AkiNik

Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

J P P Journal of Pharmacognosy and Phytochemistry

ISSN 2278-4136
ISSN 2349-8234
JPP 2013; 2 (4): 74-76

Received: 25-09-2013
Accepted: 23-10-2013

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Evaluation of *Ferula asafoetida* for its anticancerous activity in different countries

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ABSTRACT

Plants are always used as a medicine for its medicinal properties. In ancient time plant used to cure many diseases. *Ferula* is a species which is used as a spice in many cuisines in many countries. *Ferula* have the compounds which are actively participate in the prevention of cancer. We choose *Ferula asafoitida* as a species for its anticancerous activity. *Ferula asafoetida* is also known as heeng in India and European countries it is known as the devils dung because its smell is very hard. The data is collected from the various sources like word health organization website (WHO). Data analysis according to the consumption rate of *Ferula asafoetida* as spices was performed in different Asian countries and the results show the rate of cancer across those places is very low.

Keywords: *Ferula asafetida*, WHO, Anticancerous, Vermifuge.

1. Introduction

Plant has been the constant source for the herbal treatment from centuries. As, chemical drug have many drawback, the cutting edge herbal treatment are abating the human disease without any side effects. The genus *Ferula* from Umbelliferae family consist of about 130 species of plant distributed profoundly in Mediterranean and Central Asian region [1]. And one of the *Ferula* species commonly known as asafoetida and highly cultivated in Kashmir region of India, Afghanistan and, Iran [2]. It is famous for its strong smell and pungent taste and used in various traditional foods as a spice. Also, in Ayurveda its various component are used as a traditional healing agent [4]. Constant research shows that many of the *Ferula* species play an essential role as an antinociceptive, anti-inflammatory, antipyretic and anti-carcinogenic agent [3-4]. Cancer, the uncontrolled growth of the cell may be one of the major cause of concern for the mankind. This disease have not so many cure and existing one are costly and involve many side effects. Drug discovery from herbal plant to cure the cancer is a breakthrough to cut the side effects involves with the chemical. From last half century many plant secondary metabolites and their derivative have been applied to manipulate the cancer [5-6].
In this study we are introducing some graphical proof to represent that the *Ferula asafoetida* could be an active agent against cancer.

2. Materials and Methods

2.1 Data Collection

In this study all the data regarding the cancer rate across different Asian countries of last five year is been collected from the records of World Health Organization (WHO) [7]. While the data about the population strength in those countries is taken from the database of the CIA (Central Intelligence Agency) [8] library.

2.2 Graphical Illustration

The graphs are drawn on the basis of obtained data with the help of MS EXCEL. And the outcomes are plotted as a result in the following study to point out the actual difference in the rate of cancer in different Asian countries.

3. Results

3.1 Result according to Data Analysis

The graphical outcomes shows that the countries having great cultivation and usage rate of asafoetida and in spite of having high population having low rate of cancer in comparison to those which have very low usage of asafoetida either as spice or as medication. Especially in china the use of asafoetida is as a Vermifuge [9] only. While in India asafoetida is used as a spice in almost every part of the country and results show that rate of cancer in china is almost four times then the rate of cancer in India. In spite of the fact that they are almost equal in the population.

Table: 1

Country	Population	Incidences in last five years excluding non-melanoma skin cancer
Afghanistan	30,419,928	6990
China	1,343,239,923	1622502
India	1,205,073,612	430096
Indonesia	248,645,008	136172
Iran	78,868,711	37540
Japan	127,368,088	361600
Malaysia	29,179,952	206370
Russia	142,517,670	206370
Pakistan	190,291,129	64912

3.2 Graphical representation

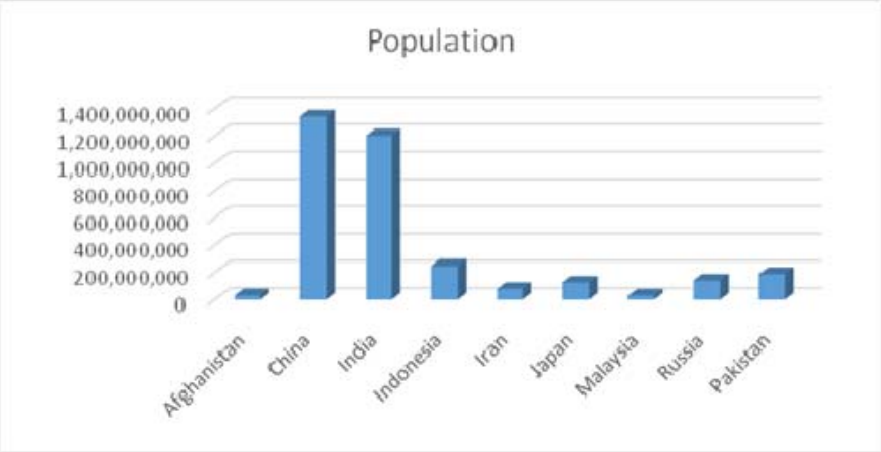

Figure: 1

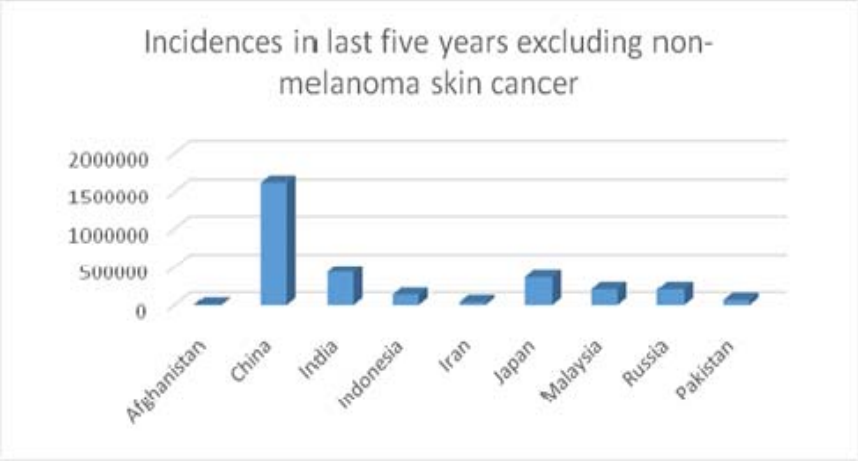

Figure: 2

Other than this we can see that rest of the countries like Pakistan, Afghanistan, and Iran are the countries where asafoetida is cultivated profoundly and use it as a spice or for the medication purposes in various ways and by the above plotting we can easily see that their incidences of cancer are much lesser than the others in spite of having great population strength.

4. Discussion

Our current investigation revealed that the asafoetida has the ability to prevent the increasing incidences of cancer, because the countries where the asafoetida usage is not common like Japan, Russia, China, Indonesia, The rate of cancer is quite higher in the comparison of other countries. Therefore, focusing on this spice as an anticancerous agent will definitely play an important role to prevent the cancer disease. The use of *Ferula asafoetida* also reduce the chances of side effect which is normal in the allopathic treatment of cancer.

5. Acknowledgement

The author would like to thanks Ms. Priyanka Gangwar (Senior Research Fellow, Indian Institute of Pulse Research Kanpur) for their valuable support for this research.

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