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Der Pharmacia Lettre, 2016, 8 (1):135-139
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An overview of the most important medicinal plants affecting on child's jaundice in Ethnobotanical resource of Iran

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ABSTRACT

Hyperbilirubinemia is the most common cause of hospitalization in infants which in most situations is usually benign. A Bili light is often used for early treatment, which often consists of exposing the baby to intensive phototherapy which can be prescribed by non-absorbable food products. Administration of oral non-absorbable material (activated charcoal, agar and cholestyramine has some side effects in neonates. Herbs since ancient times as a source of cheap and effective drugs are available and in comparison to synthetic and chemical drugs have fewer side effects. According to the Ethnobotanical of Iran, medicinal plants such as *Berberis vulgaris* L., *Artemisiaabsinthium*L., *Adonis dentate* Delile., *Cerasus vulgaris*, *Cotoneaster persicus*, *Cressacretical*L., *Anagalisarvensis*, *Ziziphusjuba*., *Lyciumshawii*Roem. &Schult, *Lavandulaangustifoliamill.*, *Cotoneaster persicus* Pojark, *Salix alba* L., *Alhagipersarum* Boiss&Buhse, *Cynodondactylon*(L.) Pers, *Cotoneaster luristanicus* Klotz, *Cichoriumintybus*L, *Linumusitatissimum*L., *Lavandulaangustifolia* Mill., *Viciafaba*L., *Raphanusniger* Mill. and *Fumariaasepala* Boiss used to treat jaundice in children. Most plants in different areas used for the treatment of jaundice in children include *Lavandulaangustifolia*Mill and *Cotoneaster persicus* Pojark. Bioactive and antioxidant compounds of detected herbs in this study must be proved by pharmacological studies to use as alternated chemical drugs such as metalloporphyrin, phenobarbital, intravenous immune globulin and clofibrate.

Keywords: herbs, jaundice children, ethnobotany, Iran

INTRODUCTION

Hyperbilirubinemia is the most common cause of hospitalization in infants which in most situations is usually benign. Jaundice, also known as icterus, is a yellowish pigmentation of the skin, the conjunctival membranes, and other mucous membranes caused by high blood bilirubin levels. Yellowing of the skin can also occur due to pigment deposition in the liver microsomes as polar water-soluble ester glucuronide bilirubin by enzyme uridine diphosphate glucuronosyltransferase [1].

There are some ways to treat jaundice. One of these methods is phototherapy. It is known that most common phototherapy treatment and prophylaxis of non-conjugated hyperbilirubinemia is that in almost all cases, regardless of the presence or absence of hemolysis and degree of skin pigmentation lead to a decrease in bilirubin concentration [2]. The treatment of jaundice can be occurring due to administered non-absorbable food products. Administration of oral non-absorbable material (activated charcoal, agar and cholestyramine) may reduce binding to bilirubin in the intestines or reduction enterohepatic cycle lead to decreased intestinal absorption of bilirubin and thus decrease its serum level [3,4].

Factors such as maternal diabetes, race, degree of prematurity, polycythemia, sex, skin bruising, hematoma, some drugs, trisomy 21, induction of labor with oxytocin and calorie deprivation enhances the neonatal jaundice and is in

need of treatment. The treatment that is considered, using methods of traditional medicine, particularly the use of medicinal plants [5,6].

Herbs since ancient times available and known as a source of cheap and effective drugs [7-19]. Medicinal plants have little side effects and fewer adverse effects to chemical synthetic drugs [20-28]. Medical plants have beneficial compounds that in addition to increasing the quality and nutritional value for other are use as food, beverages, cosmetics, pharmaceutical and therapeutic [29-37].

The results show that plants contain natural antioxidants. It has been observed that the consumption of these plants significantly increased plasma antioxidant capacity [38-42]. The most common active ingredients in fruits, vegetables and medicinal plants includes phenolic compounds, nitrogen, vitamins, terpenoids (carotenoids and triterpenes) and alkaloids which have antioxidant activity [43-48]. Because of rich traditional medicine and herbal remedies for many diseases in Iran, in this article tried to extract the medicinal herbs listed in Iran Ethnobotanical resources and our report.

MATERIALS AND METHODS

The key terms such as jaundice, herbs, Iran, traditional medicine was extraction from research sites such as Google Scholar databases, Web-of Science, PubMed, Scopus, ISI.

RESULTS

According to the Ethnobotanical of Iran, medicinal plants such as *Berberis vulgaris* L., *Artemisiaabsinthium*L., *Adonis dentate* Delile., *Cerasus vulgaris*, *Cotoneaster persicus*, *Cressacretica*L., *Anagalisarvensis*, *Ziziphusjujuba*., *Lyciumshawii*Roem. &Schult, *Lavandulaangustifoliamill*., *Cotoneaster persicus*Pojark, *Salix alba* L., *Alhagipersarum* Boiss&Buhse, *Cynodondactylon*(L.) Pers, *Cotoneaster luristanicus*Klotz, *Cichoriumintybus*L.,*Linumusatissimum*L.,*Lavandulaangustifolia*Mill.,*Viciafaba*L., *Raphanusniger*Mill. and *Fumariaasepala*Boiss used to treat jaundice in children. Most plants in different areas used for the treatment of jaundice in children include *Lavandulaangustifolia*Mill and *Cotoneaster persicus* Pojark.

List of plants, family, and the province of the organs used mentioned in Table 1.

Row	Scientific name	Family name	Persian name	Part of use	Province
1	<i>Berberis vulgaris</i> L.	Berberidaceae	Zereshk	fruit , Leaf	Arasbaran [49]
2	<i>Artemisia absinthium</i> L.	Compositae	Afsantine	Flowering branches	Arasbaran [49]
3	<i>Adonis dentate</i> Delile.	Ranunculaceae	Chashme Khourous	Flower	Ilam [50]
4	<i>Cerasus vulgaris</i>	Rosaceae	Albaloo	Fruit, Flower	Kerman [51]
5	<i>Cotoneaster persicus</i>	-	Shire Khesht	fruit	Kerman [51]
6	<i>Cressa cretica</i> L.	Convolvulaceae	Alafe Morche	Areal parts	Persian Gulf [52]
7	<i>Anagalis arvensis</i>	Primulaceae	Ghole Nili	Aerial	Persian Gulf [52]
8	<i>Ziziphus jujuba</i> .	Rhamnaceae	Annab	fruit	Persian Gulf [52]
9	<i>Lycium shawii</i> Roem. & Schult.	Solanaceae	Dive khare gharmisiri	leaf, Flowering branches ,fruit	Persian Gulf [52]
10	<i>Lavandula angustifolia</i> mill.	Lamiaceae	Ostokhodous	Flower, Stem,Leaf	Khozestan [53]
11	<i>Cotoneaster persicus</i> Pojark.	Rosaceae	Shire Khaesht	-	Khozestan [53]
12	<i>Salix alba</i> L.	Salicaceae	Biid	fruit ,leaf , Bark	Khozestan [53]
13	<i>Alhagi persarum</i> Boiss. & Buhse	Fabaceae	Kharshotor	Flower Stem, leaf,	Sistan [54]
14	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Panje morghi	Root	Sistan [55]
15	<i>Cotoneaster luristanicus</i> Klotz.	Rosaceae	Shire khesht	-	Kazeroun [56]
16	<i>Cichorium intybus</i> L.	Asteraceae	Casni	Root	Mobarake [57]
17	<i>Linum usitatissimum</i> L.	Linaceae	Katan	Seed	Mobarake [57]
18	<i>Lavandula angustifolia</i> Mill	Lamiaceae	Ostokhodous	Flowering branches & Leaf	Mobarake [57]
19	<i>Vicia faba</i> L.	Fabaceae	Baghla	leaf ,Fruit, Seed	West Azerbayejan [58]
20	<i>Raphanus niger</i> Mill.	Brassicaceae	Torobe Siah	Leaf & Root	Marivan [59]
21	<i>Fumaria asepal</i> a Boiss.	Fumariaceaea	Shahtare	Aerial	Marivan [59]

DISCUSSION

The neonatal diseases are special importance and need to improving treatment methods with the fewest side effects [49-60]. Numerousness of the plants of this review study have anti-microbial activity of important infectious diseases [61-78]. One of the common problems during first days after birth is neonatal jaundice. Study about medicinal plants and herbal medicines in the treatment of hyperbilirubinemia can help using and production natural drugs for this common problem. Bioactive and antioxidant compounds of detected herbs in this study must be proved by pharmacological studies to use as alternated chemical drugs such as metalloporphyrin, phenobarbital, intravenous immune globulin and clofibrate.

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