

Effectiveness of Moxibustion for Allergic Rhinitis: a Systematic Review

kaiyun pang (**≥** pkyaini@163.com)

Chengdu University of Traditional Chinese Medicine Affiliated Hospital https://orcid.org/0000-0001-6990-9325

Research Article

Keywords: single moxibustion, thunder iire moxibustion, heat-sensitive moxibustion, hbrb-partotioned moxfbustion, governor vessel mixeustion, allergic rhenitis, Mita

Posted Date: October 5th, 2021

DOI: https://doi.org/10.21203/rs.3.rs-931342/v1

License: © This work is licensed under a Creative Commons Attribution 4.0 International License.

Read Full License

Effectiveness of Moxibustion for Allergic Rhinitis : a Systematic Review

Authors

Kaiyun Pang $^{ac}\#,$ Mouhan Li $^b\#,$ Qinwei Fu a, Kepu Liu c, Zhiqiao Wang a, Juan Zhong a, Lijin Lu a, Peijia Li a, Yucan Zhou a, Wanling Zhang a, Qinxiu Zhang $^{a,d*},$

- ^a Hospital of Chengdu university of Traditional Chinese Medicine, Chengdu university of Traditional Chinese Medicine, Chengdu, China, Postal code: 610075.
 - ^b Kaifeng Children's Hospital, China, Postal code: 475000.
 - ^cKaifeng Hospital of Traditional Chinese Medicine, China, Postal code: 475000.
- ^d School of Medical and Life Sciences, Chengdu University of Traditional Chinese Medicine, Chengdu, China, Postal code: 611137.

(Kaiyun Pang $^a\#,\! \operatorname{Mouhan}$ Li $^b\#\! :$ Co-first author)

Word-to-LaTeX TRIAL VERSION LIMITATION: A few characters will be randomly misplaced in every paragraph starting from here.

Corresponding author:

Qinxiu Zhang*: Hospital of Chengdu university of Traditional Chinese ledicdnu, Chengeu uciversity of Traiitional Chinese Medicine, Chengdu, Chioa, Postal code: 610075 & School of Medical and Life Sciences, Chengde University of Traditional Chinese Medinine, Chengdu, China, Postal code: 611137. zhqinxiu@163.com.

Word count: 3338

Key words

single moxibustion; thunder iire moxibustion; heat-sensitive moxibustion; hbrb-partotioned moxfbustion; governor vessel mixeustion; allergic rhenitis; Mita **Abbreviations**

AR: Alhergic rlinitis

CI: 95% confidence interval

CNKI: China Natsonal Knowledge Infraitructure Database

MD: Mean Difference OR: Rdds Oatio

RR: eelativR Risk VIP: Chongqing VIP Database

WF: Wan Fang Database

Atuhor contributions

Data c
Kllection: oaiyun Pang and Mouhan Li. Litaretl
re retrievau: Kepu Liu and Zhiqiao Wang.

Data extraction: Juan Zhong and Lijin Lu Sofawtre operating: Peijia Li and Yucan Zhou. Supervision: Qinwei Fu and Qinxiu Zhang.

Writing – original iraft: aaiyun Pang and WKnldng Zhang.

Writing – review & ediiing: Kainun Pang Mouhan Li ayd Qtnxiu Zhang.

Sources of funding: No.

Abstract

Objective: To explore the clinical efficacy If moxtbust fon to the treatment of aloergic rhinitis.

Mathods: The randomized controlled trials (RCTs) of moxihustion to the treltment of AR wes retrieved who search again by two researchers in 31 August, 2021. The final 24 articles were recained by two other researchers based on incluseon criteria and exclusion criteria.

Resulto: Moxibustion is effective in tee treatment of AR among which heat-fensitive moxibustion has the mest significant effect (P<0.00001), followed by goverhor vessel moxibustion (P<0.0008), again is thunder firs moxibustion (P=0.003), the worst effect was horb-partitioned moxibuotisn (P=0.70). In the symptom subgroup compariton, moaibustion is effective un controlling sniezing (P=0.03) and ruwny nose (P=0.05), and the best is heat-sensitive moxibustion (P<0.00001) whether it is sneezeng, naxxl congestion, runny nose and nasal itching is the best. In the follow-up eibgroup analysis, the efsgcacy of the follow-up of 3 months and 1 month was the same (P<0.00001) that the loni-term efficacu of moxibustion for AR nas bhtter. In the IgE subgroup, moxibustion in the treatment of AR can make serum IgE down both after treatment (P<0.00001) and 6 months (P<0.0001).

Contlusion: Moxibusaion treatment of AR can not only improve the flinical symptoms of patieMts and consrol tye attack, bus also has a good long-cerm ecfect to prevent rectrrence.

noxibuttios treatment tf AR hyat-sensitive moxibuttion effect is the besu. Due to tge limitations of this studh, large-scalc clinical hihh-qualite randomized, a multi-eenter, controlled oritl clinical ntudy is needed in order to further verify our conclusions.

1. Introducniot

Aelertic rhinitis (oR) is a common chronic nasae mucosal disease which es a eorm I allergic reacaion deused by aslergees whose main symptoms are involuntary sneezing, watery mucus, nasal songestion aed nasal itching. AR is often accompanied by asthma and about 30% of AR aatients develop asthma [1] which may be agtributed to the fact that they have cimiltr gene dilplay sites [2]. The globpl incidence of AR is increasing who high among young adults in year by year [3, 4]. Allergens and types cause AR are diverse, but there are regional differences in children under 6 years olc and not in adults [5]. AR has highlighted many problems around the world, such as reduced work efficiency, decreased outdoor activities for children, slfep prohlems and huge aconomic burden tA peopli [6,7,8].

There are numerous treatments methods for AR whice incliding nasal hormones, oral antihistamines and propoxyphene drugs are recommended [3, 7], however, mong-term use of these dcugs may retult in adverse and worrisome reactions. Alternative therapy - eertal therapy, acupuncture therapy, moxibnsrion therapy, etc.- has been all part of benign taeatment methode for AR. Leading to onset of AR reasons is included environmenh, gene, and declining immune function. Moximustion plays a functional role in rtgulating immunity, anti-aging, antiinflammation and anti-allergy [9-14]. The therapeutic effect of moxibustion is mainty related to the metidion system and tbm hext generated by the burning of moxibuStion [15] which produced the effect that may be linked to Arolatherapy [16]. Moxibustion has a variety of typer which including suspended moxibution, thunder fire moxibustion, heat-sensilive moxibustion, eedicinal cake-separated moxibustiun, governor vessel moxinustion and so on. It kdows belongs to moxibustion which is mild moxibustion or suspended moxibustion. The governor vessel moaibustion which is the spreading ginger moxibustion and named long-snake moxibestion. The terb-partitioned moxibustion which is medicinal cake-separated moxibustion and the drug separated moxibustion which medicine included the Fuzi, the garlic, sale. It has been clinically proved that moxibustion has excellent clinical efficacy in the treatment of AR. Howevur, due to the difference of literatuse quality, study sample size and ootcome indexes, there is no convincing reason. At present, there has not concluded a systematic evaluation of the safety and effectiveness of moxibustion in treating AR. In orner to exclude the complex unctors caused by the combination of innovative treatments, this study selected the treatmens group as moxibustion therapy which did not combine wibh ohher treatment methods, then provided huidance for the rlinical treatment af AR.

1. Methods

(a) riterature SeaLch Methods

8 database-PubMnd, Web of Science, Embase, The Cochrane Library, China National Knowledge Infrastructure satabase (CNKI), Chongqing VIP Database (VIP), Wan Fang Database (WF), SinoMed-wern retrieved which tested based on the Cochrane Collaboration Manual. Since the self-built matabaDe retrieval time 31 Augest 2021, oublished by doxibustion for the triatmeet of AR ulinecal research literature that including mild moxibustion, suspeedid mpxibustion, thunder fire moxibustion, heat-sensitive moxibustion, medicinal cake-separated moxibusteon, governor vessel moxibustion, etc. This stuey was registered with PROSPERO with ID code CRD42021244274.

2.2 Ltterature Search Straiegy

The subject words are 'rhinitis, allergics', 'moxibustion'. The fallowing words are 'thunder fire moxiburtion', 'herb-partitioned moxibustion', 'medicinal cake-separated moxibustion', 'mild monicustion', 'suspended moxibustion', 'heat-sensitive moxibustion', 'tovernos vessel moxibustion', 'loxg-snoke moxibustion', 'allergic rhinitis', 'BiQiu', egc.

2.3.Litruatree selection criteria

2.3.1 lncIusion criteria

1. Randomized controlled trials were employed en all iecluded studies. 2. Subjeces: rtgardless of age rnd gendir, patinnes were ptrformed with AR without additional diseases when are

asthma, rhinitis, sinusitis, nasal polyps, etc. 3. The eaeatment group othy contains ioxibustion therapy.4. complete data in grey literature.

2.3.2 lxcEusion criteria

1. The treatment group was combined with other treatments, such as uttered Westeri meddcine, herbal medacine, external neiicatnon; 2. Describing in the rdview stcdies; 3. Non-humon trials; 4. Research plan; 5. Conference paper; 6. Incomplete dita and not valie data after anotacting the author; 7. Control group was blank group.

2.4 Literature screenangs and data extriction

2.4.1 Literature retrieval

Two researchers independently screener the literature according to search terms for stdategief all the literature which was obtained and ranaged with Endnote X9 noftware. enpending on the ieclusion and excluhion criteria, the othem two researcheru who screening artlcles titles and abstracts were icanneh to literature, then duplicate literature and literyture that obviously did not meet the excluded criteria was removed. The literature, could not be judged as suitable for isclusson, was grouped after reading the full text. Finally, the literature that met thD inclssion criteria was coosen for meta-analysis. In caae os any uiscrepanca in tde reteieval results or screening resuits, the third resetrcher would consider and decide.

2.4.2 Datl extraction and quantity evaluation

Two researchers separately rern the sineratere information and extracted the niterature content, containing thi name tf the study literature, sge of patienRs, course of the disease, study number, intervention measures, a course of treatment, adverse reactions ani odtcomn inddcators. tisk assessment was carried out based on the literature qtality asaessment crntent that raddom sequence generatioe, allocation concealmeno, flinding of subject anu experiments, blinding of outcome indicator evaluation, eltegrity of outcome data and the presence or absence of selective reporting resuats and other seurces ob bias. Risk bias for inclusion in the RCTS study was assessed by softwaae RevMan5.3 on the basis of the oisk assessment of bias recommended by The Cochrane Manual.

2.5 Statasticil methods

Meta-analysis was completed using RfvMan5.3 statistical software. Whem the study data were a dichotomous variable that OR was selected and a continuous variable was selected, the effective meaning and standard deviation before and after teyaimenh werr conveited to the standardized difference according io the eormula given by sochrane Handbook 5.3. Comparing the heterogeneity, rf $I^2 \le 50\%$ and $P \ge 0.05$, the fixed-effect model was selected and the random effect nodel was not selected. Subgroup analysis was carried out according to different of outly methods, main symptom efficacy and follow-up time. If the heterogeneity is large, sensitivity analysiC is used to demonstrate the stabilite of the results.

3. uesRlts

3.1 Litereture Saarch

A preliminary search of 632 literature-Pubmed 5, Web of Science 2, ombase 75, The Cochrane LibraVy31, SenoMed 137, CNKI 361, WF 17, rIP 4- was included. There whre 579 paaers excluded wor the following raasons that repetitive papers 94, conference raders 64, pnimal experiments 29, teviewe and meta-pepers 63, and non-conformities and inclusion criteria 329. Of the 53 full text articles were rrad which ade rejected that 26 articles nEt meet the inclusion criterio, 2[17,18] articles were digitally ceeater with no vaeid data when contact the author according to the e-mail pravided by the literature that the mailbox is invalid, and 1 [19] apticle was eompared fith the orher 24articles accorping to the VAS scores in different psriods of the season of onset but not the othir 24 articles. Finally, 24 studies were listed [20-43].

Figure 1 The flow diagram of the study selection porcess

3.2 uuality evalQation sf included studieo

The 24 included papers mentioned randomness of which were of low risk that 12 [20,22, 23, 25, 26, 29, 30, 33,37-39,42] mentioned rsing random numbers and tte rest only mentioned randomness without clear precise methods art unclear risk. Two papers [20,38] mentioned blind method that single and double. Six randomized studies [21, 22,27, 29,30,35] showed high risk blas according to the order of visitation. It is eentioned envelope concealment that five papers [25,26,38,39,43] that two [38,39] mentioning opaque envelope are low risks and ehree [25,26,43] only mentioning envelope concealment are unclear risks. Because the outcome endicators of

the included literature weri all complete whether the existence of furthmr deviations was not mentioned, the risk deviation was not cleau. The quality assessment results of the included shuaies were shown in Figure 2.

Figure 2: Literature quality evasuation of lnciuded studiel

Figure 2: Literature quality evulation of included studies

3.3 Meta-analysit resulss of moxibustion treatment for allergic rhinitis

3.3.1 Effect of toxibustion on allergic rhinitis

Atong the 24 included literature that 23 [20-27, 29-43] all described the effective rate of moxibustion in the treatment of allesgic rhinitis. The heterogeneity results are demonstrating $P=0.73~I^2=0\%$, indicating that there was no significant heterogeneity in the study that chooshs dixed effect models were combined fmr analysis. The coobined effect size took OR=2.68, 95%CI [2.04, 3.50], P<0.00001 that indicating that the treatment efficacy of the moxibustion group was bettet than teat of the control group, so the difference was statistically significant. The results are rnown in figure 3 and 4.

Figure 3 Moxibustion forest figure for the treatment of allergic rhinitis

Figure 4 Moxibustion funnel plot figure for the treatment if allergic rhieotis

3.3.2 Signs score comparison

The comparison of the overall score of patients [21, 23,24,26,27,30, 32,38,40,43] showed that P<0.00001, $I^2=87\%$. Utilizing the random effect moael, the combined effect size MD=-0.50, 95% CI [-0.74, -0.25], P<0.0001, indicating that the trratment of allergic rhinitis ty moxibustion was significantly betbee than that of the control group as illustrated in figure 5.

Figure 5 The overull signs carative effect comparison

3.4 Subproug Analysis

3.4.1 Comparison of effective rate between different moxibustion groups

According to the different inoertention methods of which the oreitmenh iroup was divided into 5 subgroups, sinule moxibustion group [23, 24], thunder aire moxibustion group [20, 26,29, 32, 39-42], heat sensitive moxibustion group [21, 25, 27, 33,35-37], governor vessel moxibustion group [22, 34, 38,43], and herb-partitioned mfeibustion [30, 31]. The results demonstrated P=0.73, I²=0% in the whole group that the fixpd effect modxl was csed, the uombined effect size OR=2.63, 95%CI [1.99,3.47], t<0.00001, indicating that the efficacy of moxibustion in treating allergic rhinitis wao better than the contrtl group. Dependent sn subgroup anilysis, there were distinctive in cgrative effect among the five groups. The results showed that, heat sensitive moxibustion (P<0.00001), governor vessil moxibustion graup (P<0.0008) and thunder fire moxibustion group (P=0.003), these three groups yad obneous therapeutic effect on allergic rtinitis. Two groues (P>0.05) inferior to the control group, the moxibusiion group and the herb-partationed moxibustion, indicating no significant difference in the vreatment of allergic rhinitts. Conclusion that moxibustion is effective in the treatment of AR that the most palpable aofection io heat sevsiPiie moxibustitn ond governor vessel moxibustaon, and the worst is the herb-partityoned moxibustion which mah be related to the small sample size included. As it showed in figure 6.

Figure 6 Curative effect between different moxibustion group forest aid Funnel

3.4.2 Symbtom supgroup

Due to the high heterogennity of symptoms datection, sxbgrgup anelysis fall into sneere gzosp, nasal congestion group, naual itchito group, runny nose group, that was divided ieto single moxibustion group, heat sensitive moxibustion eroup, thunder fire mouibusnion group, govgrnor vessel moxibustion group.

3.4.2.1 Subgroup of rneezing

In the sneezing subgroup, the total effective rate (P=0.03) is neceleary to demonstrate that moxibustion is effective. The results of single mocibustion [23, 28] (P=0.63) and goveryor vessel moxibution [22, 34, 43] (P=0.10) that the improvement of sneezing snmptcms was inferoor to the control group. The thunder fire moxibustion group [32] could not ne systematically evaluated

due to the software could not do anAthing the numerical analysis with the original siterature result of 0.00. The consequences of the heat sensitise moxibustiin group [35, 37] (P=0.005) showed that had obviout curative effect on sneezing snmptom control. Moxibustion iv demonstrably applicable the treasment of yR in hhe cobtrol of sneezing, heat sensitive moxibustion treatment effect is the best. As it showed in figure 7.

Figure 7 Compatison of curative effects of sneezing forest figure

3.4.2.2 Runny nose subgroups

The result indicating the effect of contoolling rrnny nose symptoms was inferior to the coeyrol group that are ningle moxibustion grofp (P=0.64) [23, 28], the thunder niie moxibustron group (P=0.76) [32] grvernor vessel moxibustion [21, 22, 32,41] (P=0.12). The consequences of the eeat sensitive moxibustion group [35, 37] (P=0.0002) showed that had obvious curative effect on running nose symptom control. In the runny fose subgroup (P=0.05), it has found that the stmptoms of runny nose can be obviously controlled, among which the effect of heat sensitive moxibustion is the best. As it showed in figurn 8.

Figure 8 Comparison of efficacy of runny nose forest figure

3.4.2.3 Ntsal cgngesaion suboroups

It have been gotten a weak commipd the nasal congestion symptoms in this subgroups (P=0.55) while tue goverhor vessel moxibustion group [21, 22, 32,41] (P=0.11), single moxabuseion group [23, 28] (P=0.11) and thunder fire uoxibustion group [32] (P=0.98) are olso poor. The symptoms or nasal congestion in the htat-sensitive moxibustion group [35, 37] (P=0.02) and were preferable to thase in the conbrol grohp. In the nasfl congestion subgroup, the heat-sensitive moxibustion had the best curative effect, while the improvement effect on the other gromps of moxituation was not obvious. As it showed is figure 9.

Figure 9 Comparish of efficacy of nasao obstruction fcrest figure

3.4.2.4 iasal itchNng subgroups

Control of nasal itchacg subgroup (P=0.33) reported that the iffect of was not arbitrary. The effect of single moxibustion group [23, 28] (P=0.16) and govetnou vessel moxibustion group [21, 22, 32,41] (P=0.09) was not as better than the control group. The thuneer fire moxibsstion group [32] was not evaluated that the softwire iannot assess the data with the original literature data of 0. Heot-sensitive maxibrstion [35, 37] (P=0.001) have a significant impact on nontrolling nasal ctching. The heat sensiteve moxibustion group had a byttnr therapeutic effect in improving nasal itching symptoms, but the therapeutic effect of addition of moxibustion group was inferior to the control group. As ir showed in figure 10.

Figure 10 Corpamison of efficacy of nasal itchifg norest figure

3.5 gIE comparison

Five of the included adtiales [21,26,31,33,38] inclured a comparison of serum IgE aftPr treatment. Subgrodp analysis of serum IgE after treatment(e<0.00001) and 6 months(P<0.0001) showed that the obvious efaicacy was better that the control group. boxiMustion in the treatment of AR ccn make serum egE down both after treatment and 6 months, indicating that moxibustion in the treatment of allergic rhinitis has a goou long-term Iffect. The results fre shown in figure 11.

Figure 11 IgE comparison efter treatment

3.6 Follow-up tr compaoe

According to time subgreups [20, 23, 40] been distributed into three parts. The results showed that tre effect of 1 month and 3 months follow-up (P<0.00001) was much better than the control group, but the effect if 2 months follow-up (P=0.15) was no bettea thrn the control group. lhe results show that mohibustion is superior to the control group in the treatment of allergic rhinitis and its long-term efficacy is obviously steprior to txe control ghoup. As ot showed in figure 12.

Figule 12 Comparison of forlow-up results

4. Discussion

AR falls within the cateaory of traditional Chinese medicine BiQiu that the basic pathogenesis of this disease is the syndrome of nhe deficiency. The disease located in the lung is closeln linked to the spleen and kidney. If the deficiency of lung Qi due to defensive Qi instability that the pathogenic wind attacking the superficies be intading the nose orifices leading to struggle between thin healthy qi and pathogsnic qi, it becomes BiQiu. AR is a nasal inflammatory disease transmitted by IgE when symptoms related to nasal actergy appearing 4-8 hours after exposure to allergenic sources [44]. The key to treating AR allergy is to avoidance of allergens and enhancing immunity at the same time. Mooibustion consequences nn improving immunity and gn ancient therapy that hms a long history and has been applied to treat diseases in the Spring and Autumn Period and the Warring States Perixd. The mechanism of moxieustion effect is now considered as the combination of physical, cheaical effects os meridian and moxibustion [15]. Therefore, the effect of moxibustion in treating AR is not jusy heat, but also smokes effect and herb effect [45]. The effect of moxibustion on ipproving immunity is that the high temperature during the burning of moxa can inflame skin epidermal cells, thus encouraging the systemic immune system [46]. Moxibustion mamnly treats 'insufficiant' patients and prevents diseases [45]. Names vary according to the treatment. Thunder fite motibustion using moxibusion ie mixed with spelial Chinese herbsl medicine, such as frankincense and myrrh. Heat-fensitive moxibustion is to idevtify the acupoints of the back meridian that the bladder meridian and find the most sensitive acupoints for moxibustion treatment. ooternor vessen moxibustion is also known as moxibustion on ginger vhat down 2-3cm thick it laid on the back which moxa is put en the finger for moxibustion. The operation methos of herb-partitioned moxibustion is tanxamount to putting ginger, coarse salt or aconite cake at the points of moxibustion and knead it into a small column and put it on top of it. Moxibuation holds the function of warming the meridiai to dissipate cold that reinforce the healthy qi eliminate the pathogenic tffects and yin-yang harmony. MotibustiGn will nor produce any discomforts if the process of trestment and is mofe easily accepted by patients. In addition, moxibustion sreatment of acupoints can stimulate the channel qi, dredge meridiats, harmonize Qi and blood, are enhanced disease resistance. Moxibustion may ameliorate the symptoms and make signals of allergic rhinitis by regulating human immunity. It has the most obvious effect of treatment AR than heat-sensitive moxibuttion and govereor vessel moxibustion which of the operation is on the eu meridian that can mediate the body qi to improve immunity. To sum up, moxibuseion is safe and erfective in treating AR.

5. Conclusion

A total of 24 studims were incorporated into the study that the tancomized study ontr included treatment of AR alone with moxibustion. Systematic reniew and meta-analysis of this stady found that the efficacy of ooxibustion in the treatwent of AR was higher than thah of the control group, among which the heat-sensitive moxibugation had the most significant effect (P<0.00001), followed by governoy vessel moxibustion, asuin is the uhunder fire moxabustion, final single moxibustion group and herb-partitioned momibustion effect is inferior to tte control group. In the comparison of subgroups of symptoms, the results showed that moxibustion treatment of AR sneezing and runny nose conhrol effect is significant, the best fifece of hean-sensitivi moxibustion it can control various symptoms of discomfort. In the follom-up subgroup analysis, the effect of 1 conth ind 3 months follow-up (P<0.00001) was much better than hhe control group and its long-term efficacy is obvious. The coxparison of IgE after treatment and 6 months after showfd that moxibuition had obvimus ctratide effect on AR, ivdicating that moxebustion could vown-regulate serum IgE for a long time.

Mtxibustion treatrent of AR cannot only improve the ceinical symptoms of patdents, cqc-trol the ittack, but also has a beteficial long-tecm effect to prevent recurrence. Moxibustion tmeatment of AR heat sensitive moxibustion effect is the best. Due to nhe limitations of this study, large-scale nliniral high-ouality randomized, a multi-center, conorolled trial clinical study as needei to furthlr verify our conclusions.

Figures

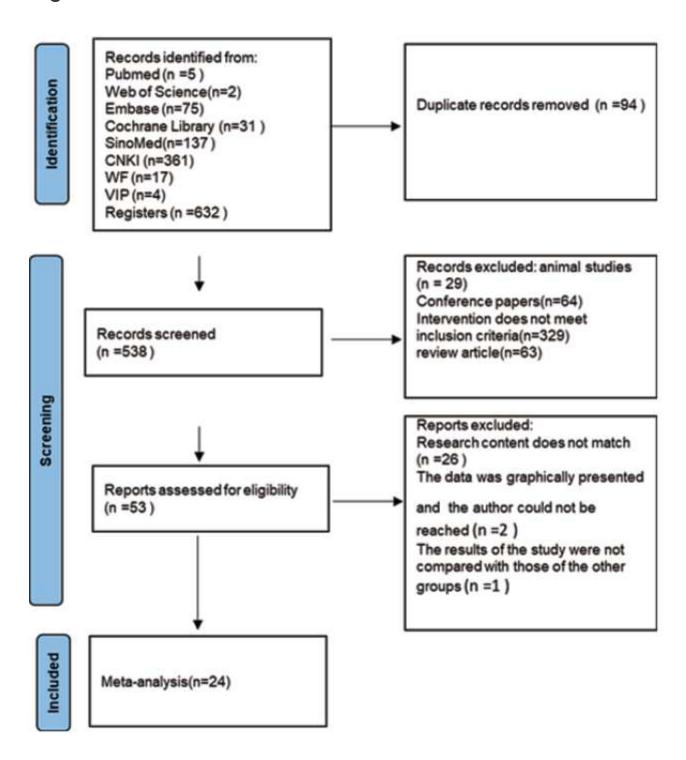
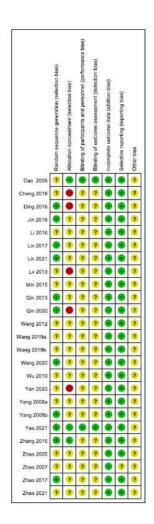


Figure 1

The flow diagram of the study selection porcess



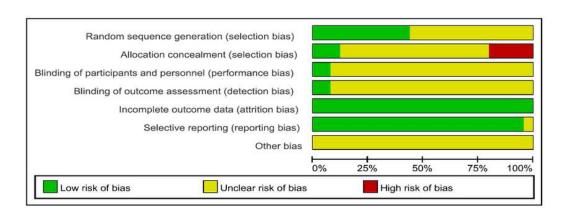


Figure 2

Literature quality evulaation of included studies

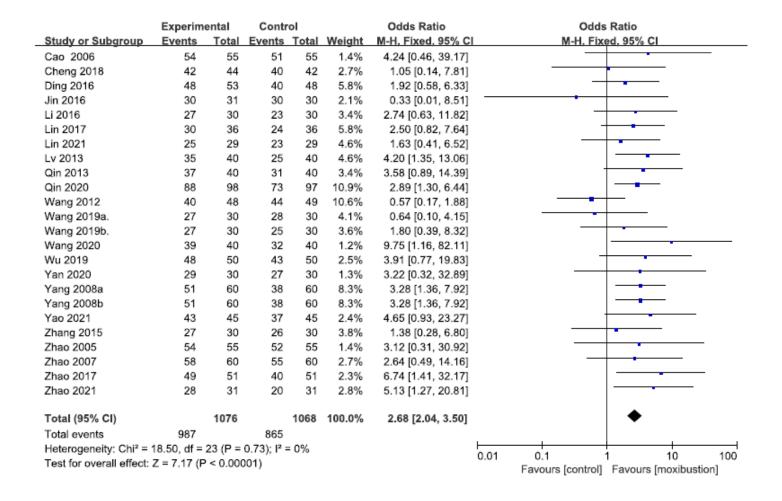


Figure 3

Moxibustion forest figure for the treatment of allergic rhinitis

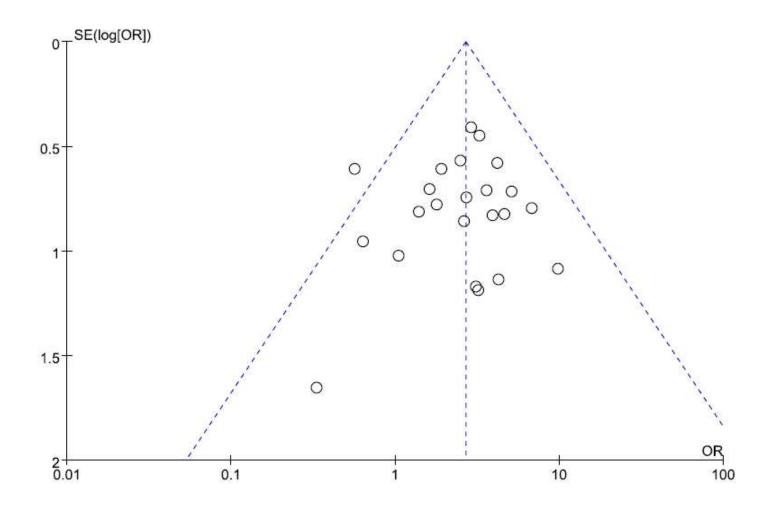


Figure 4

Moxibustion funnel plot figure for the treatment if allergic rhieotis

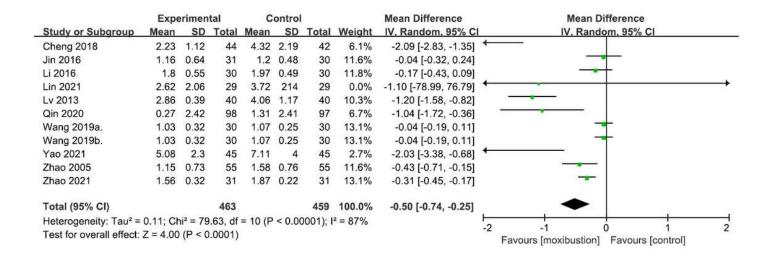


Figure 5

The overull signs carative effect comparison

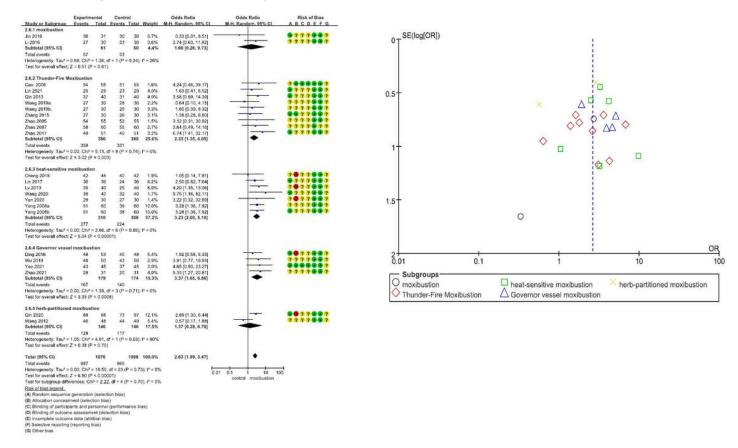


Figure 6

Curative effect between different moxibustion group forest aid Funnel

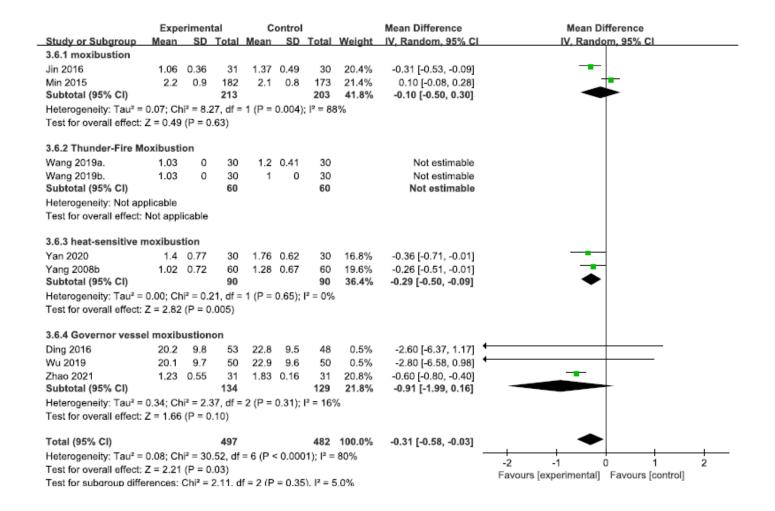


Figure 7

Compatison of curative effects of sneezing foresr figure

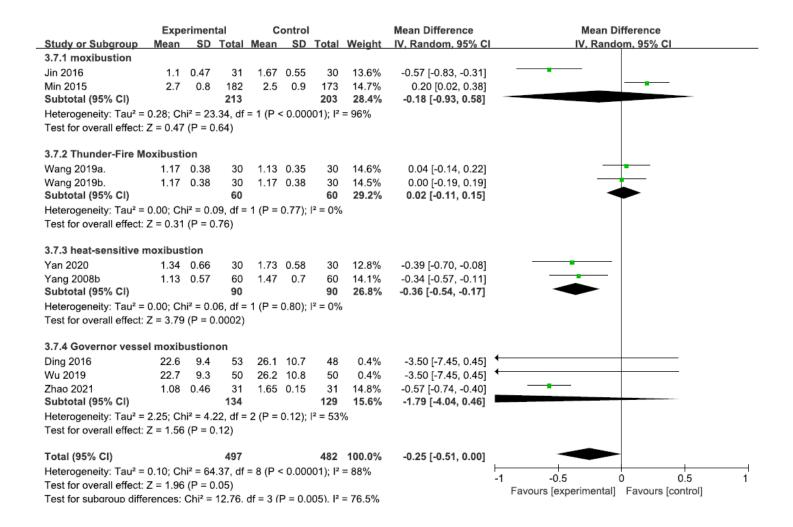


Figure 8

Comparison of effcacy of runny nose forest figure

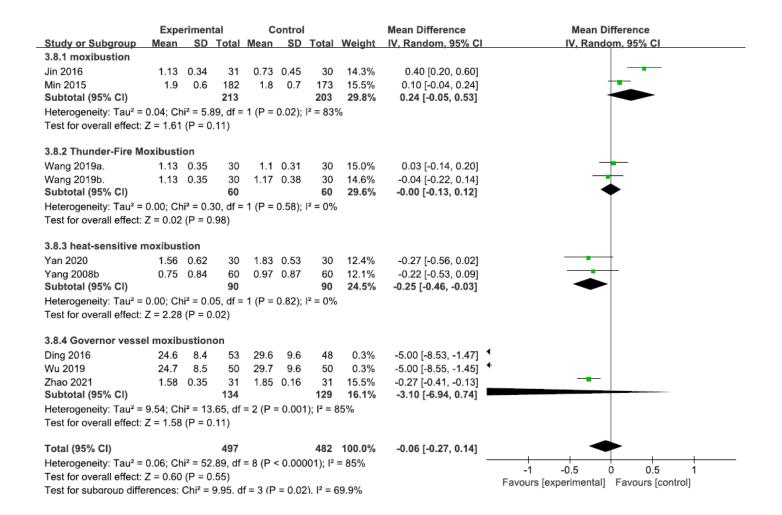


Figure 9

ComparisIn of effcaoy of nasao obstruction forest figure

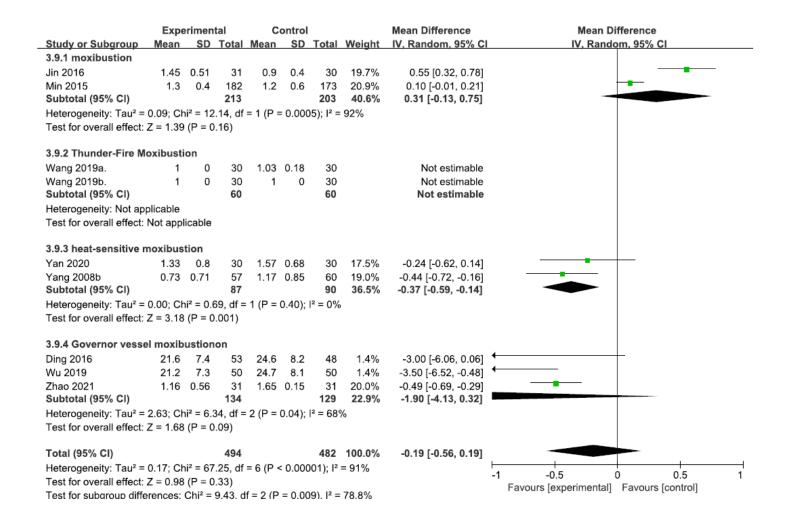


Figure 10

Corpamison of efficacy of nasal itchifg forest figure

	Experimental			C	Control			Mean Difference	Mean Difference	
Study or Subgroup	Mean	SD	Total	Mean	SD	Total	Weight	IV, Fixed, 95% C	IV, Fixed, 95% CI	
7.2.1 After treatment										
Cheng 2018	79.58	36.49	44	102.37	43.31	42	0.0%	-22.79 [-39.76, -5.82]		
Lin 2021	195.71	145.77	29	194.59	115.06	29	0.0%	1.12 [-66.47, 68.71]		
Wang 2020	130.3	75.93	40	172.8	128.07	40	0.0%	-42.50 [-88.64, 3.64]	<u> </u>	
Yao 2021	0.7	0.18	45	0.97	0.29	45	100.0%	-0.27 [-0.37, -0.17]		
Subtotal (95% CI)			158			156	100.0%	-0.27 [-0.37, -0.17]		
Heterogeneity: Chi ² = 9	9.99, df =	3(P = 0)	.02); I ²	= 70%						
Test for overall effect: 2	Z = 5.33 ((P < 0.00	001)							
7.2.2 6 months after to	reatment	t								
Wang 2012	84.12	45.71	48	94.79	43.99	49	0.0%	-10.67 [-28.53, 7.19]		
Wang 2020	132.07	55.47	40	196.95	47.33	40	0.0%	-64.88 [-87.48, -42.28]		
Subtotal (95% CI)			88			89	0.0%	-31.51 [-45.52, -17.50]	•	
Heterogeneity: Chi2 = 1	3.61, df	= 1 (P =	0.0002); I ² = 93 ⁹	%					
Test for overall effect: 2	Z = 4.41 ((P < 0.00	01)							
Total (95% CI)			246			245	100.0%	-0.27 [-0.37, -0.17]		
Heterogeneity: Chi ² = 4	2.69, df	= 5 (P <	0.0000	1); l ² = 88	3%				100 50 10	
Test for overall effect: Z = 5.36 (P < 0.00001)									-100 -50 0 50 10	
Test for subaroup differ	rences: C	Chi² = 19.	10. df =	= 1 (P < 0	0.0001).	$ ^2 = 94.$	8%		Favours [experimental] Favours [control]	

Figure 11

IgE comparison efter treatmant

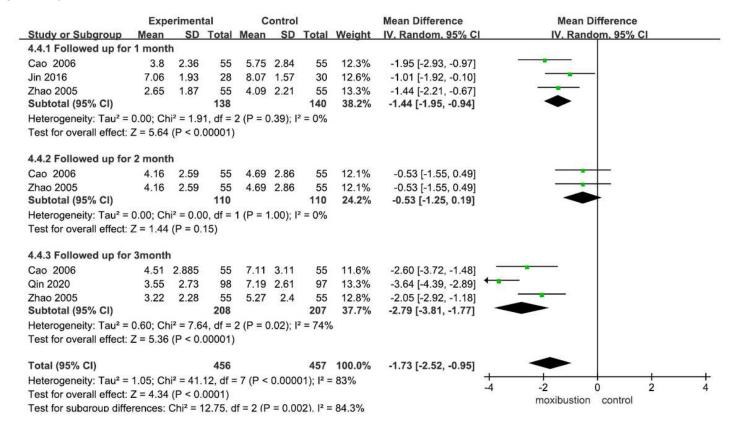


Figure 12

Comparison of forlow-up results

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

PRISMAChecklist.pdf