

Most Common Herbal Medicines in the Treatment of Iranian Children: A Systematic Review

Masoumeh Ghazanfarpour¹, Ramin Sadeghi², Mohammad Ali Kiani³, Imaneh khorsand⁴,
*Masumeh Saeidi⁵

¹Student Research Committee, Department of Midwifery and Reproductive Health, Nursing and Midwifery School, Mashhad University of Medical Science, Mashhad, Iran.

²Nuclear Medicine Research Center, Mashhad University of Medical Sciences, Mashhad, Iran.

³Associate Professor, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

⁴Department of Microbiology, Islamic Azad University, Varamin- Pishva Branch, Tehran, Iran.

⁵Students Research Committee, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

Abstract

Introduction

To assess the efficacy of some herbal medicines such as *Foeniculum vulgare* (Fennel), *Menthe longifolia* and Garlic in Iranian children.

Methods and Materials

Nine databases such as Medline, Scopus and the Cochrane as well as domestic database (Persian) such as SID, Iranmedex, Magiran, Medlib, Irandoc, and Google Scholar were searched with using keywords such as "Child"; "Complementary treatments"; "Alternative treatments"; "Herbal treatments"; "Anthem foeniculum"; "Capillaceum"; "Foeniculum officinale"; "Foeniculum vulgare" ; "Menthe longifolia" and "Garlic" in June 2014.

Results

Five studies were included in the systematic review. Our systematic review showed beneficial effect of *Foeniculum vulgare* (Fennel) on reduction of infantile colic and also led to significant increase on prolactin levels in lactating mothers. Base on only study, comparison between two groups (Shirafza and placebo drops) did not show any significant difference in regarding infant weight gain. *Menthe longifolia* combined with Oral rehydration salts (ORS) improved frequency of defecation, Volume and consistency of stool. Also review systematic showed that garlic significantly decreased fever, frequency and duration of diarrhea, leukocyte in stool.

Conclusion

Herbals medicine such as *Foeniculum vulgare*, *Menthe longifolia* and Garlic had beneficial effect on women's serum prolactin levels, infantile colic, frequency of defecation, volume, consistency of stool. However, this result should be interpreted with caution which low number of sample and methodological quality.

Key words: Child, Herbal Medicine, Iran, Treatment.

*Corresponding Author:

Masumeh Saeidi, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

E-mail: Masumeh_Saeidi@yahoo.com

Received date: Jul 29, 2014 ; Accepted date: Nov 12, 2014

Introduction

Fear of side effect has been driving user away from chemical medicine and consequently, many people have been interested in the use of herbal remedies (1-3). In Iran, both many people and health care professional have been seeking natural therapies due to the efficiency, safety tolerability, and lower toxicity and adverse events in comparison with to chemical medicines (3, 4).

Many herbal medicines have been used in Iranian traditional system. Plants such as *Punica granatum* (pomegranate), *Foeniculum vulgare* (fennel), *Menthe longifolia*, Garlic, *Plantago*, *Glycyrrhiza glabra* and *Rosa damascene* are the most popular among them (5-8). *Foeniculum vulgare* is also known as fennel; it has a long background in relief infant colic, wind, irritable bowel and increase of breast feeding(8). The main types of identified compounds are contain fibre, 18.5% , 6.3% of moisture, 10% fat, 13.4% minerals, 9.5% protein and 42.3% carbohydrates(5, 9).

Menthe longifolia is widely used as antispasmodic, digestive and carminative and in relieving stomach pain. *Mentha*

species also showed fungicidal, anti-inflammatory, antimicrobial and antioxidant activities. It is containing dihydrocarvone (23.64%), piperitone (17.33%) and cis-dihydrocarvone (15.68%), cis-carveol (53 to 78%) (10).

To our knowledge, the efficacy of herbal medicine has not been systematically assessed in Iran. This systematic review assessed the efficacy of *foeniculum vulgare*,

Search Strategy

English databases such as Medline, Scopus and the Cochrane central register of controlled trials, Google Scholar, as well as domestic(Persian) database such as SID, Iranmedex, Magiran, Med lib, Iran doc, with using keywords such as Iran; colic; complementary treatments; alternative treatments; herbal treatments; *Anthum graveolens*; *Foeniculum vulgare* were searched in June 2014. The data collected independently by two authors.

Results

The process of searching and selecting studies has been described in (Figur.1). In total, 5 studies were included in the systematic review.

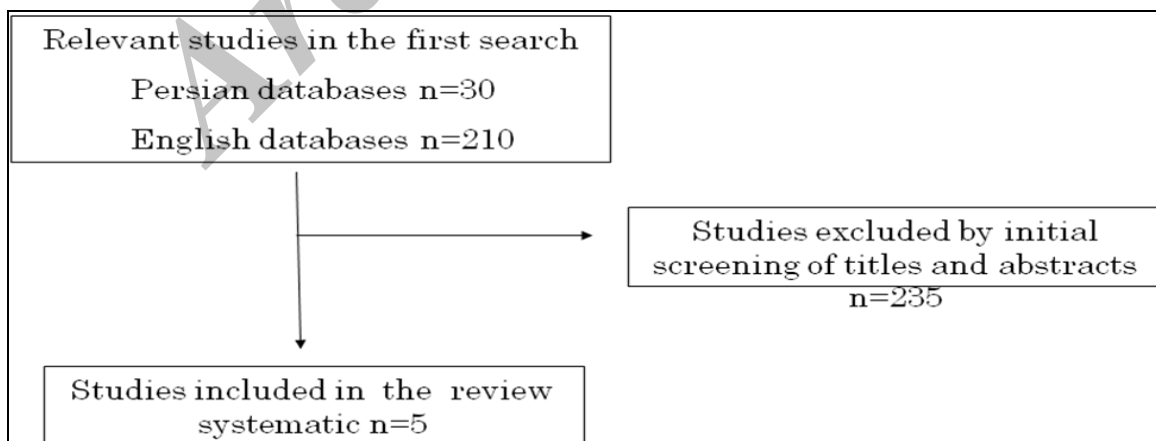


Fig.1: The process of searching and selecting studies

The effect of Foeniculum vulgare on serum prolactin levels

Honarvar et al. assessed the effect of Foeniculum vulgare on serum prolactin level in lactating women. 45 women met criteria inclusion. Subject received 3gr of Foeniculum vulgare daily for 15 days. The mean of serum prolactin levels significantly increased from 64.55 ± 32.06 ng/ml to 95.55 ± 65.90 ng/ml in Foeniculum vulgare groups (11).

The Effect of "Shirafza drops" on the weight gain of Infants

Shariati et al. assessed the effect of "Shirafza drops" on the weight gain of infants. 158 breast feeding mothers had complain of lack of weight gain of infant attended primary health care center in Mashhad, Iran. Subject was randomized two groups: the placebo drop (solution of chlorophyll in alcohol) including 103 patients and Shirafza drop group including 83 patients. Shirafza drop contained Foeniculum vulgare, Pimpinella anisum (Anise), Cuminum cyminum (Cumin), Nigella sativa, Anethum graveolens (Dill) and Petroselinum crispum (Parsley). Comparison between two groups showed any significant difference at 1, 2, 3 and 4 weeks and feeding mothers did not report any increases in Breast feeding rate (12).

Comparison the effect of Foeniculum vulgare extract and Gripe water syrup on colic infant

Attarha et al. compared two groups Foeniculum vulgare extract and Gripe water syrup. Foeniculum vulgare extract group received one teaspoonful for less than one month old infant and a dessertspoonful for 1-6 months old infant three times a day for one week and Gripe water syrup received same instruction as Foeniculum vulgar group. Demographic characteristics were

comparable between groups. Main outcome was length of crying on three point time (less than 60 minutes, 60-120 minutes and more than minutes) and during of crying after 24 hours. Diagnoses of colic were made by pediatrics. Infant was re-examined by same pediatrics in 3rd and 7rd after treatment. Both groups showed a statistical significant improvement compared with baseline regarding during of crying 24 hours at 3rd and 7rd respectively (Foeniculum vulgare $p=0.004$ and $p=0.005$) and (Gripe water group $p=0.037$ and $p=0.002$). However, there were not any significant difference between two group on none of three point time (less than 60, 60-120 and more than 120 minutes) (13).

The effect of Menthe longifolia on acute non bacterial diarrheas in children

Rezaei et al. assessed the effect of Menthe longifolia on acute nonbacterial diarrheas in children. subject divided into two groups. 35 subjects were treated with Oral rehydration salts (ORS) alone for four time/day and other 35 patients received ORS in addition to the leaf powder of Mentha longifolia for controlling of diarrhea. Main outcome measure was frequency of defecation, the volume and consistency of stool. Stool had a normal frequency of defecation (less than three per day) on 48 hours in 26(81%) of 32 intervention group compared to 50(78%) of 32 in control group ($p<0.05$) but, this was not significant the case after 24 hours. Volume and consistency of stool showed a statistically significant improvement in Menthe longifolia in addition to ORS groups as compared to the ORS only (14).

Effect of aqueous garlic extract on inflammatory Gastroenteritis in children

Rafati et al. included 50 children 2-10 years who suffer from inflammatory gastroenteritis. Patients randomized into two

groups (control group, n=20) and (aqueous garlic extract, n=20) for 5 days. Aqueous garlic extracts significantly decreased frequency of diarrhea after 2 days. Comparison of two groups showed significant difference to respect with fever at 2 days and leukocyte in stool in 4 days. However; there was no significant difference between groups about vomiting and nausea (15).

Discussion

This systematic review highlight the fact that very few studies have been done in regarding the efficacy of herbal medicine.

The effect of Foeniculum vulgare on Serum Prolactin Level

Only study assessed the effect of Foeniculum vulgare (fennel) on serum prolactin level and showed Foeniculum vulgare intake significantly increased serum prolactin levels. This results should be interpreted with caution, because there was no control group. Again further studies is still need which design as clinical trial (11).

The effect of Foeniculum vulgare on infant weight gain

Infant weight gain showed an increased in Foeniculum vulgare compared control group, which was not significant. Further trials study is still need to confirm this finding (12).

Comparison of the effect of Foeniculum vulgare extract and Gripe water syrup on colic infant

To sum up, both Foeniculum vulgare extract and Gripe water syrup showed beneficial effect on colic infants. However, the difference was not significant between two groups. Again further trials study is still need to confirm this finding (11, 13).

The effect of Menthe longifolia on acute non bacterial diarrheas in children

A statistically significant improvement was observed in Menthe longifolia in addition to ORS groups as compared to the ORS only. Again further trials study is need to confirm this result (14,16-18).

Effect of Aqueous Garlic on inflammatory Gastroenteritis in children

Base on only one trial, Garlic significantly decreased fever, frequency and duration of diarrhea, leukocyte in stool and increase appetite. Again further trials study is need to confirm this result(15).

Limitation

Low methodological quality and the small sample size of include studies are potential limitation of this review systematic. There is still need to further studies which design base on consort checklist to improve methodological. Another limitations of the current systematic review is that all of studies only addressed to the efficacy of intervention but neglected assessing side effect , further studies should be taken into report both efficacy and side effect.

Conclusion

Herbals medicine such as Foeniculum vulgar, Menthe longifolia and Garlic had beneficial effect on women's serum prolactin levels, infantile colic, frequency of defecation, volume, consistency of stool. Herbals medicine can be taken into consideration an appropriate alternative due to several reason a cost-effective, safety tolerability, and lower toxicity and adverse events in comparison with to chemical medicines. Also high acceptance both Iranian people and health care provider is another factors. However, this result should

be interpreted with caution which low number of sample and methodological quality.

References

1. Uebelhack R, Blohmer J-U, Graubau H-J, Busch R, Gruenwald J, Wernecke K-D. Black cohosh and St. John's wort for climacteric complaints: a randomized trial. *Obstetrics & Gynecology* 2006;107(2, Part 1):247-55.
2. van Die MD, Burger HG, Bone KM, Cohen MM, Teede HJ. Hypericum perforatum with Vitex agnus-castus in menopausal symptoms: a randomized, controlled trial. *Menopause* 2009;16(1):156-63.
3. Menati L, Khaleghinezhad K, Tadayon M, Siahpoosh A. Evaluation of contextual and demographic factors on licorice effects on reducing hot flashes in postmenopause women. *Health Care Women Int* 2014;35(1):87-99.
4. Chang RJ, Cofler MS. Polycystic ovary syndrome: early detection in the adolescent. *Clinical obstetrics and gynecology* 2007;50(1):178-87.
5. Rather MA, Dar BA, Sofi SN, Bhat BA, Qurishi MA. *Foeniculum vulgare*: A comprehensive review of its traditional use, phytochemistry, pharmacology, and safety. *Arabian Journal of Chemistry*. 2012.
6. Mohseni M. Attitude towards modern and traditional medicine in an Iranian community. *Social Science & Medicine Part A: Medical Psychology & Medical Sociology* 1979;13:499-500.
7. Dabaghian FH, Kamalinejad M, Shojaei A, Fard MA. Presenting anti-diabetic plants in Iranian traditional medicine. *Journal of Diabetes and Endocrinology* 2012;3(5):61-7.
8. Montaseri S, Pourarian S, Montaseri H. Effects of Fumaria Extract on Colic Pain in 3-16 Weeks Infants. *Iranian Journal of Neonatology* 2013;4(2):10-5.
9. Alexandrovich I, Rakovitskaya O, Kolmo E, Sidorova T, Shushunov S. The effect of fennel (*Foeniculum vulgare*) seed oil emulsion in infantile colic: a randomized, placebo-controlled study. *Altern Ther Health Med* 2003;9(4):58-61.
10. Jouneghani HA, Taghipour A. Essential oil content and composition of *Mentha longifolia* (L.) Hudson grown wild in Iran. 2012.
11. Honarvar F, Tadayon M, Afshari P, Namjooyan F, Haghighi M. The Effect of *Foeniculum Vulgare* on Serum Prolactin Level in Lactating Women 20013, 16 (65): 18-24.
12. Shariati M, Mamoori G, khadvarzadeh t. The effect of taking Shirafza drops by mothers on the weight gain of infants up to the infants up to the age of six months. *Journal of Sabzevar School of Medical Science* 2004, 11(3): 20-26.
13. Attarha M, Rosbahani N, Youssefi P. Comparison of the effect of fennel essence and gripe water syrup in infantile colic. *Scientific Journal of Kurdistan University of Medical Sciences* 2008;13(1):Pe28-Pe35, En4.
14. Rezaei M, Ghazafarin SH, Karimi Z, Parsa M. The effect of *Mentha Longifolia* on children acute non bacterial diarrhea in. *Jahrom Medical Journal* 2009;7(1):7-14.
15. Rafati S, Ghazanfari t, Abolai oskouei S. Effect of aqueous Garlic extract on inflammatory gastroenteritis in children. *Daneshvar Medicine* 2008;73(15):7-1.
16. Kiani MA, Khodadad A, Mohammadi S, Ghayour Mobarhan M, Saeidi M, Jafari SA, Kiani E, Ahanchian H. Effect of peppermint on pediatrics' pain under endoscopic examination of the large bowel. *J HerbMed Pharmacol* 2013; 2(2): 41-4.
17. Kiani MA, Ghasemi A, Poursoltani E, Hoseini BL, Ahanchian H, Saeidi M. Effect of Peppermint Essence on Satisfaction of Patient and Medical Team with Pediatrics' Endoscopic Examination. *Int. J Pediatr* 2014;2(4-1):233-37.
18. Najaphi M, Motamed F, Kiani MA, Khakshour A, Saeidi M, Jafari SA, Attai P, Ghayour Mobarhan M, Mohammadi Sh. Effect Supermint oil (peppermint oil) on children's pain during colonoscopy. *Journal of North Khorasan University of Medical Sciences* 2013;5(2):476.