

## Management of Infantile Colic; Based on Traditional Iranian Medicine

Roghayeh Javan<sup>1</sup>, \*Zohre Feyzabadi<sup>2</sup>, Mohammadali Kiani<sup>3</sup>

<sup>1</sup>PhD Student, Students Research Committee, Department of Persian Medicine, School of Persian and Complementary Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

<sup>2</sup>Assistant Professor of Persian Medicine, Department of Persian Medicine, School of Persian and Complementary Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

<sup>3</sup>Associate Professor of Pediatrics Gastroenterology, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran.

### Abstract

#### Introduction

Infantile colic is a common disorder in the three first months of childhood. There is no clear management in treating this disease which may lead to psychosocial consequences in parents. Due to the importance of infantile colic in Traditional Iranian Medicine (TIM) in this study was conducted.

#### Materials and Methods

In this review article, we searched the words for colic infantile like "Maghs e Atfal" in the clinical textbooks of TIM and electronic databases were searched for "Infantile Colic", "Herbal Medicine", "Traditional Medicine" and "Complementary Medicine" keywords to obtain any relevant study.

#### Results

In TIM, infantile colic is called "Maghs e Atfal". TIM scholars believed that it can be caused by bloating in stomach, eating a lot of food or milk and subsequently mal-digestion. The treatment is based on the probable etiology. In bloating in stomach, the first step is to modify breast milk by the mother's eating anti-flatulence drugs and avoiding any flatulent food. *Foeniculum vulgare* and *Trachyspermum ammi* are recommended to be consumed with milk by the child.

#### Conclusion

According to the benign nature of the colic, complementary medicine can be a priority in treatment. In this viewpoint, the mother's diet modification, and consequently of her milk, are very important. Avoiding any flatulent food and consumption of anti-flatulence plants are based on its treatment.

**Key Words:** Infantile colic, Breast milk, Traditional Iranian Medicine.

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#### \*Corresponding Author:

Zohre Feyzabadi, Assistant Professor of Persian Medicine, Department of Persian Medicine, School of Persian and Complementary Medicine, Mashhad University of Medical Sciences, Mashhad, Iran. Fax: +98-5138535980. Email: Feyzabadiz@mums.ac.ir

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## 1-Introduction

Infantile colic is a common infant problem occurring in the first months of life diagnosed through infant's crying for more than 3 hours during a day (1, 2). It has been reported to be observed among 5 to 28 percent of infants (3). Although this problem is a benign one, it can lead to hopelessness and depression among parents because there is not a definite certain treatment for this problem (4, 5). Therefore, the existence of a suitable effective treatment for this problem can be a considerable help to the mental and psychological health of the family. In the majority of the books and sources on the traditional medicine of Iran, children's problems and illnesses are discussed in a separate section. Due to the importance of infantile colic in traditional Iranian medicine (TIM), this problem is discussed in these books in a separate section under the title of "Maghs e Atfal". The purpose of the present study was to review the literature on infantile colic in Iranian traditional medicine reference to find what factors are introduced in these texts as the cause (etiology) for this problem, and also to see what treatments are provided for this problem.

## 2-Materials and Methods

In this review study, the Persian word for infantile colic is: "Maghs e Atfal", was used as the key word in the traditional Iranian Medical texts to find the causes and treatments introduced in TIM for this problem. Also, the clinical textbooks of TIM such as "Canon by Avicenna", "ExirA'azam by A'azam khan Chashti", "Mofareh Al Gholoob by Arzani" and "Kholasa'tolHikma' by Aghili" were searched. Then, management of infantile colic from TIM perspective investigated.

In additional, literature search was done within electronic databases including: PubMed, Google Scholar, SID, Iranmedex

and Magiran. According to a certain criteria, using the following key words ": Infantile Colic, Colicky Pain, Abdominal Cramps, abdominal pain, Herbal Medicine, Traditional Medicine, and Complementary Medicine as key words. The results were limited to articles published between 1980 and 2014.

## 3- Results

### 3-1. TIM and Children's Diseases

TIM is a comprehensive school of medicine with different treatment and health strategies for different diseases, with a history of over one thousand years. One of the principal bases of this school is the basic concept of mizaj (temperament) in which due attention is paid to different temperaments may exist according to the human body, age, sex, season of the year, life place, job, and perturbations of mind (A'arzenafsan) of the patient. It also take into account the four Humors of safra (warm and dry yellow bile), balgham (cold and damp phlegm), Dam (warm and damp Sanguine), and Sauda (cold and dry black bile) for people. An individual can be affected with these four humors, each of which has a set of unique characteristics for an individual. These four humors bring warm-dry, cold-damp, cold-dry, and warm-damp natures for an individual. The existence of any imbalance in these four humors will lead to the mal-functioning of the organs, and dis-temperaments (Sui' e Mizaj) in individuals which may lead to disease (6, 7).

Another important principle of TIM is the 6 principles of lifestyle, which provide guidance concerning eating and drinking habits, sleeping-waking up times, body movement and rest, retention and evacuation, and perturbations of the mind. Following these principles can guarantee the health and wellbeing of both individuals and the society as a whole (7, 8).

In the TIM, the age of the patient is of paramount importance and thus receives a lot

of attention. As a result, the health problems and conditions of children are dealt with in a separate section (7).

### 3-2. Definition of "Maghs e Atfal" according to TIM

It is defined as intestinal cramp with the infant's crying and restlessness that can be accompanied by constipation or diarrhea. In TIM text and books, in most citations "*Maghs e Atfal with constipation*" has been used (9).

### 3-3. Etiology and Pathogenesis of Infantile Colic

In TIM, there are different causes for Infantile Colic or distention, including stomach flatulence (Reeh) due to the weakness of the stomach, drinking too much milk, or drinking flatulence-producing milk. Moreover, it can be due to warm dis-temperaments (Sui' e Mizaj) which can itself be because of the warm nature of the mother's milk or the warm nature of the diet taken by the mother (10).

### 3-4. Treatment of Infantile Colic in TIM

In TIM, the main treatment of diseases based on the elimination of its major causes. Therefore, infantile colic is diagnosed as caused by different factors, and is treated accordingly. If it is because of flatulence, the primary and main treatment approach is to modify the composition of the mother milk. For example, mother feeding their infants on their breast need to avoid flatulence-producing foods. They also should take anti-flatulence herbals such as mastic. In case, they suffer from constipation, they can take suitable medications to relieve it. If the infant is suffering from constipation, it is recommended to use Suitable suppositories (9-11).

One of the most effective treatment methods in infants is abdomen message. One can use grinded *Trachyspermum copticum* mixed with yolk in diluted form (Tela) to give

massage to the infant on the abdomen. Moreover, one can use oils from herbs such as mastic and olive in giving massage. Another good method is putting the infant on mother's laps facing downwards and applying massage on the spinal cords and the back of the infant, using oil from *Rosa damascena*. The last recommended method is giving oral anti-flatulence medications to the infant. In this method, it is recommended to give the extracts from *Trachyspermum copticum* and *Foeniculum vulgare* mixed in the milk to the infant. Another effective possibility is mixing the grinded extract from *Foeniculum vulgare* and *Acorus calamus* in the milk and giving it to the infant. Similar effects have been reported for *Pimpinella anisum* and *Mastic* (9-12).

In cases in which the etiology is related to the warm nature of the food, the modification of the mother's diet and consequently the milk consumed by the infant is of importance (9-12). In such cases, it is recommended to give medications with the opposite nature (with cold nature) to the infant. In such cases, giving massage with cold oils such as: *Viola odorata* (13), *Rosa damascena* or even giving the infant some drops of almond oil can be an effective treatment method (9-12).

### 3-5. Criteria for the Diagnostic of Infantile Colic in Modern Medicine

For the first time Wessel introduced a set of criteria as the symptoms for the diagnosis of infantile colic. His criteria included uncontrollable incessant crying of the healthy infant in the first three months of life, sudden crying of the infant for 3 hours a day 3 days a week, the continuations of these crying for a period of 3 weeks in a month (2). However, Hyman provided a different set of symptoms as the criteria for the diagnosis of infantile colic. According to Hyman, infantile colic is diagnosed if a healthy thriving infant shows uncontrollable irritable crying regularly in the evenings over a period of one week associated with distention of the abdomen, gathering of the legs towards the abdomen,

the flushing of the face, crossing arms, kicking, and other pain realizations. The infant stops crying only when he/she is exhausted or when he improves temporarily by the passage of gas or stool (14).

### *3-6. Etiology and Pathogenesis of Infantile Colic in Modern Medicine*

The pathogens developing infantile colic are elusive and unclear. However, a number of factors including the immaturity of gut function and the nervous system, allergy to cow milk proteins, atopy, hypersensitivity, parental behavior disorders have been speculated as relevant possible causes for infantile colic (15). Recently, some studies have identified intestinal micro-biota as a relevant factor for infantile colic in that inadequate intestinal lactobacilli, and also an increase in coli-form bacteria in bowels are believed to be factors developing infantile colic. In addition, an increase of intestinal hormones such as Ghrelin and Motilin is another relevant cause (3).

### *3-7. Treatment of Infantile Colic in Modern Medicine*

As there is no consensus on the factors causing infantile colic, there are different treatment methods in use. There are various suggested diets based on the nature of milk the infant is fed on. If the infant is breastfed, the mother is recommended to eat a diet low in allergens and to avoid cow milk. If there is no sign of improvement, the mother is prescribed to take probiotics for the next two weeks. If there is still no improvement, pain reducing medications are prescribed (16).

For children consuming Formula, one advice is to change their formula with hydrolyzed formulas (14). In some studies, anti flatulence medications such as Simethicon, and anti-cholinergics such as Cimetropium bromide were prescribed with some contradictory reports both on their relative effectiveness and ineffectiveness (17, 18). In some cases, some adverse side-effects have been reported

(19). Pro-biotic which stabilizes the natural flora in the intestines can be effective in the treatment of infantile colic (3, 19). Some studies evaluate the use of recommended methods in complementary medicine for infantile colic. The extract of some herbals such as *Foeniculum vulgare*, *Chamaemelum nobile*, and *Melissa Officinalis*, and also a mixture of *Mentha longifolia*, *Zingiber officinale*, *Cuminum cymminum* and *Glycyrrhizia glabra* have been reported to be effective (4, 20, 21). In addition, some studies have shown that the practice of Acupuncture and the use of chiropractic had different effects in the treatment of infantile colic (22, 23).

## **4- Conclusion**

As discussed above, in the modern medicine, for the treatment of infantile colic, mothers are recommended to eliminate allergens from their diets while in TIM, mothers are told to avoid flatulence-producing foods or to take anti-flatulence medications. It seems combination of these recommendations may be useful to give. There are several treatment methods for infantile colic in TIM, in some of which herbal extracts and oils are used for infant abdomen massage. As these herbal extracts and oils do not bring about any serious side-effects, they can be used easily in practice. There is some scientific evidence proving the effectiveness of massage for some of the children's problems (24). So far, few scientific studies have been done on the effectiveness of using herbals in the treatment of infantile colic. More studies seem necessary to investigate the effectiveness of the treatment methods and medications prescribed in TIM for the treatment of infantile colic.

**5-Conflict of Interest:** None.

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