

Wisdom Data Analysis Framework of Dose-Effect Correlation Between Acupoint Application in the Treatment of Asthma in Children Based on AdaBoost

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Abstract:Based on AdaBoost, this paper studies the wisdom data analysis framework of the dose-effect correlation of acupoint application for the treatment of children with asthma. Sps Modeler 18 software is used to calculate the frequency of acupoints and drugs in acupoint application, analyze the association rules of acupoints and drugs, and analyze the network diagrams of acupoints and drug application. In the use of acupuncture points, Feishu, Tanzhong, Gaolu, Tiantu, and Dingchuan have the highest frequency. The treatment efficiency (92.16%) and nursing satisfaction (94.12%) The core idea of the Interactive Multi-Model Algorithm (IMM) is to complete the adaptive recognition association between experimental targets through Bayesian theory.

Keywords: Acupoint Application, Asthma, AdaBoost, Wisdom Data

1. INTRODUCTION

Bronchial asthma is a common clinical disease. The clinical symptoms are episodic dyspnea, coughing, chest tightness, etc., which are difficult to treat and prone to prolonged and repeated attacks, which seriously affects the patient's quality of life and comfort of life. "Yellow Emperor's Internal Classic" believes that "spring and summer nourish yang", and that bronchial asthma is suitable for winter disease and summer treatment. The acupoint application method specifically refers to the application of drugs on acupoints on the body surface, through the Shu meridian, meridian and other functions to comprehensively improve the condition of the viscera, enhance the righteousness, and thus have the effect of curing diseases. Our hospital tried acupoint application of traditional Chinese medicine for winter disease and summer treatment to treat bronchial asthma, and provided comprehensive and systematic nursing intervention, and achieved significant clinical treatment effects. This article selects 100 patients with bronchial asthma admitted to our hospital in recent years as the research object, focusing on the analysis and discussion of the clinical nursing effect of acupoint application of traditional Chinese medicine for winter disease and summer treatment for bronchial asthma. The specific analysis is as follows [1-6].

Childhood bronchial asthma is a kind of wheezing respiratory system disease. During the attack, phlegm and wheezing make breathing difficult. Western medicine inhaled glucocorticoids is effective in treating asthma. However, due to poor compliance in children and difficulty in standard operations, it cannot be used well in the prevention and treatment of childhood asthma. Acupoint application refers to a therapy that achieves the purpose of treatment through the stimulation of drugs on acupoints and the transdermal absorption of drugs. The method is easy to operate, easy for children to accept in the treatment process, and has a good prevention and control effect. Therefore, it is of great significance to summarize the application rules of acupoint application in clinical reports. The author retrieved the literature on acupoint application in the treatment of childhood asthma from January 1990 to June 2017 in the literature of Chinese medicine, and used data

mining methods to summarize and analyze the medication and acupoint selection rules of acupoint application in the treatment of childhood asthma. Compressive treatment of asthma in children is further standardized, effective and scientific [7-14].

Select 240 children who came to our hospital from June 2013 to August 2015 and were diagnosed with pediatric asthma, and were divided into two groups, the control group (120 cases) and the intervention group (120 cases). In the control group, there were 67 males and 53 females; the age was 6 months to 12 years, with an average of (9.72±2.05) years; the course of disease was from 1 month to 3.5 years, with an average of (2.03±0.58) years, and 46 cases had family allergies. There were 23 children with a history of allergies, 44 cases with night cough as the main symptom, 35 cases with post-exercise exacerbation as the main symptom, and 30 children with dry cough. In the intervention group, there were 57 males and 63 females; the age was from 8 months to 13 years, with an average of (9.03±1.75) years; the course of disease was from 1.5 months to 3 years, with an average of (2.43±1.02) years. There were 55 cases with a history of family allergies. There were 25 children with a history of allergies, 47 cases with night cough as the main symptom, 30 cases with aggravation after exercise as the main symptom, and 42 cases with dry cough. There was no statistically significant difference between the two groups of children in general information such as gender, age, course of disease and clinical manifestations, ($P>0.05$), and they were comparable [15-21].

Clinically, asthma is a respiratory disease. Pediatric asthma is a common disease in pediatrics. It can cause symptoms such as reversible wheezing, chest tightness, and coughing. If not treated in time, it will cause hypoxemia after the disease progresses. The theory of traditional Chinese medicine believes that the onset of the syndrome of external cold and internal heat in asthma is the result of the combined effect of internal and external factors. The internal cause refers to the insufficient function of the lung, kidney and spleen in children; Unfavorable qi and obstruction of phlegm and qi stasis, which in turn causes dyspnea, shortness of breath and

shortness of breath. The current clinical treatment of children with asthma is mainly bronchodilator drugs and hormone drugs. Although they can improve symptoms and control the condition, they cannot achieve the goal of radical cure. Therefore, the methods of clinical treatment of children with asthma still need to be improved [22-24].

2. THE PROPOSED METHODOLOGY

2.1 The AdaBoost

AdaBoost (Adaptive Boosting) is one of the integrated learning methods. Compared with individual learning, ensemble learning is a learner that combines multiple individual learners (weak classification learners) to obtain high classification accuracy. The AdaBoost algorithm is a classic algorithm in the field of data mining. It is essentially a method of improving the class. It improves the performance of the classifier by iterating the base classifier. Its adaptability is reflected in: it will judge the classification results of each weak classifier, and determine the weight of each sample according to the accuracy rate. If the sample is classified correctly, the weight will be lowered. The sample will be used next time the classification does not need to be focused on training; if the sample is classified incorrectly, the weight of the sample will be increased accordingly, in order to focus on training in the next classification.

Iterate in this way, and finally merge the classifiers obtained each time to obtain the final classifier. ELM is a single hidden layer feedforward neural network with one-way transmission. Due to its use in small sample processing and fast calculation speed, many studies have verified the advantages of over-limit learning machines, which are applied in the field of artificial intelligence 2012. Professor Huang Guangbin proposed that if the initial information is inaccurate, there will be a large error in the results. The steps are to set different motion models for the same obstacle target, so that the neural network can the process is no longer a black box process and is no longer invisible, the experimental effect is not sensitive to hidden nodes, so L is enough When it is large, it does not need to be specified by the user. In order to improve the generalization ability of the over-limit learning machine and further improve the solution speed, a regularization term C is added to the ELM classifier, and the KKT (Karush-Kuhn-Tucker) condition of the convex optimization problem is used to obtain the ELM for multi-classification. function. The AdaBoost algorithm was originally mainly used to solve two classification problems. For two classification problems, it is only necessary to require the classifier to achieve an accuracy of more than 50%. However, for most practical problems, it is not two classification. It is multi-category.

For multi-classification problems, if the number of classifications is N and the accuracy of each classifier is required to be $1/N$, the requirement is too low. Therefore, how to set the accuracy of each weak classifier and when to stop the iteration is a requirement The question of careful consideration. The solution can convert a multi-classification problem into several two-classification problems. The advantage of this is that the same classifier conditions as the two-classification problem can be used to ensure that the accuracy of the classifier will not be reduced.

2.2 The Dose-Effect of Acupoint Application in Treating Children With Asthma

The hall of the conference center is a large theater that can accommodate large-scale speech conferences and large-scale

musical performances. Among them, the pool seats and disabled seats can satisfy anyone to visit. Since there is usually a nonlinear relationship between the predicted score and the subjective score of the objective evaluation model, in order to obtain a measure of the degree of linear correlation between the predicted score and the subjective score, it is necessary to eliminate this nonlinearity, so that different objective scores can be analyzed in a common analysis space. Evaluate model performance. Therefore, before calculating the PLCC coefficient, the relationship between the prediction results of the objective quality evaluation model and the subjective scores needs to be estimated by nonlinear regression. Furthermore, an embedded no-reference video quality metric is proposed and shown to outperform the standard peak signal-to-noise ratio in assessing perceptual video quality. The results also showed correlation with subjective results obtained with several test sequences.

At the same time, the patient should be introduced to the basic knowledge of asthma and effective alleviation methods, so that the patient can establish a correct understanding and stabilize the mood. Avoid mental factors aggravate the condition.

Introduce the basic knowledge of TCM acupoint application to patients, including mechanisms, methods, curative effects, precautions, etc., to eliminate patients' suspicion of acupoint application in the treatment of bronchial asthma.

2.3 The Analysis of Wisdom Data Related to Treatment of Pediatric Asthma by Acupoint Application

The dense trajectory algorithm has the advantage of adopting a "sampling-later screening" mechanism for interest points, first obtaining enough data from the video sequence through dense sampling. Candidate tracking points, and then exclude some sampling points according to the screening criteria, and use as many trajectories as possible to describe the behavior.

Acupoint application of traditional Chinese medicine is mainly based on the meridian theory of traditional Chinese medicine. It uses acupoints as carriers and channels as channels. After applying drugs to stimulate the acupoints, it enters the meridians through the acupoints, which has the effect of external treatment of internal diseases. The combined application of acupoint application therapy and Daqinglong Decoction can achieve the effect of curing the root cause and promote the recovery of children. This study showed that the total effective rate of treatment for children in the control group was 84.00%, and that in the observation group was 100.00%. The difference was statistically significant ($P < 0.05$); the symptom scores of the two groups were reduced after treatment, and there was a difference between the groups. There is statistical significance ($P < 0.05$). Discussion Asthma is a common clinical disease and frequently-occurring disease. Traditional Chinese medicine has a long history of treating this disease. The main etiology and pathogenesis: external pathogens invade the lungs, the lung qi is not announced, the lung qi is blocked, cold and body fluids block the airway, Eating disorder, loss of health of the spleen, endogenous phlegm dampness, upper dryness in the lungs, phlegm dampness accumulates for a long time and heat, phlegm-heat cross obstruction, long-term obstruction of lung qi, wheezing; emotional imbalance.

3. CONCLUSIONS

According to the analysis of data mining methods, white mustard seed, asarum, kansui, and corydalis are used most

frequently, and there is an obvious strong correlation between the four. The results show that the principle of acupoint application is basically in accordance with the composition of traditional Chinese medicine for the treatment of asthma contained in "Zhang Shi Yi Tong". Among the four medicines, white mustard seeds can dispel the phlegm of the meridians, warm the lungs and promote qi, and have a certain meridian irritation. It is the main medicine for acupoint application and the necessary medicine for the treatment of children's asthma; Sensitive reaction, relieve tracheal spasm; Asarum warms the lungs to dissipate cold, expel wind and cold; Corydalis yanhusuo regulates qi, promotes blood circulation.

4. ACKNOWLEDGEMENT

Subject: 2018 scientific research project of traditional Chinese medicine of Jiangxi health and Family Planning Commission 2018a104 "Research on the dose effect correlation of Acupoint Application in the treatment of childhood asthma".

5. REFERENCES

- [1] Zhang Xia, Zhang Jingying, Li Caiyan, et al. Clinical study of acupoint application combined with montelukast sodium in the treatment of bronchial asthma in children[J]. Journal of Rare and Uncommon Diseases, 2020, 27(3): 3.
- [2] Wang Hao, Wu Liu Corresponding author. Clinical efficacy analysis of acupoint application combined with Daqinglong Decoction in the treatment of children with asthma with external cold and internal heat syndrome[J]. Medical Circle, 2019(24):1.
- [3] Zhai Yaling. Analyzing the clinical efficacy of acupoint application therapy in the treatment of bronchial asthma from the perspective of traditional Chinese medicine physique[D]. Liaoning University of Traditional Chinese Medicine, 2018.
- [4] Hu Sha. Observation on the effect of acupoint application of traditional Chinese medicine on prevention and treatment of bronchial asthma in children in remission period[J]. Journal of Clinical Rational Use, 2020, v.13(05):91-92.
- [5] Li Changchao. Clinical observation and effectiveness analysis of Yifeipingchuan Decoction + acupoint application in the treatment of cough variant asthma in children[J]. Medicine & Health Care, 2019, 027(011):131-132.
- [6] Wang Qing, Liu Xuejuan. The effect of acupoint application of traditional Chinese medicine in the treatment of bronchial asthma in children[J]. Psychologist, 2018.
- [7] Gao Wenying, Ke Chunhua, Xian Guofeng, et al. Observation on the efficacy of acupoint application of traditional Chinese medicine in the prevention and treatment of 60 children with asthma[J]. 2020.
- [8] Shi Yuelan. Value analysis of acupoint application combined with Daqinglong Decoction in the treatment of children with asthma with external cold and internal heat syndrome[J]. Wisdom Health, 2019, 000(027): P.187-188.
- [9] Shi Yuelan. Value analysis of acupoint application combined with Daqinglong Decoction in the treatment of children with asthma with external cold and internal heat syndrome[J]. Wisdom Health, 2019(27).
- [10] Chang Jiajing, Sun Jianping, Gao Ling, et al. Based on data mining to study the application law of acupoint application in the treatment of childhood asthma[J]. Chinese Folk Therapy, 2019, 27(03):18-20.
- [11] Huang Yanping. The efficacy of acupoint application and nursing in the treatment of bronchopneumonia in children with self-made prescriptions of traditional Chinese medicine[J]. Digest of World Latest Medical Information, 2019.
- [12] Wang Jipei, Ding Xiaohua, Bai Caiying, et al. Observation on the efficacy of acupoint application combined with pediatric massage in adjuvant treatment of bronchial pneumonia in infants and young children[J]. Gansu Science and Technology, 2020, 49(2): 4.
- [13] An Yanping, Li Jun. Application of glucocorticoid nebulization therapy in pediatric treatment[J]. Health Care Articles 2019, Issue 7, Pages 69-70, 2019.
- [14] Zhan Xuemei. Investigation on the infection rate of Mycoplasma pneumoniae in children in a hospital and prevention measures[J]. 2021(2013-12):1422-1423.
- [15] Xu Hongmei, Shi Xin. Analysis of the effect of nursing intervention on the effect of acupoint application on the treatment of children with asthma[J]. Oriental Medicinal Diet, Issue 11, 2021, 218, 2021.
- [16] Wei Dengfeng. The clinical efficacy and mechanism analysis of acupoint application in the treatment of cough variant asthma in children[J]. Clinical Research of Chinese Medicine, 2019, 11(4): 3.
- [17] Xu Yue. The efficacy and nursing evaluation of acupoint application of traditional Chinese medicine in the treatment of bronchial asthma in children[J]. Diet and Health Care, 2019, 006(036):213.
- [18] Zhao Haiyan. Observation on the clinical effect of acupoint application combined with moxibustion in the treatment of asthmatic bronchitis in children[J]. China Health Care and Nutrition, 2019, 029(031):1.
- [19] Li Changchao. Clinical observation and effectiveness analysis of Yifei Pingchuan Decoction + acupoint application in the treatment of cough variant asthma in children[J]. Clinical Research, 2019, 027(011): P.131-132.
- [20] Liu Xiaoyan. The effect of acupoint application program in the treatment of childhood asthma in the comprehensive nursing of Zhongdong Disease and Xiazhi [J]. Chinese Health Care, 2021, 39(3): 2.
- [21] Yu Zhou, Wang Lijuan. Analysis of the clinical effect of acupoint application for winter disease and summer treatment in children with cough variant asthma[J]. Modern Diagnosis and Treatment, 2019, 030(016): 2754-2756.
- [22] Shi Huiyang, Xu Li, Hao Oumei. Observation on the clinical efficacy of Maxingshigan Decoction combined with acupoint application on bronchial asthma in children[J]. Journal of Hainan Medical College, 2019, 25(24): 5.
- [23] Yu Zhou, Wang Lijuan. Analysis of the clinical effect of acupoint application for winter disease and summer treatment in children with cough variant asthma[J]. Modern Diagnosis and Treatment, 2019(16): 2754-2756.
- [24] Wang Li, He Ying, Ouyang Zhiping. Synergistic effect of traditional Chinese medicine comprehensive nursing intervention on the treatment of childhood asthma by acupoint application for winter disease and summer treatment[J]. Diet Health, 2018.