

Analysis on the Features of Acupuncture Recipes for Dysmenorrhea

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Abstract

Objective: To analysis and extract the features of acupuncture recipes for dysmenorrhea.

Methods: By searching the major Chinese and English databases, we included the clinical literature with defined point-based recipes and analyzed the feature of those.

Results: (1) the most frequently selected points for dysmenorrhea in order were: San Yin Jiao(SP6), Guan Yuan (RN4), Zhong Ji (CV3), Qi Hai (CV6), Ci Liao (BL32), Di Ji (SP8), Shen Shu (BL23). (2) the major characteristics of point selection was combination of local points and distant points which located on Ren meridian and spleen meridian. (3) the major treatment methods were normal acupuncture, then acupuncture combined with moxibustion or auricular therapy, for the latter, were especially stressed and confirmed by many studies.

Conclusion: The acupuncture recipes for dysmenorrhea were usually made by consideration of combining local and distant points, utilizing multiple methods especially auricular therapy.

Keywords: Acupuncture, dysmenorrhea, characteristics of points selection, treatment method, literature analysis

Dysmenorrhea is the painful cramp which may occur around or during menstruation. The pain can be cyclical in lower abdomen, or lower back, even to the pars sacralis. For severe cases, it may also be accompanied with nausea and vomiting, constant cold sweat, acrohypothermy, or even apyrexia and loss of consciousness. Reports have shown that dysmenorrhea is one of the most common annoying problems for young females, 40% to 90% of them can be affected for their study and life. It can be classified as primary dysmenorrhea (PD) and secondary dysmenorrhea (SD). PD means there is no structural

disease in cavitas pelvis, usually occurring 6 to 12 months after the first menstruation, so it is also called “functional dysmenorrhea”. SD means structural changes in cavitas pelvis, such as endometriosis, usually featured by lower abdomen pain along with menstruation. The pain usually comes at the first or second day before menstruation or the first day after menstruation, gradually scales down and disappears. For some very rare cases the pain may occur after the end of menstruation.

No exact cause for dysmenorrhea has been confirmed. It may relate to mental, endocrinal, or uterine factors which can induce uterus contraction and subsequent lack of blood and oxygen. Some medicines such as inhibitor of prostaglandin synthetase (PGS) or spasmolysis agent or sedatives have been used clinically in recent years but side effects of those have been observed. Some operations

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like dilatation of the cervix and ventrifixation have been used for some cases who would cooperate, but risk was also reported.

By the view of Chinese medicine, the occurrence of dysmenorrhea is related to body constitution, period duration and specific physical state in menstruation. Before, after or during the menstruation, the blood sea changes its state from fullness to flowing over, which means the Qi and blood inside will change from excessiveness to transient deficiency. The sudden changes, being caught napping by pathological factors, can cause the blood flow obstruction in uterus, resulting in pain. The severe pain can be explained by stagnation, or cold coagulation, or subsequent nutritional loss of uterus. The pathogenesis involved can be coldness, heat, asthenia or sthenia. Coldness is primarily induced by cold and dumpness coagulation; heat is primarily induced by liver stagnation or dumpness and fire obstruction; asthenia may include Qi and Blood deficiency, or liver and kidney deficiency, or kidney Yang deficiency; sthenia is mainly Qi and Blood stagnation. Most of dysmenorrhea is sthenia type, but can manifest a combination of asthenia and sthenia. There are numerous reports on acupuncture recipes for dysmenorrhea.

In this study, we collected the literature of acupuncture for dysmenorrhea from major Chinese and English databases, and analyzed the characteristics of point selection, treatment methods, etc., so that to extract the basic principles, for clinical utilization in the future.

1 Data and methods

1.1 Source literature

A web-based computer search focusing on database through 1990 to 2014 was performed. The major databases such as CNKI, VIP, WaiFang in Chinese and Pubmed were scrutinized.

1.2 Search method

Key words in both Chinese and English for (A) acupuncture, moxibustion, acupuncturing, moxibustion, needling; (B) Dysmenorrhea; (C)

clinical study. The search way is A AND B AND C.

1.3 Inclusion criteria

(1) Clinical studies on acupuncture for dysmenorrhea; (2) in the study the descriptions of acupuncture method such as puncturing (electronically or manually), moxibustion (mild, direct or partitioned), auricular therapy, laser acupuncture, bloodletting, catgut embedding, point application and point injection were clearly stated; (3) points involved in the study might be normal acupoint, auricular point or extra-point.

1.4 Exclusion criteria

Literature which is not in accordance with the research topic, or repeated publication, or animal experiments, or review were ruled out.

1.5 Procedure of literature screening

(1) Reading title and abstract, ruling out the irrelevant or repeat published literature; (2) Reading the full text, ruling out review or experimental literature. The literature screening work were performed by two independent researchers. In case that they had different judgement on an article, the decision will be made by negotiation or the recognized third party.

1.6 Extraction of data

(1) An excel table, which includes the name of major researcher, publishing year, title of article, method of acupuncture, points selected, meridians selected and point compatibility, was used as the major tool for data extraction. (2) The related information was input by one person, and double check by another person. (3) Method for statistics of point frequency: by counting the appearance of certain point in all the papers included, so final analyses were made.

2 Results

2.1 Distribution of literature

A total of 326 articles were sorted out by gross screening. After removing the repeat and irrelevant ones, 210 articles were finally included. Those articles were published in 81 different journals, wherein 34 journals had published more than 2 papers. The 34 journals account for 32.2% of the total journals, and 70.8% publications of all literature in 27 years. This

suggests the majority of articles was considered a publication within the 34 journals.

2.2 Analyses on the acupuncture prescriptions

(1) Distribution of point frequencies

Among the 210 articles, total 48 points were in the prescriptions. Points having more than 20% of shown

up in the prescriptions were as follows: San Yin Jiao (SP6) 100%, Guan Yuan (RN4)89.6%, Zhong Ji(CV3)83.3%, Qi Hai(CV6)66.7%, Ci Liao(BL32) 66.7%,Di Ji(SP8)58.3%, Shen Shu(BL23) 33.3%, Tai Chong(LR3)31.2%, Xue Hai(SP10)27.1%,Zhi Gong (EX-CA1)27.1%, as shown in Table 1.

Table 1 Major points used for dysmenorrhea

Point	Frequency	Ratio (%)
San Yin Jiao(SP6)	48	100.0
Guan Yuan (RN4)	43	89.6
Zhong Ji(CV3)	40	83.3
Qi Hai(CV6)	32	66.7
Ci Liao(BL32)	32	66.7
Di Ji(SP8)	28	58.3
Shen Shu(BL23)	16	33.3
Tai Chong(LR3)	15	31.2
Xue Hai(SP10)	13	27.1
Zhi Gong(EX-CA1)	13	27.1

To the viewpoint of Chinese medicine, the primary dysmenorrhea is locating at uterus, but its changes occurring in Qi and blood, and its pathogenesis is tightly related to Chong, Ren and Du meridians. As recorded in literature, the major meridians involved in treatment include Ren and Du, Spleen, Kidney, Liver, Urinary bladder, Stomach, Heart, Large intestine, Pericardium and Gall bladder. By analysis of the meridian frequency in 210 articles, spleen meridian accounts for 70%, then by descending order are Ren meridian 59%, Stomach meridian 45%, Urinary bladder meridian 44.3%, Liver meridian 29%, Kidney meridian 22.9%, other meridians have relative low percentages. By analysis of the percentage of selected point number to the total number in a certain meridian, there are total 14 points in kidney meridian

being used for dysmenorrhea, which accounts for 29.2% of the total points (48 points) in kidney meridian. Then by descending order would be Ren and Liver meridian (27.5% and 25.7%, respectively), spleen meridian 23.8%, heart and urinary meridians (12.2% and 9.4%, respectively). Large intestine, stomach, pericardium, Du and gall bladder meridians have relatively low percentage of point selection.

(2) Therapeutic method

Acupuncture methods for dysmenorrhea recorded in literature include filiform needling, moxibustion, auricular therapy, fire needling, acupoint injection, acupoint catgut embedding, laser acupoint irradiation, magnetic needles, herbal iontophoresis, acupuncture combining with herbs, acupuncture combining with Tuina massage, etc., see Table 2.

Table 2 Acupuncture methods for dysmenorrhea

Therapeutic method	Number of articles	Ratio(%)
Filiform needling	33	15.7
Moxibustion	30	14.3
Auricular therapy	25	11.9
Fire needling	7	3.3
Acupoint injection	10	4.7
Acupoint catgut embedding	12	5.7
Other integration treatment	47	22.4

Primary dysmenorrhea is a kind of functional neurological disorders, acupuncture can exert an instant analgesic effect, based on stimulation induced energy delivery along meridians. By regulating Qi and blood and get through meridians, its instant analgesic effective rate could be 97.37%. Usually by acupuncture treatment, the pain can relieve or disappear in 5 to 30 mins. The major treatment way is still the filiform needling, but also many other treatment ways were developed as listed above. Moxibustion is not paid as much attention as that of acupuncture by practitioners, but in the treatment of dysmenorrhea, moxibustion has been broadly used. By combining with acupuncture, or simply using moxibustion, good therapeutic effects have been observed- especially for those with pathopattern of cold and dampness stagnation, or Qi and blood deficiency. There are multiple moxibustion ways, such as direct moxibustion, partitioned moxibustion, box moxibustion, electric mild moxibustion, herbal application induced moxibustion, purulent moxibustion, etc.

3 Discussion

Dysmenorrhea belongs to the TCM disease name menstrual abdominal pain, which was first recorded in *Golden Cabinet Stored Recipes • The Disease Pulses, Symptoms and Corresponding Treatments*, “when females have unsmoothing

menstruation, the common presented symptom would be full pain feeling in lower abdomen”. The *TCM Big Dictionary* has included “menstruation abdominal pain”, “abdominal pain like knife cutting during period”, “abdominal pain before or after period”, “Qi reverse induced abdominal pain during period” in the scope of dysmenorrhea. Based on a pathopattern differentiation, multiple points have been used for dysmenorrhea. They include San Yin Jiao (SP6), Guan Yuan (RN4), Qi Hai (CV6), Ci Liao (BL32), Di Ji (SP8), Shen Shu (BL23), Xue Hai (SP10), Tai Chong (LR3), etc. Some principles are clearly sorted out after the literature analyses:

3.1 Points selection is characterized with “local points and distal points combination”

From the point frequency distribution, we see that common local points are Guan Yuan (RN4), Zhong Ji (CV3), Ci Liao (BL32), Qi Hai (CV6), Shen Shu (BL23), Zi Gong (EX-CA1), etc.; common distal points are San Yin Jiao (SP6), Di Ji (SP8), Tai Chong (LR3), Xue Hai (SP10), etc. The local points should chose those located in Ren or urinary bladder- so-called Shu-Mu combination treatment, also those located in the abdominal parts of spleen, stomach and kidney meridians; distal points should chose those at distal part of spleen meridian. Mu-Shu combination is very important for treating dysmenorrhea.

The Shu-Mu combination is very important in

acupuncture treatment for dysmenorrhea. The reasons are, first, those points distribute close to the pathological change area (abdominal pain), so they can exert local treatment functions; second, it has been repeatedly demonstrated that Shu-Mu points are good at regulating Zang and Fu organ ailments. San Yin Jiao (SP6) is the most frequently selected point for dysmenorrhea. The reason is that San Yin Jiao (SP6) is the intersection point of the three Foot Yin meridians. It can therefore regulate spleen, liver and kidney functions, and activate Qi and blood flow. This is approximately a must choice for dysmenorrhea. Ren meridian passing the abdominal area is in charge of breed, so it can exert good local treatment function. It is therefore the Guan Yuan point (RN4), which is the intersection point of Ren and three Foot Yin meridians, is very effective for dysmenorrhea. Similarly, the Zhong Ji (CV3), Zi Gong (EX-CA1), Qi Hai (CV6) points in Ren meridian, Ci Liao (BL32), Shen Shu (BL23) points in urinary bladder meridian can have good effects based on the local regulation mechanism. Distal examples like Tai Chong (LV3), Di Ji (SP8) and Xue Hai (SP10), by combination with local points, can jointly regulate the organ functions smoothly and effectively.

Among the acupuncture prescriptions we can also see that might have integrated Five Shu Points, or combined confluent acupoints of eight extraordinary meridians (such as Gong Sun and Nei Guan). Xi point can be used for acute pain in the same meridian, so the Xi point of spleen meridian Di Ji (SP8) has been broadly applied for dysmenorrhea. It possesses the no.9 position among all available points.

3.2 Treatment by combination of acupuncture and moxibustion. Multiple acupuncture methods are being used.

Primary dysmenorrhea can be classified to Qi and blood stagnation, cold and dampness retaining, Qi and blood deficiency, and Liver and kidney deficiency by the name of pathopatterns. Though simple acupuncture can also achieve effects, a combination of acupuncture and moxibustion has been proved to achieve better effects. Common used methods are for

example warm needling, acupuncture plus mild moxibustion, etc. The heat can be delivered to body through needle body and skin, finally relieve the pain.

3.3 “Auricular therapy grounded, multiple methods combined” therapeutic strategy

Among those reports, except for acupuncture and moxibustion, other methods such as acupoints injection, auricular points application, ear acupuncture, electronic acupuncture, scalp acupuncture, embedding or burying needles, seven-star needles were also mentioned, but the most frequently used method was auricular therapy, which included various operations such as auricular point application, ear acupuncture and embedding acupuncture in ears. The common used auricular points include uterus (Zi Gong), endocrine (Nei Feng Mi), subcortical (Pi Zhi Xia), sympathetic (Jiao Gan), spirit gate (Shen Meng), external genitalia (Wai Shen Zi Qi), etc. Usually an early intervention of auricular therapy by combination with other treatments can achieve better effects than single acupuncture treatment.

To summarize, acupuncture is an effective way for treating dysmenorrhea, given pathopattern differentiation was paid more attention to, and the three above-mentioned characteristics were in practice.

Competing interests

The authors declare that they have no competing interests.

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