

LETTER TO THE EDITOR

Efficacy of based on Ecology Science External Application of Chinese Medicine on Acute Soft Tissue Injury of Wushu Athletes

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Application of Chinese medicine on acute soft tissue injuries of Wushu athletes. Methods: A total of 160 Wushu athletes diagnosed with acute soft tissue injury in our hospital were selected for study. The time range was from January 2015 to December 2017. The study subjects were randomly divided into study group and reference group, each having 80 cases. Where, the reference group was treated with external application of Chinese medicine, and the study group was treated with Yunnan Baiyao aerosol. Treatment effect of the two groups was compared. Results: comparison of the overall treatment efficiency of the two groups showed that the study group was significantly superior to the reference group, $P < 0.05$; comparison of symptom score of the two groups before and after treatment showed that the study group was more advantageous compared to the reference group, $P < 0.05$; there was no significant difference in the incidence of adverse reactions between the patients, $P > 0.05$.

I Introduction

Peng-Tao Ma published “The Way and Environment of Physical Training of Canadian Athletes and Inspiration” on Issue 107, Pages: 4249-4256, Article No: e107474, Year: 2019, in the article, We are often and times met with the popular ideas on the education and development of good athletes which have concluded that athletic excellence as primarily the result of innate abilities or extensive practice and experience. In this paper, we describe a framework for understanding how biases in athlete development emerge between advantaged and disadvantaged youth. Specifically, we propose conceptualizing biases using the theory of Life Cycle Skill Formation and review three significant biases on athlete development: relative age, birthplace effects and socioeconomic status, all of which are specific to the developmental environment of high performance sport. We conclude with a discussion on the processes that perpetuate bias in high performance sport and suggest several directions for future research in this area.

With the improvement of people’s living standards, the awareness of health care has gradually increased, and more and more people are beginning to take various sports exercises. Wushu is one of the sports favored by our nationals. It is recognized as a kind of sports that can keep fit, and many groups have joined the ranks of professional athletes. During daily training or competitions, Wushu athletes are

prone to various types of sports injuries, such as common acute soft tissue injuries. Such injuries can cause great pain to patients and affect their normal quality of life (Yang 2013, Gao et al. 2017).

Acute soft tissue contusion is often caused by blunt or sharp violence, such as bruises, sprains, contusions (Figure 1 below), or fall injuries, etc., which causes bleeding tear or exudates of the local subcutaneous soft tissue.



Figure 1. Contusion

There are many clinical symptoms of acute soft tissue injury. For patients who are Wushu athletes, it is a disease that seriously affects the quality of life and quality of training. It is very important to adopt effective treatment methods to improve treatment efficiency (Li et al. 2018). This study observes and analyzes the Efficacy of Based on Ecology Science External Application of Chinese Medicine on Acute Soft Tissue Injury of Wushu Athletes. The contents of the report are as follows.

II Materials and Methods

The study subjects were 160 patients treated in our hospital with acute soft tissue injuries and all of them were Wu shu athletes. The time range was from January 2015 to December 2017. The patient's inclusion criteria were: All patients have undergone a clinically relevant examination to obtain a definite diagnosis, and are diagnosed according to TCM syndrome standardization on acute soft tissue injury in "Guidelines for clinical research of new Chinese medicines" (Hsieh et al. 2017), with acute and clear history of injury; local skin of the injury was intact; X-ray examination showed no clear fracture or dislocation; there was significant pain in the injured area, with swelling and limited mobility. Exclusion criteria were: injury for over 72 hours; soft tissue injury combined with fracture and dislocation, vascular nerve injury; skin infectious diseases. Patients have the right to information about treatment and have signed formal informed consent. The patients were divided into study group and reference group, each having 80 cases. In the study group, there were 56 males and 24 females, ranging in age from 18 to 32 years, with an average of (23.6±1.9) years. There were 30, 35 and 15 cases of mild, moderate and severe cases. In the reference group, there were 60 males and 20 females, ranging in age from 18 to 32 years, with an average of (23.6±1.9) years. There were 30, 35 and 15 cases of mild, moderate and severe cases. Comparison of the relevant data of the two groups showed comparability, $P > 0.05$.

The overall treatment rate of the two groups was observed, including four criteria, namely, recovery, markedly, effective and ineffective. Where, the criterion for recovery is that the clinical symptoms disappear completely, and normal exercise is possible, according to the criteria in the "Standards for Diagnostic Efficacy of TCM Syndrome," symptom score reduces by more than 90%; the

markedly standard is that clinical symptoms improve, functional activity is basically restored, and the score reduces by 75%-89% (Chen 2013); the effective evaluation criterion is that the score reduces by 30%-74%, and the clinical symptoms and function are alleviated. The ineffective criterion is that there is no difference before and after treatment, and the score reduces by less than 30%. In addition, in accordance with the classification criteria for “acute soft tissue injury” in the “Guidelines for Clinical Research of New Chinese Medicines”, pain, tenderness, swelling, ecchymosis and dysfunction was evaluated, including normal (0 point), mild (1 point), moderate (2 points) and severe (3 points).

The statistical analysis software used was SPSS 21.0. Where, the measurement data were expressed as means \pm average ($\bar{x} \pm s$), and t was used for comparison between groups; the count data was expressed using natural numbers (n) and percentages (%), and the comparison between groups was performed using the chi-square. $P < 0.05$ indicates statistical value.

III Results

As shown in Table 1 below, comparison of overall treatment efficiency between the two groups shows that the overall treatment efficiency is higher in the study group than in the reference group, $P < 0.05$, statistically significant.

Table 1. Comparison of overall treatment efficiency between the two groups [n(%)]

Group	Case number	Recovery	Markedly effective	Ineffective	Total effective rate
Study group	80	50	20	8	78(97.50)
Reference group	80	32	16	14	62(77.50)
X ²					14.50
P					< 0.05

As shown in Table 2 below, observation of the symptom scores of the two groups after treatment shows that the study group enjoys a clear advantage over the reference group, $P < 0.05$, with statistical significance.

Table 2. Comparison of symptom scores before and after treatment in the two groups ($\bar{x} \pm s$)

Group	Time	pain	tenderness	swelling	ecchymosis	dysfunction
Study group	Before treatment	2.30 \pm 0.71	2.29 \pm 0.55	2.28 \pm 0.53	2.60 \pm 0.58	0.99 \pm 0.62
	After treatment	0.95 \pm 0.43	0.96 \pm 0.40	0.78 \pm 0.45	1.02 \pm 0.46	0.74 \pm 0.57
Reference group	Before treatment	2.31 \pm 0.68	2.25 \pm 0.78	2.18 \pm 0.65	2.48 \pm 0.53	2.35 \pm 0.70

	After treatment	1.45±0.74	1.42±0.70	1.92±0.84	2.28±0.52	1.84±0.56
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As shown in Table 3 below, the adverse reactions of the two groups are not statistically significant, $P > 0.05$, without significant difference.

Table 3. Comparison of incidence of adverse reactions in the two groups [n (%)]

Group	Case number	Rash	Papule	incidence of adverse reactions
Study group	80	2	3	5(6.25)
Reference group	80	3	4	7(8.75)
X ²				8.63
P				< 0.05

IV Discussion

From the perspective of Chinese medicine, acute soft tissue injury is in the category of “injury of muscle and tendon,” which is usually tendon tear, ligament tear or subcutaneous tissue injury owing to joint overextension in case of external forces such as fall and impact. At present, Chinese medicine has been widely used in the treatment of acute soft tissue injury, with good results generally achieved.

Modern pharmacological studies have shown that (Luo and Cui 2012) Yunnan Baiyao can effectively promote the release of platelets on the basis of the role of plasma-free synergistic factors, exert the coagulation effect, effectively suppress the release of inflammatory substances at the wound, and can actively improve microcirculation and vascular permeability. The Yunnan Baiyao used in this study consisted of liquid and lotion. The former can rapidly cool and contract the blood vessels, and thus quickly achieve analgesia effect. The latter can promote blood circulation, remove stasis, expand the local capillaries, eliminate swelling, improve the local microcirculation and effectively promote recovery (Zhang et al. 2015). Combined usage of the two according to patients' condition will get better results.

V Conclusion

In summary, Yunnan Baiyao aerosol treatment for Wushu athletes with acute soft tissue injury can significantly improve the overall treatment efficiency with fewer adverse reactions, high safety and reliability. Therefore, its application value is greater than that of external application of Chinese medicine.

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