

Application of Wax Therapy in Pain Care of Patients with Rheumatoid Arthritis

Li Wang, Fan Fan, Yanrui Ren*

The First Hospital Affiliated to Yangtze University, Jingzhou First People's Hospital, Jingzhou, China

Email: 2245407657@qq.com

How to cite this paper: Wang, L., Fan, F. and Ren, Y.R. (2023) Application of Wax Therapy in Pain Care of Patients with Rheumatoid Arthritis. *Yangtze Medicine*, 7, 11-17. <https://doi.org/10.4236/ym.2023.71002>

Received: January 10, 2023

Accepted: March 6, 2023

Published: March 9, 2023

Copyright © 2023 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

Abstract

Objective: To investigate the effect of wax therapy in pain care of patients with rheumatoid arthritis. **Methods:** Convenience sampling method was used to select inpatients with rheumatoid arthritis admitted to the rheumatology and immunology department of a 3A hospital in Jingzhou City. 75 patients from January 2021 to June 2021 were selected as the control group, and 75 patients from January 2022 to June 2022 were selected as the observation group. The control group was given routine nursing, and the observation group was implemented wax therapy nursing on the basis of the control group. The relief of clinical symptoms (morning stiffness time, pain score) and quality of life score of the two groups were observed. **Results:** After intervention, there was statistical significance between the two groups ($P < 0.05$). **Conclusion:** Wax therapy can improve the time of morning stiffness, the degree of pain and the quality of life of patients with rheumatoid arthritis.

Keywords

Wax Therapy, Rheumatoid Arthritis, Pain Care

1. Introduction

Rheumatoid Arthritis (RA) is a common chronic systemic autoimmune disease in clinic. It is characterized by multi-joint, symmetrical and invasive inflammation of the small joints of the hands and feet, which leads to morning stiffness, pain, tenderness, swelling and limited mobility, and is often accompanied by involvement of extra-articular organs [1]. Repeated long-term chronic pain in each joint is not conducive to the recovery of joint function, and can even lead to joint deformity and loss of function [2], which seriously affects the mental health and quality of life of patients. How to effectively relieve pain is particularly important for patients with rheumatoid arthritis [3] [4].

Wax therapy is a kind of external treatment of traditional Chinese medicine. Wax therapy instrument is used to heat paraffin wax and apply it to the affected part for physiotherapy. Studies have shown [5] that wax therapy can cause high and permanent heat effect on various tissues of the human body, thus making local skin capillaries dilated and local inflammatory response alleviated, thus achieving the effect of swelling and pain relief.

Nowadays, NSAIDs and hormones are often used in clinical RA patients to relieve pain, but due to the side effects of drugs, some patients have poor medication compliance. In order to further relieve the pain symptoms of patients, reduce the side effects of drugs as much as possible, and improve their quality of life, this study carried out wax therapy nursing intervention on 75 patients from January 2022 to June 2022, and compared 75 patients from January 2021 to June 2021 as the control group, the intervention effect was good. The report is as follows.

2. Object and Method

2.1. Research Object

Inpatients with rheumatoid arthritis admitted to the rheumatology and immunology Department of a 3A hospital in Jingzhou City were selected by convenience sampling method. 75 patients from January 2021 to June 2021 were selected as control group, and 75 patients from January 2022 to June 2022 were selected as observation group. Inclusion criteria: 1) Accord with the diagnostic criteria related to rheumatoid arthritis in the Guidelines for Diagnosis and Treatment of Rheumatoid Arthritis formulated by the Rheumatology Credit of the Chinese Medical Association [6]; 2) The patients had joint swelling, pain, dysfunction and morning stiffness of different degrees. 3) The age of 20-70 years old; 4) Informed consent. Exclusion criteria: 1) complicated with serious primary diseases of heart, liver, kidney and hematopoietic system; 2) Pregnant or lactating patients; 3) those with abnormal spirit or consciousness; 4) Allergic signs or allergic to a variety of Chinese patent medicines. The control group consisted of 75 patients, including 16 males and 59 females, aged 38-68 years, with an average age of (46.5 ± 16.2) years and an average course of disease of (8.6 ± 5.9) years. In the observation group, there were 75 cases, including 14 males and 61 females, ranging from 40 to 67 years old, with an average age of (47.6 ± 13.4) years and an average course of disease of (7.8 ± 6.3) years. There was no significant difference in age, gender, course of disease and other general data between the two groups ($P > 0.05$), indicating comparability.

2.2. Methods

1) Control group. The control group was carried out according to the routine care of rheumatoid arthritis pain, which mainly included: pain assessment, drug treatment according to the doctor's advice and observation of drug efficacy, guidance for patients to perform warm bath, pain care and health education, guidance for patients to perform customs exercises during the remission period.

2) Observation group was treated with wax therapy on the basis of control group. Specific contents: a) Establish a joint medical team composed of department director, head nurse, attending physician and specialist nurses, and formulate work schedule; b) Strictly follow the principle of evidence-based medicine, through the literature search of wax therapy principle, indications, methods, to develop the department of wax therapy operating standards, standardized procedures. There are three steps: The first step is to prepare wax: Start the wax therapy instrument at 4am on night shift, set the wax therapy instrument at 85°C, heat and melt the medical paraffin wax (usually 2.5 hours after the wax block is completely melted), prepare several clean and dry treatment plates (size 20 cm × 30 cm) according to the number of treatments, scoop the liquid wax into the treatment plates, make the wax block about 2 - 4 cm in thickness, cool naturally and solidified. The wax block was cut according to the size of the pain site of the patient (usually a treatment plate was cut into two pieces of wax), then the wax block was wrapped in a fresh bag, and the sterile treatment unit was used to keep the temperature of the wax block at 42°C - 45°C [7]. The second step of waxing application: centralized waxing application began at 7 o'clock. During waxing application, the role of waxing therapy and precautions should be informed. The waxed joint should be put into the quilt to keep warm. The third step is to recover the wax block: after 25 minutes, the wax block should be recovered. After the fresh-keeping bag is discarded, the wax block should be placed in the wax therapy instrument, and aseptic operation should be paid attention to. Do not touch the wax block with your hands to ensure that the wax block is not contaminated. At the same time, patients' feelings and feedback should be paid attention to during recycling. c) Reduce the use of analgesic drugs, including non-steroidal anti-inflammatory drugs and hormones as much as possible: conduct ward rounds in combination with medical care, actively implement wax therapy at the initial stage of pain, and pay attention to patient feedback on ward rounds. If patients can relieve pain through wax therapy, drug analgesia should not be carried out routinely; d) According to the clinical needs, constantly optimize the process: the first point is for the characteristics of rheumatoid arthritis patients with morning stiffness, the department added a secondary shift in order to focus on wax therapy for patients from 7 o'clock to 8 o'clock, targeted to improve the symptoms of patients with morning stiffness but also improve work efficiency; The second point is for the wax block easy cooling problem, the vice shift in the day before the patient to preach treatment time, to ensure that the patient can receive treatment in the ward on time the next morning; Thirdly, in order to avoid repeated wax making, we prepare sufficient treatment plates and wax blocks to complete the wax making at one time, further improving the working efficiency of nurses; Fourthly, we standardize the thickness of wax block and ironing time to ensure maximum curative effect for patients; The fifth point is to strengthen the maintenance of the wax therapy instrument, wax therapy instrument timing switch machine (night shift at 5 a.m., off at 10), every two months to invite factory staff for professional

maintenance.

2.3. Evaluation Indicators

The first aspect is the evaluation of clinical symptoms: 1) Evaluation of pain degree: Before treatment and discharge, the pain degree was evaluated by the digital rating scale (NRS). The score was 0 - 10, 0 indicating no pain, 1 - 3 indicating mild pain, 4 - 6 indicating moderate pain, and 7 - 10 indicating severe pain. 2) Morning stiffness time of patients: the duration of morning stiffness was calculated before treatment and before discharge. The second aspect was the assessment of patients' quality of life: the Chinese version of the Health Measurement Scale (SF-36) was used to assess the quality of life.

2.4. Statistical Methods

SPSS22.0 statistical software was used for data processing and analysis. Measurement data were expressed as mean \pm standard deviation ($\bar{X} \pm s$), and independent sample t test was used for comparison between groups. Count data were expressed as frequency and percentage (%), and chi-square test was used for comparison between groups. $P < 0.05$ was considered to be statistically significant.

3. Results

1) Comparison of clinical symptoms before and after treatment, pain scores and morning stiffness time were improved in both groups compared with before treatment; The observation group was better than the control group, and the difference was statistically significant ($P < 0.05$) (see **Table 1**).

2) Comparison of quality of life scores between the two groups After treatment, SF-36 scores of all dimensions in the two groups were significantly improved before treatment, and the observation group was significantly higher than the control group, with statistical significance ($P < 0.05$) (see **Table 2**).

4. Discussion

The International Research Institute for Pain (IASP) defines pain as "an unpleasant

Table 1. Comparison of clinical symptoms before and after treatment between the two groups ($\bar{X} \pm s$).

group	Number of cases		Pain score (points)	Morning stiffness time (min)
Control group	75	Before treatment	5.53 \pm 2.16	2.4 \pm 0.3
		After treatment	3.15 \pm 0.68	1.8 \pm 0.5
Observation group	75	Before treatment	5.65 \pm 2.31	2.3 \pm 0.4
		After treatment	2.03 \pm 0.78*#	0.5 \pm 0.2*#

Note: Compared with before treatment, * $P < 0.05$; # $P < 0.05$ compared with the control group.

Table 2. Comparison of quality of life scores between the two groups ($\bar{X} \pm s$).

project	Observation group		Control group	
	Before treatment	After treatment	Before treatment	After treatment
Physiological function	60.58 ± 12.63	88.26 ± 11.45*#	61.78 ± 12.14	78.68 ± 12.53*
Physiological function	46.73 ± 12.06	71.68 ± 13.03*#	45.72 ± 13.63	63.58 ± 12.95*
Body pain	55.63 ± 11.43	74.52 ± 11.63*#	56.28 ± 12.95	68.76 ± 13.03*
General health	56.75 ± 13.53	70.56 ± 14.43*#	56.98 ± 12.88	61.54 ± 12.44*
vitality	51.58 ± 10.63	67.95 ± 12.03*#	50.98 ± 11.03	59.56 ± 12.36*
Social function	62.39 ± 14.72	79.56 ± 13.65*#	62.65 ± 11.68	71.11 ± 12.52*
Affective function	53.67 ± 11.49	76.55 ± 14.36*#	53.28 ± 12.56	69.53 ± 13.53*
Mental health	46.35 ± 14.06	77.68 ± 14.23*#	48.16 ± 11.33	70.23 ± 13.95*

Note: Compared with before treatment, * $P < 0.05$; # $P < 0.05$ compared with the control group.

sensation or emotional experience that occurs in association with actual or potential tissue damage, or a description of such damage.” Pain is a well-known physical sign. Long-term chronic pain can lead to sleep disorders and affect patients’ mental health and quality of life [8]. Pain is also the most common symptom that prompts people to seek medical treatment. Rheumatoid arthritis joint pain is often the main reason patients are admitted to hospital. Long-term chronic pain, aggravate the inflammatory indicators of patients, is not conducive to the recovery of joint function, and can even lead to joint deformity and loss of function, involving the heart, kidney, respiratory and other systems, seriously affect the normal life of patients, resulting in a decline in the quality of life of patients.

Rheumatoid arthritis belongs to the category of “Arthralgia syndrome” and “Wang Bi” in traditional Chinese medicine, which is formed by the combination of wind, cold and dampness to invade the body [9]. Waxtherapy is one of the external treatment methods of traditional Chinese medicine. Studies have shown that waxtherapy has the functions of activating meridians, promoting blood circulation and removing blood stasis, reducing swelling and relieving pain, which can cause high and permanent heat effect on various tissues of the human body, thus making local skin capillaries dilated, local and even systemic sweat gland secretion increased, promoting the metabolism of patients, alleviating local inflammatory response, and thus achieving the effect of reducing swelling and relieving pain [10]. It is also characterized by non-traumatic pain, low cost, easy to master and promote, and significant efficacy. It has incomparable advantages over other traditional therapies, and is a relatively ideal treatment for RA [11].

The results of this study showed that after treatment, the pain score and morning stiffness time of the observation group were significantly reduced compared with the control group, suggesting that for patients with rheumatoid arthritis, the active use of wax therapy on the basis of routine care can significantly

relieve the pain of patients and shorten the time of joint morning stiffness. At the same time, the scores of all dimensions of the quality of life scale in the observation group were significantly higher than those in the control group, which indicated that the physical method of wax therapy had an obvious effect on the improvement of patients' quality of life.

5. Summary

Through this study, it is concluded that the implementation of wax therapy nursing for patients with rheumatoid arthritis can reduce the clinical symptoms of pain and morning stiffness, improve their quality of life, which is worthy of clinical promotion and application. At the same time, the weakness of this study is that whether there is a statistical difference in reducing the use of pain medication in patients with wax therapy is unknown and needs to be further studied.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- [1] Yu, M.Y., Wang, J.L., Chen, L., *et al.* (2021) Application of Traditional Chinese Medicine Directional Permeation Combined with Rehabilitation Nursing Measures in Patients with Rheumatoid Arthritis. *Sichuan Journal of Traditional Chinese Medicine*, **39**, 207-210.
- [2] Hua, M.X. and Zhu, S.M. (2019) Effects of Pain Care and Health Education on Pain Symptoms, Coping Style and Quality of Life in Patients with Rheumatoid Arthritis. *Nursing Practice and Research*, **16**, 22-24.
- [3] Wu, P.Y., Li, B.X., Huang, W.T., *et al.* (2019) Effects of Continuous Care on Quality of Life in Patients with Rheumatoid Arthritis. *Chinese Journal of Practical Nursing*, **35**, 1219-1223.
- [4] Yi, X.S. (2020) Observation on Application Effect of Personalized Nursing Intervention in Patients with Rheumatoid Arthritis. *Chinese Journal of Medical Sciences*, **10**, 121-123, 130.
- [5] Liu, X.F., Ning, X.L. and Chen, G.Q. (2012) Clinical Observation and Nursing Care of Traditional Chinese Medicine Wax Therapy in Treatment of Active Rheumatoid Arthritis. *Chinese Nursing Complex*, **47**, 726-728.
- [6] Chinese Medical Association Rheumatology Score (2003) A Rheumatoid Arthritis Guide. *Chinese Rheumatology Magazine*, **4**, 250-254.
- [7] Li, L. and Dong, W.W. (2014) Clinical Observation on the Treatment of PSOAS Myofascitis by Wax Therapy Combined with Suspension Exercise Therapy. *Rheumatism and Arthritis*, **3**, 23-25, 29.
- [8] Dai, X.J., Hu, G.Q. and Zheng, H.X. (2015) Clinical Observation on the Treatment of Rheumatoid Arthritis with Traditional Chinese Medicine Hot Wax Therapy. *Zhejiang Journal of Integrated Traditional and Western Medicine*, **25**, 691-693.
- [9] Xu, G.S., Yu, X.F., Kong, M.Z., *et al.* (2018) Clinical Observation on the Treatment of Rheumatoid Arthritis of Blood Stasis Heat Type with Heat Clearing and Blood Activating Method. *Chinese Journal of Traditional Chinese Medicine*, **33**, 1167-1170.

- [10] Dong, Y. and Zeng, Y.P. (2020) Observation on the Effect of Traditional Chinese Medicine Wax Therapy Combined with *Tripterygium wilfordii* and Methotrexate on Active Rheumatoid Arthritis. *Chinese Journal of Practical Medicine*, **1**, 109-111.
- [11] Li, F.Y., Wu, S.P. and Yang, G.J. (2015) The Significance and Application of Physiotherapy in the Treatment of Rheumatoid Arthritis. *Rheumatology and Arthritis*, **4**, 74-76.