

## Medication: Herbal or non-herbal?

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Editorial

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Since thousands years ago, medicinal plants have been used worldwide due to their easy access by many people to treat various diseases. In addition, semi-synthetic and synthetic medications gradually have been entered into the world medicine market. The use of any of the herbal or synthetic medications has its own advantages and disadvantages. Nowadays, people may use herbal and/or synthetic medicines which made them to be confused about the preference of these mediations. Given the above mentioned facts, the question for everyone would be the usage of herbal medicines to treat diseases or synthetic medications.

Since thousands years ago, medicinal plants have been used worldwide to treat various diseases.<sup>1,2</sup> In Iran 80% and 71.5% of people worldwide may use medicinal plants.<sup>3,4</sup> In addition, it should be mentioned that the speed of treatment of diseases using medicinal plants is not too short but obviously shorter than the synthetic medications.<sup>5</sup> As Iran is one of the most important centers of biodiversity in the ancient world, it is estimated that about 22% of the total 8000 plant species can be found in Iran.<sup>6,7</sup> In addition, more than 1300 plant species can be found in Chahar Mahal and Bakhtiari Province, a province located in southwest of Iran; in fact, more than 350 plant species have been identified exclusively in this province which has not been found in other parts of Iran.<sup>8,9</sup>

Nowadays, there is an increasing interest on medicinal herbs which may reflect more attention on the side effects of powerful synthetic medications as well as the preference of many people to take care of their own health, rather than current health care system.<sup>10</sup> In developed countries, reliance on surgery and pharmaceutical medicine is more common, but increasingly, more and more people are willing to complement their own treatment with natural supplements.<sup>11</sup> Research has shown the medical benefits of herbs which have been known for centuries and approximately 80% of the world's population exclusively depends on the appropriate plants for their health and healing.<sup>12,13</sup> There is also substantial concern on the healthy benefits of tasty herbs to cook and aromatic herbs for enhancing and helping to balance of mental, spiritual, and physical health.<sup>11</sup> Furthermore, herbal supplements could generally be taken for two reasons: to alleviate symptoms or to prevent illness as well as to avoid the risk effects of treatment for certain diseases.<sup>14</sup> For example, many botanicals and some common dietary supplements could be considered as the appropriate sources of antioxidants and anti-inflammatory compounds, or may have extraordinary application in the prevention of colon and breast cancers.<sup>15,16</sup> In cancer prevention, herbs may indeed act through several mechanisms to provide protection.<sup>17</sup> Furthermore, induction of phase I and phase II

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metabolic enzymes using herbal products is very usual and may account for some of this activity.<sup>16,18</sup> It is worth to mention that medicinal plant products, both externally and internally, have been successfully administered in several different forms for a wide range of common health problems cross-culturally since prehistoric times.<sup>19</sup> Furthermore, certain toxic effects and contraindications have also been recorded.<sup>20</sup> For instance, many botanical medications may contain curative bioactive chemical ingredients which have proven to be valuable as primary or supplemental therapies when carefully applied.<sup>21</sup> Further research will certainly clarify their appropriate roles in the treatment of diseases and injuries as well as in the maintenance and prevention in public health.<sup>22,23</sup>

Application for new medications was started with the discovery of penicillin by Fleming in 1928 and completed by Fleury and Chayn.<sup>24,25</sup> In fact, the discovery and development of penicillin could represent one of the most important developments in the medical history.<sup>26</sup> Synthetic and semi-synthetic medications are including thousands productions made by pharmaceutical companies<sup>27</sup> with the current number of generic medications more than 1600.<sup>28</sup> In addition, it is obvious that with the arrival of new medications and recombinant to pharmaceutical markets, the mortality rate of patients have been reduced and the treated numbers have been increased<sup>29</sup> which in turn has resulted in major changes in the treatment of diseases as well as declining mortality from diseases by prescribing more synthetic medications.<sup>24</sup> However, it is important to consider that although the discovery and development of synthetic medications in the short-term would shorten the length of treatment of diseases; but the use of these medications could also cause adverse effects in patients.<sup>30,31</sup> Pharmaceutical companies have traditionally relied on nature's bounty in

their search for new medicinal agents using numerous new technologies and paradigms for medication discovery.<sup>7</sup>

Now, an important question would be rise: which medication is better to use: herbal or synthetic medications? In other words, given the above mentioned facts, could people choose the usage of herbal medicines or synthetic drugs to treat diseases? The issue has two dimensions: the preference of medications as well as the possibility of choosing the medication by patients. The comprehensive and population-based epidemiologic studies can indeed answer these questions.

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