Effective herbal medicines on Nausea and vomiting based on Canon of Avecina

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**ABSTRACT**

Nausea and vomiting are common disorders of gastrointestinal. There are various antiemetic drugs for treatment of nausea and vomiting, which have several side effects. It is necessary to use safer treatments. Herbal medicine is effective with no or less toxicity. In Iranian Traditional Medicine (ITM) various plants are used for treatment of nausea and vomiting. In this study effective herbal medicine on nausea and vomiting are assessed in Canon of Avicenna (the second book) and 29 effective plants on nausea and vomiting were found. It should be mentioned that among antiemetic plants which mentioned in Canon, only three of them (Purslane, Spearmint and Quince) have been studied and approved. It is recommended to conduct animal study and clinical trials to prove for other plants efficacy and obtain more conclusive results.

**INTRODUCTION**

Nausea and vomiting are annoying symptoms of common disorders of gastrointestinal. The incidence of postoperative nausea and vomiting may be as high as 80% [1] and it is estimated that 70–80% of women experience nausea and vomiting of pregnancy [2] and also more than 60% of patients who are treating with chemotherapy suffer from nausea and vomiting [3]. Nausea and vomiting may be cause of a wide variety of conditions such as adverse effects from medications; systemic disorders or infections; pregnancy; radiation or chemotherapy; and gastrointestinal obstruction [4]. These days there are various medications for treatment of nausea and vomiting, which have several side effects. Antiemetic drugs are divided into several categories like Serotonin-5-HT3 and agonists, substituted benzamides, H-1Antihistamines & anticholinergic drugs, corticosteroids. Although, there are positive effects, it is not possible to ignore their side effects such as restlessness, dystonias, and parkinsonian symptoms, headache, dizziness, and constipation and etc [5]. Considering this issue that most of those medicines have side effects and do not work effectively in all groups, like pregnant and breast-feeding women, it is necessary to use safer treatments like Iranian Traditional Medicine (ITM). In ITM, various plants are used [6] and one of valid source is Avecina’s book of Canon [7, 8].

In this study effective plants on nausea and vomiting are surveyed.

**MATERIAL AND METHODS**

In this study, the Cannon (the second book) is searched for herbal medicines which are effective on nausea and vomiting. In the next step the scientific names of these plants with the key terms “nausea and vomiting” are searched in Pubmed, and Google scholar up to January 10th, 2015.
Temperament and Humors in Canon

Abu Ali al-Husayn ibn Abd Allah ibn Sina (known as Avicenna in Europe) was born about 980 CE (370 H), near Bukhara in Persian Empire [9]. Avicenna wrote numerous medical books, but the most famous one was the al-Qanun or Canon of Medicine [10] which is divided into five books [9, 10]. The second book is about 785 simple drugs [11] which have mineral, herbal or animal origin with a discussion on the nature and quality of drugs or temperaments [9]. In ITM "Mizaj" (temperament) is a quality which is a consequence of mutual interaction of the four contradictory primary qualities (Warm, Cold, Wet and Dry) residing within the elements [7, 8]. In ITM the body and everything else is made up of four basic elements, earth, air, water and fire which have different temperaments. Earth is cold and dry, fire is warm and dry, water is cold and wet and air is warm and wet. By mixing and interacting the four mentioned elements, new combinations are caused that are called Mizaj [7, 8, 12].

As a matter of fact, ITM was based on humors. "Humor" which is called in the ITM texts as "Khelt", it is a wet and fluid substance which food in the first stage of permutation changes to it. Normally there are four humors in the human body, including Balqam (cold and wet), Dam (warm & wet), Safra (warm & dry) and Sauda (cold and dry). According to the Canon, health is due to the balance of these humors and the imbalance between them both in quality or quantity can lead to illness [7, 8, 13, 14].

Results:

Nausea and vomiting in ITM are diseases. There are various forms of these diseases in based on location of humors and gastric response. These forms are consist of Ghessyan (nausea) , Ghey (vomiting), Tahavo (Retch) and Taghalobe naphs (permanent nausea) [7, 8, 12].

Briefly etiology of nausea and vomiting in ITM can be due to:
- Accumulation inappropriate quality and quantity of humor in stomach cavity including: Balqam, Safra, Sauda or abnormal humor [7, 8, 14].
- Stomach disease such as dyspepsia and stomach weakness
- Induced vomiting drugs
- Inappropriate quality or quantity of food
- Fever and BOHRAN (It is a stage in which whether the immune system manage to cope with disease or not).
- Other organs such as (brain trauma, inflammation)
- worm [7, 8]

Generally treatment of nausea and vomiting are consist: Remove the pathogens material such as humor from the stomach by induced vomiting or purgative and then strengthen the stomach by quince or apple syrup and etc. Prevent the production of inappropriate humor and relieve nausea and vomiting by traditional medication. In this study effective herbal medicine on nausea and vomiting are assessed in Canon of Avecina. These herbs have different effects on nausea and vomiting based on humor in stomach. They can relieve, deter, stop, or treat nausea and vomiting [7, 8] (See Table 1).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>Iranian Traditonal name</th>
<th>Family</th>
<th>Part Used</th>
<th>Temperament</th>
<th>Effective on Nausea and vomiting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aegle marmelos (L.) Corrêa</td>
<td>Bael</td>
<td>Bel</td>
<td>Rutaceae</td>
<td>Fruit</td>
<td>Warm &amp; Dry</td>
<td>Effective on nausea</td>
</tr>
<tr>
<td>Bambusa bambos (L.) Voss</td>
<td>Bamboo Cane</td>
<td>Tahashir</td>
<td>Poaceae</td>
<td>White substance obtained from the nodal joints of stem</td>
<td>Cold &amp; Dry</td>
<td>Effective on vomiting</td>
</tr>
<tr>
<td>Boswellia carterii Birds</td>
<td>Oliban</td>
<td>Kundur</td>
<td>Burseraceae</td>
<td>Oleogum resin</td>
<td>Warm &amp; Dry</td>
<td>Deter vomiting</td>
</tr>
<tr>
<td>Curum carvi L.</td>
<td>Caraway</td>
<td>Kerovia</td>
<td>Umbelliferae</td>
<td>Fruit</td>
<td>Warm &amp; Dry</td>
<td>Stop vomiting</td>
</tr>
<tr>
<td>Cichorium intybus L.</td>
<td>Chicory</td>
<td>Hndba</td>
<td>Asteraceae</td>
<td>Leave</td>
<td>Cold &amp; Dry</td>
<td>Relieve nausea</td>
</tr>
<tr>
<td>Citrus medica L.</td>
<td>Citron</td>
<td>Utruj</td>
<td>Rutaceae</td>
<td>Dry yellow peel</td>
<td>Warm &amp; Dry</td>
<td>Relieve safravi vomiting</td>
</tr>
<tr>
<td>Coriandrum sativum L.</td>
<td>Coriander</td>
<td>Kazbra</td>
<td>Apiaceae</td>
<td>Fruit</td>
<td>Cold &amp; Dry</td>
<td>Deter vomiting</td>
</tr>
<tr>
<td>Curcuma zedoari (Christm.) oscoe</td>
<td>Zedoary</td>
<td>Zoromba</td>
<td>Zingiberaceae</td>
<td>Root</td>
<td>Warm &amp; Dry</td>
<td>Deter vomiting</td>
</tr>
</tbody>
</table>
Discussion:

In this study after searching between 785 simple drugs in the second book of Canon, 29 effective plants on nausea and vomiting were found. Finally, 27 plants with scientific names shown in table 1 but two plants which named in Canon “Ushne”, It is a kind of moss, and “karm barri” (Wild grapes) were removed from table because their scientific name certainly are not identified. However, these plants are effective on nausea and vomiting in ITM, but there are no many clinical or animal studies on effectivenes of these plants, only some studies are found about Purslane, Spearmint and quince [16, 17, 18].

Portulaca oleracea L. is commonly known as Purslane and in ITM named “Bughla hamgha” or “khorfe”, in ITM Purslane deter vomiting (table 1). In 2013, Rupa Sengupta et al evaluate antiemetic activity of the methanol extracts of leaves Portulaca oleracea in chick emesis model. Results were showed the leaves of Portulaca oleracea were antiemetic activity [16]. It is not found human study to confirm the effectiveness of investigated Purslane leaves on nausea and vomiting.

Mentha spicata L is commonly known as Spearmint and in ITM named “Nana” deter balqami and damavi vomiting. In one study in 2013 MK Hassanzadeh et al examined antiemetic activity of volatile oil from Mentha spicata and Mentha × piperita in chemotherapy-induced nausea and vomiting. Results were showed M. spicata or M. × piperita essential oils are effective for antiemetic treatment in patients, as well as being cost effective [17].

Cydonia oblonga Mill is commonly known as quince and it is named “Safarjal” in Canon. Quince affects on balqami vomiting. In 2013 E.Jafari Dehkordi, et.al evaluated quince fruit syrup effect on nausea and vomiting in pregnancy based on ITM and their result demonstrate the effect of quince syrup is significant [18].
Conclusion:
Overall, there are various herbal medicine in ITM for the management of nausea and vomiting. It should be mentioned that among antiemetic plants which mentioned in the second book of Canon, only three of them have been studied and been approved. It is recommended to conduct animal study and clinical trials to prove for other plants efficacy and obtain more conclusive results.

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