

Medicinal Properties of Chamomile against Dysmenorrhea

Sadia Mujtaba Khan, Fatima Farooq and Sidra khalid*

Faculty of Allied Health Sciences University Institute of Diet and Nutritional Sciences, The University of Lahore, Pakistan

*Corresponding author: Sidra khalid, University Institute of Diet and Nutritional Sciences, Faculty of Allied Health Sciences, The University of Lahore, Lahore, Pakistan



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ABSTRACT

Chamomile is sweet and small flowers which reduce inflammation in our body and it also have anticonvulsant properties. Matricaria Chamomile and Chamomile Recutita are the scientific name of Chamomile two species. Chamomile is also known as the miracle or medical plant because of its properties. Chamomile is used for different purpose like anti-diuretic, for treating stomach aches, reduction of the dysmenorrhea, anti-allergens, anti-malaria, anti-fever and for the jaundice. Dysmenorrhea means menstrual pain, which is not a disease, it is a condition by which women feel discomfort periodically in their menstrual cycle. There are two types of dysmenorrhea. In primary dysmenorrhea there is not any type of abnormality and in secondary dysmenorrhea gynecological problems which causes pain and cramps. The prevalence of the dysmenorrhea is 50-90% women suffer from these conditions respectively. Women have been used contemporary therapies to treat dysmenorrhea which includes herbal therapy (use of chamomile in form of tea and essential oil), physiotherapy, yoga and heat. Because in terms of treatment, such as non-steroidal anti-inflammatory drugs and oral contraceptives are not always effective in treating dysmenorrhea. So there is immerse need of herbal medicines such as chamomile in form of tea and oil to treat dysmenorrhea

Introduction

From the centuries herbs and flowers are used for the benefits of the health but it has been increasing from last 20 years. Mostly herbs are used in different ways like tea. Herbs and flowers are not only use as beverage but also use for the treatment of the disease or disorders. All of them a most beneficial herb that is use for the human health but also use in different medical therapies that is chamomile [1]. It is not important that everyone should know about all herbs but some specific herbs that have therapeutic effect should be in mind like chamomile. It's known as the medical plant in the medical field [2]. There are many research which discuss the treatment of dysmenorrhea with herbs such as chamomile. These research show that chamomile reduces mensuration cramps, anxiety and relieves pain in constipation. Now days there is more trend of treating dysmenorrhea by non-pharmacological ways which includes intake of herbs like chamomile, ginger, fennel and many more. But detailed studies of their effects are to be studied more [3].

History of Chamomile

Matricaria Chamomile and Chamomile Recutita are the scientific name of Chamomile two species. It's belongs to Asteracea family. These both herbs have same appearance and chemical properties [4]. It's growing in different countries like German, Russia, India and Brazil. According to a survey chamomile tea is used in German in tons annually. It's largest plant that is used in medical field and almost 1 million cups drink in a day. Chamomile is used for their remarkable characteristics, it mainly used for the spasms, anti-inflammatory and menstrual disorder [5]. In the history medical plants use first time in Nagpur 5000 years ago with different recipes. With the passage of time different plants and medicines discover almost 944 drugs and 657 medical plants originate. In all of them a medical plant discovers that can use for different medical therapies. Chamaemelon name is used for the chamomile (Matricaria Rectita L.). This herb used for the different purpose like burn, cure wound, ulcer, for treating ENT. According to Dioscorides

deemed chamomile flower is used for the treatment of menstrual problems, releases of embryo and for uterine problems [6].

Properties of Chamomile

Chamomile has different characteristics that make it most effective plant in the medical field. This medical plant has different abilities to treat disease and help in the maintenance of the health. Chamomile most effect species are *M. chamomilla* L. chamomile has anti-inflammatory. Anti-bacterial, anti-septic and anti- microbial properties [7]. Almost 9,500 death cause by cancer every year in the United States of America. A study was conducted in 2013 to find out anti- cancer properties of chamomile. The result showed that chamomile had a anti-oxidant properties antioxidants active compounds present in the chamomile [8]. Chamomile is also known as the miracle plant because of its properties. Chamomile is used for different purpose like anti-diuretic, for treating stomach aches, reduction of the dysmenorrhea, anti-allergens, anti-malaria, anti-fever and for the jaundice. Chamomile tea used during menstruation for lower the severity of the pain. Chamomile oil can be used to relive pain in the ear. Chamomile has therapeutic effects that boost up the immune system and help to fight with natives. Chamomile has ability to reduce eczema and treat acne [9]. A study was supervised to investigate the chamomile effect to reduce pain. 90 students containing participants divided into two groups. 100 mg Chamomile capsule and 250mg mefenamic acid capsule was given to the participants 3 times a day. The result was that intake of chamomile capsule lower the intensity of pain [10]. Chamomile is herbal medicine with anti-inflammatory effects, sedative effects, anti-anxiety effects and antispasmodic effects. Chamomile shows the higher rate of improvement in dysmenorrhea rather than the placebo it is more effective to relieve dysmenorrhea if use one day before your menstrual date [11].

Dysmenorrhea

Dysmenorrhea is menstrual pain, not a disease, it is a condition by which women feel discomfort periodically in their menstrual cycle [12]. Dysmenorrhea is a painful sensation in lower part of abdomen and it's commonly occurring in females of reproductive age. It may be due to family history and physiological changes and called as primary dysmenorrhea, it may be occurred due to the other gynecological problems that is secondary dysmenorrhea [13] (Figure 1).

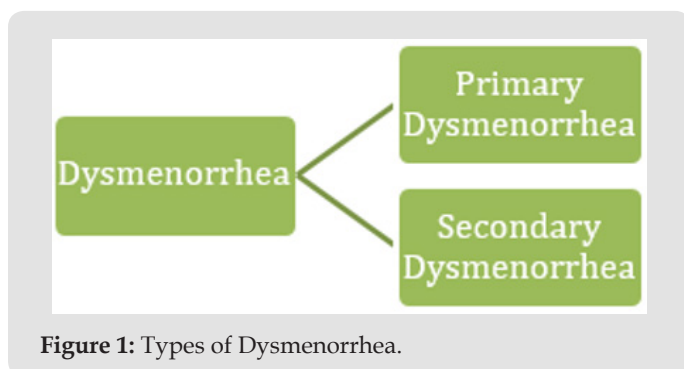


Figure 1: Types of Dysmenorrhea.

Prevalence of Dysmenorrhea

The prevalence of the dysmenorrhea is 50-90% according to another study and in Iran and America almost 74 to 80% and 60% women suffer from these conditions respectively [9]. Prevalence of dysmenorrhea is increasing day by day; it may cause of absentees in the schools. Dysmenorrhea not prevailed in just adult women but also alarmingly in schoolgirls. According to Agarwal et al., 2010, 79% female reported by dysmenorrhea in which 37% were absent from school due to severe menstrual pain [14]. To evaluate the prevalence of dysmenorrhea in Mexican university students a survey was conducted. Data were collected through questionnaire from 1539 students. Results showed that 64% students were experiencing dysmenorrhea among which 36.1% were having mild, 43.8% moderate and 20.1% were having severe menstrual pain [15]. According to a survey conducted on social media; Facebook, almost 88% women were suffering from dysmenorrhea and only 34% were consulting health care and 86% participants were having alternative sources to reduce their pain [16]. According to another study, menstrual pain effect women health and it affects the mental health of the students also. So students should aware with their consequences [17].

According to Grandi and his colleagues reported 84.1% women suffering with menstrual pain, among university students. They concluded that dysmenorrhea is alarmingly accelerating now a days, women should be aware of with this and consider medical therapy [18]. A study conducted on King Abdulaziz University students revealed that prevalence of dysmenorrhea in KAU was 60.9%, which was not acceptable because of the health effects. In response to this university management held awareness seminars and conferences for the reduction of dysmenorrhea [19].

Chamomile for the Treatment of Dysmenorrhea

Chamomile is a herbal plant which is used for medicinal purposes because it has anti-inflammatory, anti-anxiety and stress reliever effects so that it is more effective in dysmenorrhea and other gynecological issue [20]. Capsule of *Matricaria chamomilla* helps to reduce the level of severity of dysmenorrhea. So that chamomile is used to treat common female gynecological problem [21]. Chamomile is a herbal plant which is used for medicinal purposes because it has anti-inflammatory, anti-anxiety and stress reliever effects so that it is more effective in dysmenorrhea and other gynecological issue. The treatment of dysmenorrhea is effectively possible through herbs [22]. Mittal discussed that women are using contemporary therapies to treat dysmenorrhea which includes herbal therapy (use of chamomile in form of tea and essential oil), physiotherapy, yoga and heat. As medicines such as non-steroidal anti-inflammatory drugs and oral contraceptives are not always effective in treating dysmenorrhea so other methods to be used such as herbs [23]. In a study effect of chamomile on dysmenorrhea was compared with homeopathic *Similimum*. 30 females of 18-30 years old participated in the study, for 3 months and 3 follow up were taken. Results revealed that chamomile as

homeopathic complex and homeopathic similimum both were effective for the reduction of severity of pain [24].

Another study explored for the treatment of the dysmenorrhea. And it was reported that medical plants (chamomile, fennel and ginger) had ability to reduce dysmenorrhea level [25]. Another study analyzed the herbal association of dysmenorrhea. Approximately 900 students with age of 12-18 years old were involved in the study, on the rural girls of Egypt. Almost 89.9% students were suffering from dysmenorrhea and 78% use herbal treatment. The herbal treatment that was suggested in which chamomile, cinnamon, fenugreek and green tea were reported. The findings of this study should be used on management and use herbal therapies [26]. Another study explained that apart from using NSAIDs and oral contraceptives use of herbs to treat dysmenorrhea is getting more importance as it relieves periods cramps and other effects more easily than medicines. In this study it was also stated that nutritional needs like intake of magnesium, vitamin B6, Vitamin A and E along with other dietary modifications are to be made to treat dysmenorrhea [27]. Begum et al., 2016 stated that the use of allopathic medicines like non-steroidal anti-inflammatory drugs and oral contraceptives have their own side effects and are less effective. So, there must be use of herbal medicines such as chamomile in form of tea and oil to treat dysmenorrhea. With this other herb may also be used which could have their own properties [28]. Another study investigated the association between ginger-chamomile to reduce the dysmenorrhea. The medication that was given to the students had a great combination to check the most effective combination for reduction of dysmenorrhea. This combination was chamomile-honey, ginger-honey, chamomile-ginger and with mefenamic. This combination was given to the participants before 2 days from menstruation and then during menstruation for 3 days. The result concluded that ginger-chamomile is the best combination that reduce dysmenorrhea [29].

The uses of chamomile are in medicine, agricultural use such as in foods and biochemical uses. However here we discuss only medicinal use as chamomile relieves stress and anxiety, relieves periods cramps and dysmenorrhea symptoms, relieves pain in constipation. Chamomile is used as in tea, oil can be extracted which is of blue color and it is used in ointments and tablets. From chamomile essential oil is extracted from whole plant which is used as aromatic or medicinal purpose. As it can be put on skin which is absorbed and goes to bloodstream and relieves pain or reduces anxiety or the oil is smelled to relieve anxiety [30]. In order to investigate the effect of mefenamic acid and chamomile on dysmenorrhea, 80 students were selected. Before taking medicines on 1hour, 2-hour, 4 hour and 48 hours the intensity of pain was checked. The study concluded that chamomile capsule more effective and considerable. Chamomile capsule have ability to reduce dysmenorrhea [21]. In research conducted in 2018 in Iran stated that the hot temperament herbs have a positive effect

on treating primary dysmenorrhea. The study stated that hot temperament herbs such as chamomile or ginger helps curing dysmenorrhea despite of herbs that are cold temperament. Apart from NSAIDs and oral contraceptives these herbs played role in curing dysmenorrhea [31]. Chang and Chen, in 2016 investigated the chamomile effect on sleeping issues related with the menstrual problem because it disturb hormones. These participants were divided into two groups one is controlled group and second were experimental group. The results showed that chamomile is good for the women. It reduced depression and control hormones [32].

Primary Dysmenorrhea and Chamomile

In primary dysmenorrhea there is not any type of abnormality and in secondary dysmenorrhea gynecological problems which causes pain and cramps. Primary dysmenorrhea must be linked with genetics, stress and type of body other than the levels of prostaglandins. Uterine muscles produce prostaglandins which produce severe muscle contractions in uterus when menstrual cycle occurs. There is not any strong evidence that may relate level of prostaglandins and menstrual pain. Sometimes women with high level have more cramps than women with lower level of prostaglandins [27]. A study was conducted to find out that chamomile tea effect on dysmenorrhea. 80 students participated in this study for a month before 1 week to menstruation in first five days of their periods to drink chamomile tea 2 times a day. These participants are divided randomly into two groups. They collect data through questionnaire with intervention in first and 3rd month. The result of the study revealed that chamomile tea is efficient for the primary dysmenorrhea and relief pain [33]. In another study the chamomile effect on dysmenorrhea were explored. 20 students were given yarrow 150mg capsules and 20 students were given 250mg chamomile capsule in every 8 hours. The result showed that both capsule have capability to reduce menstrual pain [34]. Almost 60-90% women face dysmenorrhea and want relief from this pain. According Gholami Z in 2015 chamomile tea could be effective for the primary dysmenorrhea and stated that chamomile tea reduces dysmenorrhea and protect from primary dysmenorrhea [35].

Secondary Dysmenorrhea and Chamomile

Secondary dysmenorrhea causes by tumors in fibroid, pelvis infection and endometriosis. Females and adolescents suffer from dysmenorrhea for a few days in every month which is a gynecological problem. Normally dysmenorrhea is functional which may be linked with ovulation there is no complication regarding female reproduction [27]. During menstruation use chamomile as a tea, it may reduce the menstruation pain and cramps. Chamomile tea also help to reduce inflammation and digestive problems like, constipation [36]. Primary and secondary dysmenorrhea is the types of dysmenorrhea. Primary dysmenorrhea is most common but secondary dysmenorrhea cause due to pelvic problem it's not just menstrual pain. These both types dysmenorrhea severity can

be reduce by using different herbal treatment like chamomile, reduction of dysmenorrhea [37] (Table 1).
cinnamon, ginger and mint. These are effective remedies for the

Table 1: Epidemiological studies of chamomile for the treatment of Dysmenorrhea.

Author's Name	Year	Objective	Data	Results	Reference
Jenabi, E and Ebrahimzedah, S.	2010	Chamomile effect on primary dyemenorrhea	Sample size:80 University students	Chamomile teas reduce pain and effective for dysmenorrhea	[33]
Radfar, S et al.,	2018	Chamomile and yarrow capsule reduce menstrual pain	Sample size:50 students Yarrow 150mg capsule=20 students Chamomile 250mg capsule = 20 students	Both have severity Reduce menstrual pain	[34]
Ngoie CM	2018	Comparison b/w chamomile and homeopathic similimum	Sample size:30 Age=18-30 years University students	Both are effective for the reduction of primary dysmenorrhea	[24]
Sharangi AB and Bhutia PH	2019	Treatment of dysmenorrhea	Sample size:303 Duration: six months	Medical plants like chamomile, ginger and fennel reduce menstrual pain	[25]
Modarres, M et al.,	2011	Chamomile and mefenamic acid effect on primary dysmenorrhea	Sample size: 80 students Chamomile in Capsule form Studied 6 cycles	Chamomile capsule have ability to lower dysmenorrhea	[21]
Yassin SA	2012	Association of herbs with dysmenorrhea	Sample size:900 students age=12-18years	Herbal treatment effective mostly used	[26]
Shabani F and Zareian MA	2020	Ginger-chamomile combination for reduction Dysmenorrhea	Sample size: 400 students	This combination is better than mefenamic acid	[29]

Conclusion

Chamomile is sweet and small flowers which reduce inflammation in our body and it also have anticonvulsant properties. Chamomile is used for their remarkable characteristics, it mainly used for the spasms, anti-inflammatory, effects so that it is more effective in dysmenorrhea and other gynecological issue. Dysmenorrhea is a painful sensation in lower part of abdomen and it's commonly occurring in females of reproductive age. Chamomile is effective for dysmenorrhea and relief pain. It has ability to reduce the severity of dysmenorrhea.

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Sidra khalid. Biomed J Sci & Tech Res



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