different purposes like liver disorders, pelvic inflammation, eczema, psoriasis, headache and vertigo. Commonly used *Majoon-e-Dabeed-ul-Ward* in Iran contains 16 plants which are listed in Table 1. *Majoon-e-Dabeed-ul-Ward* hydro-alcoholic extract possessed radical scavenging activity with IC50 value of 174 μg/mL.

Table 1: Ingredients of commonly used *Majoon-e-Dabeed-ul-Ward* formula in Iran from *Talaye Sabze Tooba* Company

Scientific name	Persian name	Part used
Rosa damascena	*Gol-e-sorkh*	Petals
Nardostachys jatamansi	*Sonbol-o-tib*	Rhizome
Pistacia lentiscus	*Mastaki*	Resin
Crocus sativus	*Zaferan*	Flower (stigma)
Cinnamomum zeylanicum	*Darchin*	Stem bark
Cymbopogon jwarancusa	*Ezkher*	Root
Asarum europaeum	*Asaroon*	Root
Saussurea hypoleuca	*Ghost-e- Shireen*	Root
Cuscuta chinensis	*Kashoos*	Seed
Rubia tinctorum	*Ronas*	Root
Coccus lacca	*Lak -e- Maghsool*	Secretion by insect
Cichorium intybus	*Kasni*	Seed
Apium graveolens	*Karafs*	Seed
Aristolochia longa	*Zaravand*	Root
Elettaria cardamomum	*Hel*	Fruit
Cassia senna	*Sena*	Leaves

Discussion

Majoon-e-Dabeed-ul-Ward is an important traditional herbal formula in Iran and other countries like India. Indian scientists have conducted some research on *Majoon-e-Dabeed-ul-Ward* electuaries which in the most of them the studied formulation are similar to commonly used formula in Iran. A Placebo Controlled Randomised Clinical Trial investigated the efficacy of *Majoon-e-Dabeed-ul-Ward* (mentioned name in the article was Dabeedulward) in pelvic inflammatory disease. Capsules of *Dabeed-ul-Ward* prepared from 20 plants were administered for patients (500mg twice daily orally for a 21 days). *Dabeed-ul-Ward* was well tolerated and no adverse/side effects were encountered. In conclusion, capsule *Dabeed-ul-Ward* was clinically effective and safe in relieving the symptoms and signs of pelvic inflammatory disease [9]. Shakya and co-workers studied *Majoon-e-Dabeed-ul-Ward* with 21 constituents that contained some plants like *Bambusa bambos, Gentiana olivieri, Aquilaria agalocha, Commiphora opobalsamum* and *Syzygium aromaticum* in addition to constituents of our studied formula (Table 1). They investigated the effect of this product in liver injuries induced in rats by acetaminophen. Altered levels of aspartate transaminase (AST), alanine transaminase (ALT), serum alkaline transaminase (SALP), lactate dehydrogenase (LDH), bilirubin, albumin, urea, and creatinine were observed in animals orally treated with three doses of this product (250, 500, and 1,000 mg/kg). In addition, lipid peroxidation (LPO), glutathione (GSH), adenosine triphosphatase (ATPase) and glucose-6-phosphatase (G-6-pase) were significantly restored after treatment. Thus, hepatoprotective effect of this *Majoon-e-Dabeed-ul-Ward* was approved by these results [10]. They also studied the impact of *Majoon-e-Dabeed-ul-ward* at three doses of 250, 500 and 1000 mg/kg, on liver injuries induced in mice by carbon-tetrachloride. In dose-dependent way this product enhanced the levels of aspartate transaminase, alanine transaminase, albumin and urea. Moreover, thiobarbituric acid reactive substances (TBARS) content sharply was reduced after treatment. In addition, lower level of glutathione, adenosine triphosphatase and glucose-6-phosphatase in liver were restored. Biochemical and histopathological results of this study showed strong hepatoprotective property of *Majoon-e-Dabeed-ul-Ward*. Antioxidant activity of this type of *Majoon-e-Dabeed-ul-Ward* was evaluated and the IC50 value was reported as 198 µg/ml [11]. The antioxidant property of commonly used Persian formulation which determined in present study (174 µg/mL) is comparable with reported data from other studies. It is important to consider the constituents of each product. According to Persian manuscripts there are varies formulation in Persian medicine under the name of *Majoon-e-Dabeed-ul-Ward* with minor variation in ingredients. Despite the variation about *Majoon-e-Dabeed-ul-Ward* from different companies, more clinical trials are needed for exploring other biological effect of this traditionally important medicine.

Conflict of Interest

None.

Acknowledgment

None.

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