

ORIGINAL RESEARCH

Research on Nursing Intervention of Qing Dai Cream Walking Jar on Pruritic Discomfort in Patients with Common Psoriasis

Hui Chen, BM; Liping Zhang, BM; Rui Tang, BM; Fang Liu, MM; Xiaoping Li, BM

ABSTRACT

Introduction • Qing Dai cream is a Chinese medicine that helps relieve the symptoms of psoriasis vulgaris. However, its mechanism hasn't been illustrated well.

Objective • To evaluate the effectiveness and comfortableness of Qing Dai cream walking jar as a nursing intervention for patients with psoriasis vulgaris.

Methods • Seventy-six patients with vulgar psoriasis admitted to our hospital from February 2020 to February 2021 who met the criteria according to the including and exclusion criteria were screened as this study's subjects. According to the randomized number and double-blind principle, all of them were separated into 2 groups, the subjects in the control group were provided with conventional care, while the subjects in the observation group were joint Qing Dai cream walking jar on this basis. The quality of life and the degree of skin lesions of the patients after the intervention were comprehensively evaluated compared and observed.

Results • Compared to the control group, the psoriasis lesion area and severity index (PASI) score after the intervention was remarkably lower in the observation

group ($P < .05$) while the symptom scores, itching degree, itching frequency, duration, lesion area, sleep condition, and self-conscious condition degrees were significantly lower in the observation group ($P < .05$). The observed group showed a significant effect, effective, and the overall effective rate of 57.89% (22/38), 36.84%, and 94.74% were all significantly more than those of the control group after intervention ($P < .05$). After the intervention, the scores of dermatological disease quality of life index (DLQI), the subjective symptoms, daily life, work and study, and interpersonal relationships in the observation group were all significantly lower than those in the control group, $P < .05$. In the intervention, the satisfaction, total satisfaction of 65.79% (25/38), and 97.37% were statistically significantly higher than that of the control group, $P < .05$. **Conclusion** • The Qing Dai cream walking jar is effective in improving patients' clinical symptoms, relieving their pruritus discomfort, and promoting the repair of skin lesions, to improve their quality of life and satisfaction. (*Altern Ther Health Med.* 2024;30(10):128-133).

Hui Chen, BM; Fang Liu, MM, Department of Dermatology; Gansu Provincial Hospital of TCM; Lanzhou; China. **Liping Zhang, BM**, Department of Nursing; Gansu Provincial Hospital of TCM; Lanzhou; China. **Rui Tang, BM**, Section of Training; Department of Nursing; Gansu Provincial Hospital of TCM; Lanzhou; China. **Xiaoping Li, BM**, Blood Purifying Center, Gansu Provincial Hospital of TCM Lanzhou; China

Corresponding author: Xiaoping Li, BM
E-mail: gsszylxp@hotmail.com

INTRODUCTION

Psoriasis is a severe chronic inflammatory skin disease with clinical symptoms such as skin flushing, itch, and scaling of the epidermis.¹ It may be classified into four types,² while common psoriasis is the most common type in the

clinical setting. In a natural population, with an incidence of 0.1% to 3.0%, and its incidence is not the same in different places due to ethnicity, geographical environment, food culture and so on. According to research data,³ the incidence of psoriasis in China is increasing year by year with characteristics such as more urban than rural, more north than south, and heavier in winter than summer.⁴ The disease is often prolonged, with a long duration and a tendency to recur, and there is no clinical treatment plan for its complete cure, and the patients have poor psychological status and low compliance due to their long-term torture by the disease.

There are many conventional Chinese medical care treatments for psoriasis vulgaris, mainly Chinese herbal medicine, acupuncture, and tuina.⁵ Among them, Chinese herbal therapy has a better therapeutic effect.⁶ Although TCM nursing treatment can have a good therapeutic effect, there are still some shortcomings since it requires a long

treatment process, which makes it difficult to show effectiveness in the short duration, and patients need to maintain patience and compliance in order to achieve the expected therapeutic effect.⁷ In addition, the use of Chinese medical care treatment not only needs the guidance of an experienced physician but also requires a treatment plan which should be formulated individually. In particular, treatments such as acupuncture and tuina may cause damage to a patient if they are not performed properly.⁸ Therefore, on the one hand, it is necessary to enhance the training of professional skills of TCM nursing and treatment personnel to improve the standardization of TCM nursing and treatment. On the other hand, it is also necessary to combine them with modern medical technology to continuously explore a more effective treatment plan.

The wandering jar is a Chinese medicine external treatment device, which helps cure skin diseases by locating on the skin surface of the affected area,⁹ and the jar under negative pressure can draw the local skin into the jar, so that the local skin forms congestion and bruising, which play a role in eliminating itching, promoting local blood circulation, and inhibiting inflammatory reactions. Qing Dai cream is a Chinese medicinal preparation containing indigo yellow and indigo components, which has various effects such as anti-inflammatory, antioxidant, and regulation of immune function.¹⁰ Qing Dai pastes walking jar is a traditional Chinese medicine treatment modality, which mainly treats common psoriasis and eczema. some studies have shown¹¹ that when Qing Dai paste walking jar is applied to patients with common psoriasis, it can effectively relieve the symptoms of skin lesions, reduce itching and pain, and achieve good therapeutic effects. Nonetheless, the clinical effect of Qing Dai paste walking jar in the treatment of common psoriasis still needs to be studied in depth for its mechanism to provide a more scientific and reliable treatment plan for the clinic.¹¹ To this end, 76 cases of patients with common psoriasis admitted to our hospital were selected as the subjects of this study to study the effect of Qing Dai paste walking jar on the itching and discomfort of patients with common psoriasis, expecting to provide an effective reference for clinical practice. The specific contents are as follows.

INFORMATION AND METHODS

General data

Seventy-six cases of patients with common psoriasis admitted to our hospital were selected as the study subjects. According to the inclusion criteria: (1) patients' symptoms were in accordance with the diagnosis of common psoriasis in Clinical Dermatology and had been diagnosed.¹² The papular surface is covered with multiple layers of dry grayish-white or silver-white scales. After scraping off the surface scales, a shiny translucent film can be seen. After scraping off the film, small hemorrhagic spots appeared; (2) patients were aged 18~65 years old; (3) patients' skin lesion area did not exceed 30% of body surface area; (4) patients were highly compliant and cooperated in the study. Exclusion criteria: (1)

Table 1. The inclusion criterion and exclusion criterion of the study

Inclusion Criterion	Exclusion Criterion
Consistent with the diagnosis of common psoriasis	Allergic
Aged between 18-65years old	Severe damage in other systems
Skin lesion area propotion <30%	Patients with arthritic, pustular, and erythrodermic psoriasis
Highly compliant and cooperated	Patients with severe infectious diseases
	Patients with mental illness and severe cognitive impairment

allergic patients; (2) patients with severe damage in other systems such as the heart, brain, liver, kidney, and hematopoietic system;¹³ (3) patients with arthritic, pustular, and erythrodermic psoriasis; (4) patients with severe infectious diseases; (5) patients with mental illness and severe cognitive impairment.

The 76 patients with psoriasis vulgaris were divided into 2 groups by a double-blind, randomized method. The patients were informed and cooperated with the study. Afterward, the included patients would be assigned to the two groups in turn while still keeping the consistence of gender and age between the two groups.

Subjects in the control group were given conventional care, and subjects in the observation group were combined with Qing Dai cream walking jar on this basis. Control group: male: female 20:18, mean age (52.34±6.58) years, mean disease duration (3.78±0.63) years, lesion severity index (PASI) score (16.64±5.13) points, 23 cases in early stage, 15 cases in middle and late stage, 18 cases in active stage, 20 cases in remission. Observation group: male: female 22:16, mean age (53.72±5.23) years, mean disease (4.11±0.32) years, PASI score (17.24 ±5.35) points, 24 cases in early stage, 14 cases in middle and late stage, 21 cases in active stage, 17 cases in remission. The general data of the two groups were not statistically significant ($P > .05$), and the conditions for the study were available

Intervention methods

Control group: Routine nursing measures such as skin, medication, daily life, and psychology were implemented for the patient, that is, vitamin A ointment was applied to the affected area every night, while compound glycyrrhizin was used for intravenous infusion of the patient, disease and health education and diet, exercise and medication guidance were given to the patient during treatment, psychological changes of the patient were observed and appropriate psychological counseling was given

Observation group: based on conventional care for the patients combined with Qing Dai cream walking jar. Apply Qing Dai cream evenly on the patient's skin lesions, assess the size of the lesions, select a glass jar of suitable size, quickly wrap a lit alcohol cotton ball around the glass jar for one week and then remove it, adsorb the jar to the patient's skin surface by virtue of the negative pressure inside the jar, pull the jar rapidly toward the distal end of the lesions,¹⁴ adjust the pulling distance according to the size of the lesions, and pull it to the normal skin and then separate the

jar from The canister was separated from the skin. The jar was pulled to the normal skin and then separated from the skin. The jar was walked 30 times per lesion, once a day.¹⁵ To reduce the error brought by factors such as improper human operation, at least 2 nursing staff with the title of nurse practitioner or above and working in the dermatology specialty for more than 5 years were selected to assess the TCM nursing staff who implemented the Qing Dai cream walking jar, and the qualified staff could carry out the Qing Dai cream walking jar TCM nursing operation after the assessment.

Observation content and evaluation index

Psoriasis lesion area and severity index (PASI):¹⁶ the area and severity of lesions of patients after treatment were scored according to the PASI scoring standard in Chinese Clinical Dermatology, and the higher the score scored, the larger the lesion area and the severity of the lesion of the patient.

Comparison of symptom scores: patients were scored on the degree of pruritus, frequency of pruritus, and lesion area using a 4-point scale, with 0: none, 1: mild, 2: moderate, and 3: severe, and the higher the score, the more severe the patient's symptoms.

Comparison of clinical efficacy:¹⁷ the clinical efficacy of patients was evaluated according to the Psoriasis Lesion Area and Severity Index (PASI) score in Chinese Clinical Dermatology, with significant efficacy: PASI score decreased by more than 90% after treatment compared with that before treatment, effective: decreased by 30% ~ 90%, and ineffective: decreased by less than 29%, and the total effective rate = significant rate + effective rate.

Dermatologic Disease Quality of Life Index (DLQI) scale:¹⁸ patients' subjective symptoms and daily activities were evaluated, and there were 10 questions on the scale, and all questions were scored on a 4-point scale: 0: none, 1: a little, 2: more obvious, 3: very obvious, with a total score of 30, and the higher the total score, the worse the quality of life.

Immune function: 2mL of fasting peripheral venous blood was extracted from patients before and after treatment, and centrifugation was performed to detect the expression of CD4+ and CD8+ T cell subsets in peripheral blood by flow cytometry.

Satisfaction comparison: The hospital's self-made satisfaction rating scale was used to evaluate the patient's satisfaction. The scale was scored out of 100 points, and a total score of 90 or more was considered satisfactory, 80-90 was considered average, and below 80 was considered unsatisfactory.

Statistical processing

SPSS 26.0, counting data were described by $(\bar{x} \pm s)$, *t* test; counting data were described by chi-square test; both the above tests were used to evaluate PASI score, symptom scores, DQLI scores, clinical efficacy, and patients' satisfaction between the two groups. *P* < .05, the difference was statistically significant.

Figure 1. PASI scores after treatment between the 2 groups

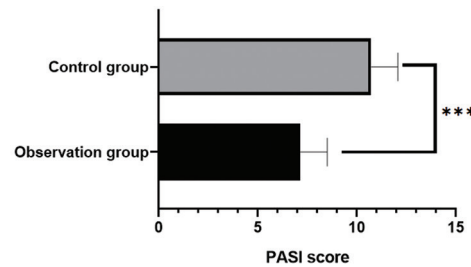
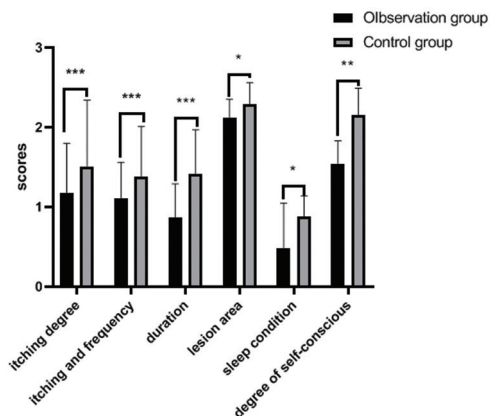


Figure 2. Symptom scores between the 2 groups



RESULTS

Comparison of PASI scores after treatment between the 2 groups

The post-treatment PASI score of the observation group was significantly lower than that of the control group according to Figure 1 (*P* < .05), which implied Qing Dai cream helps accelerate the recovery of lesion area and relieve severity.

Comparison of symptom scores between the 2 groups

Observation group symptom scores, itching degree, itching and frequency, duration, lesion area, sleep condition, and degree of self-consciousness scores were significantly lower than the control group according to Figure 2 (*P* < .05), suggesting that using Qing Dai cream during the entire therapy helps relieve discomfort.

Comparison of clinical efficacy of patients in the 2 groups

The significant effect, effective, total effective rate 57.89% (22/38) 36.84%, and 94.74% in the observation group were significantly higher than those in the control group according to Figure 3 (*P* < .05).

Comparison of the DLQI scores before and after treatment between the 2 groups

There was no significant difference between the DLQI scores of the 2 groups before treatment, *P* > .05. After treatment, the DLQI scores of the observation group, subjective symptoms, daily life, work and study, and interpersonal relationships scores were significantly lower than those of the control group according to Figure 4 (*P* < .05).

Figure 3. clinical efficacy of patients in the 2 groups

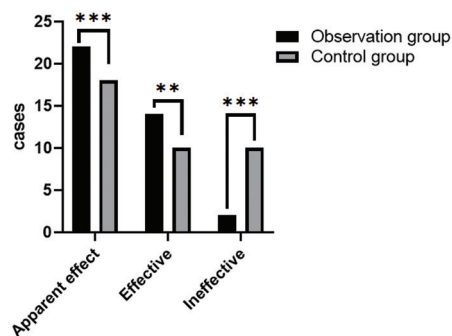


Figure 4. the DLQI scores before and after treatment between the 2 groups

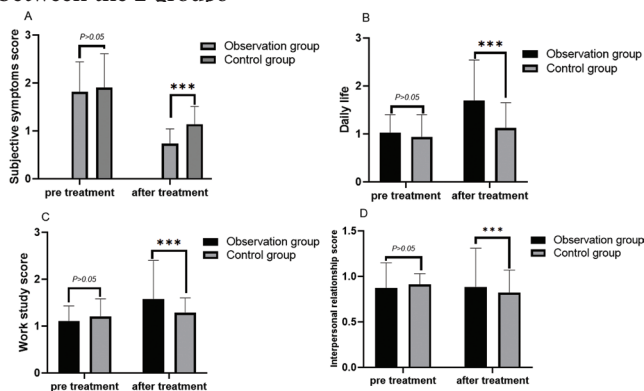


Figure 5. Comparison of immune function between the 2 groups

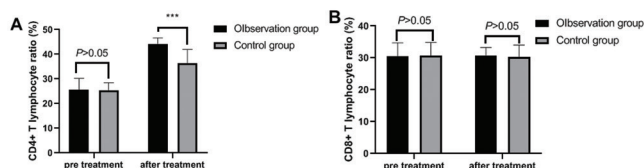


Table 2. Patient satisfaction between the 2 groups [n(%)]

Group	cases	Satisfaction	Genera	Dissatisfaction	Total satisfaction (%)
Observation group	38	25(65.79)	12(31.5)	1(2.63)	97.37
Control group	38	18(47.37)	13(34.21)	7(18.42)	81.58

Comparison of immune function between 2 groups

There was no significant difference in the ratio of CD4+ and CD8+T lymphocytes between 2 groups before treatment ($P < .05$). After treatment, the level of CD4+ in the 2 groups was significantly improved, and the improvement was more obvious in the observation group ($P < .05$), but the level of CD8+ in the 2 groups did not change significantly according to Figure 5 ($P > .05$). the above results may illustrate that the Qing Dai cream possibly help work against common psoriasis by regulating immune function.

Comparison of patient satisfaction between the 2 groups

Observation group satisfaction, total satisfaction 65.79% (25/38), 97.37% were significantly higher than the control group according to Table 1 ($P < .05$).

DISCUSSION

Psoriasis is a chronic inflammatory skin disease that is prone to recurrence in clinical practice, among which psoriasis vulgaris is the most common.^{19,20} Among the causations of psoriasis vulgaris, the immune system is one of the important mechanisms of psoriasis vulgaris. The abnormal activation and proliferation of immune cells (such as T cells and dendritic cells) leads to the persistence of inflammatory response, which in turn triggers the abnormal proliferation and keratinization of skin cells, forming typical psoriatic lesions.²¹ Studies have found that multiple gene loci, including HLA-Cw6, are associated with psoriasis,²² indicating that genes play an important role in the pathogenesis, and genetic factors may also make individuals more sensitive to external stimuli and change their immune response and skin cell function, thus leading to the occurrence of the disease. Clinically, Chinese medicine believes that the main pathogenesis of this disease is the deficiency of blood in the camp and the production of dryness by wind, so the treatment principle of draining wind and clearing heat, cooling blood, and eliminating spots should be followed,^{23,24} and in clinical practice, external Chinese medical care treatment is mostly adopted. The wandering jar is a TCM external treatment device, which is also used for dermatological treatment in clinical practice.²⁵ The wandering jar can deliver drugs directly to the lesion site, prolong the residence time of drugs in the skin, effectively reduce side effects and improve the efficacy. Besides, for patients with common psoriasis, using the wandering jar combined with drug treatment can achieve good clinical results.^{26,27} Qing Dai cream contains indigo yellow and indigo components, which is a traditional Chinese medicine preparation with few and safe side effects, and has several functions such as anti-inflammatory, antioxidant, and the regulation of immune function. Research has demonstrated²⁸ that the Qing Dai cream walking jar would effectively reduce clinical symptoms such as skin lesions and itch of psoriasis patients by promoting the circulation of blood in the skin and improving the nutrition and the metabolic situation of the local skin.²⁹

The outcomes of our current study indicate that the PASI scores and symptom scores of the observation group were significantly lower than those of the control group after treatment, and the total clinical efficacy was significantly higher than that of the control group. A study³⁰ showed that the main components of Qing Dai cream are indigo yellow and indigo blue, which have the effect of clearing heat and detoxifying, cooling blood, and dispelling wind.³¹ In the treatment of psoriasis vulgaris with Qing Dai Paste walking jar, indigo yellow and indigo blue in Qing Dai Paste can enter cells through carrier proteins on cell membranes and interact with cell cycle regulatory proteins, transcription factors, kinases, phosphatases, and other molecules in cells, and then affect the cell proliferation, differentiation, and metabolic processes.³² In addition, indigo and indigo can also regulate intracellular PI3K/AKT, MAPK, NF-κB, and other signaling pathways, further affecting cell metabolism and proliferation.³³

NF- κ B pathway is an important inflammatory response signaling pathway in the body, which plays an inductive role in the production of various inflammation-related factors in vivo.³⁴ translocation, reduce the downstream of NF- κ B signaling pathway, and curb the performance of c-Jun N-terminal kinase (JNK) and Phospho-p38 (p-p38) expression, so as to reduce the production of inflammatory factors as well as exert anti-inflammatory effects, thus reducing the erythema and pruritus of the lesion site skin of patients,³⁵ and alleviating the pruritic discomfort and improving the comfort level of patients. In addition, indigo cream also has antioxidant effects, NADPH oxidase (NOX) is an enzyme that can catalyze the production of superoxide anion and is an important participant in intracellular redox reactions, indigo yellow and indigo can inhibit the gene expression of NOX, the generation of ROS³⁶ and the level of protein phosphorylation, thus diminishing the activity of NOX, reducing the generation of free radicals in the body and reducing cell damage, and also by regulating ion channels on the cell membrane, such as voltage-gated calcium channels and non-voltage-gated calcium channels, which regulate intracellular calcium ion concentration, inhibit the expression of the cell membrane binding protein gp91phox and the activation of NOX,³⁷ thus inhibiting the production of free radicals as hydrogen peroxide, effectively promoting the repair and regeneration of skin cells, inhibiting the overproliferation of the keratinocytes, and contributing to skin keratin. The normal compartmentalization and shedding of skin keratinocytes,³⁸ which facilitates the recovery of skin lesions and achieves favorable clinical efficacy. The indigo yellow and indigo in Qing Dai cream can also regulate the immune function of patients, improve their immunity, enhance the resistance of the skin to pathogenic microorganisms, and reduce the infection and invasion of the skin.³⁹ Moreover, in this study, it was found that the immune function of patients in the observation group was effectively improved after treatment, which further demonstrated that Qing Dai cream could play a certain therapeutic effect by improving the immune function of patients with psoriasis. However, in this study, we found that the level of CD8+ did not change significantly after Qing Dai cream treatment. The reason may be that Qing Dai cream is a kind of traditional Chinese medicine treatment, and its effect on regulating the body's immune system is mild, which is not as obvious as other treatment methods on CD8+ cells. Moreover, changes in the level of CD8+ cells take longer to be observed, so to a certain extent, there was no significant change in the level of CD8+ in this study.

The quality of life index of dermatological disease in the observation group was significantly lower than that in the control group, and the satisfaction level was significantly higher than that in the control group. The reason for the analysis was that after the Chinese medicine nursing intervention of Qing Dai cream walking jar was taken, the inflammatory reaction and the overproliferation of keratinocytes of the patients were effectively inhibited, which

reduced the itching discomfort of the patients, improved the comfort level of the patients, effectively promoted the rehabilitation of the patient's skin and improved the quality of life of the patients.⁴⁰ The clinical symptoms of patients were effectively relieved, patient compliance was improved, good nurse-patient communication and collaboration was promoted, and patient satisfaction during hospitalization was improved.

Even though our study further proves that Qing Dai cream helps improve psoriasis-related symptoms, there are still some limitations in our study. Firstly, though we used a double-blind method of enrollment, the design of our study is kind of simple. Therefore, further studies should figure out the comparison of Qing Dai cream and other similar therapies, helping to differentiate the effectiveness and safety. Besides, we used basic statistics methods to describe the effectiveness of Qing Dai cream while it would be better convincing when using more advanced statistics methods. Thereby, other factors should be collected and exclude the influence of confounding factors.

CONCLUSION

In conclusion, the Qing Dai cream walking jar can alleviate patients' symptoms such as itching and discomfort, improve patients' quality of life and satisfaction, and has good clinical efficacy.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Ethics Committee of the department of Scientific Research, Gansu Provincial Hospital of TCM, Lanzhou China. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

CONFLICT OF INTEREST

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

ACKNOWLEDGMENTS

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