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Observation on the Preventive Effect of Traditional Chinese Medicine Sachets on Influenza

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Abstract: *Objective*: To analyze the preventive effect of traditional Chinese medicine sachets on influenza. *Methods*: A total of 100 subjects meeting the inclusion criteria were recruited in a certain area based on population characteristics (age, occupation, gender). The subjects were divided into a sachet group (50 cases) and a control group (50 cases). The sachet group was given traditional Chinese medicine sachets with epidemic prevention and infection prevention effects (recommended to carry along or sniff intermittently, at least 3 times a day, each time not less than 1 minute. Replace the sachet medicine after one month when the scent disappears, and continue to use for 2 months). The control group did not receive any intervention measures. After the experiment, subjects filled out a questionnaire and an efficacy evaluation form. *Results*: Comparing the baseline data of the two groups, there was no statistical significance ($P > 0.05$). Comparing the symptoms of colds between the two groups, there was no significant difference in nasal congestion, rhinorrhea, and fatigue symptoms between the two groups ($P > 0.05$). However, the possibility of fever in the sachet group was much lower than that in the control group ($P < 0.05$). Comparing the immunoglobulins (IgA, IgM, and IgG) of the two groups before and after intervention, it was found that before the intervention, $P > 0.50$; after the intervention, the immunoglobulin levels of both groups increased, and the increase in the sachet group was much higher than that in the control group ($P < 0.05$). Comparing the occurrence of side effects in the two groups, it was found that the incidence of allergies in the sachet group was 4.00%. Due to allergies, two subjects withdrew from the study halfway ($P > 0.05$). *Conclusion*: In influenza, wearing traditional Chinese medicine sachets can effectively prevent colds and reduce the incidence of colds, but those who are allergic to sachets should use them with caution.

Keywords: Traditional Chinese medicine sachets; Influenza; Preventive effect

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1. Introduction

Influenza is an acute respiratory infectious disease caused by influenza viruses. It is a common disease in winter and spring, with high infectivity, and is one of the factors that induce other diseases. It seriously affects the quality of life of patients, causing symptoms such as fever, nasal congestion, and sore throat. Studies have shown [1] that most adults are not vaccinated against influenza, and anti-influenza drugs may pose serious risks of complications and drug resistance. In addition, the large-scale spread of influenza can cause social panic. Therefore, it is particularly important to find effective methods to prevent influenza to protect people's health. The fragrant sachet therapy is a treatment method derived from traditional Chinese medicine. The volatile scent of the medicine circulates through the body's qi and blood meridians, regulating the balance of yin and yang, and improving the body's resistance to disease. Studies have shown [2] that using anti-influenza sachets can prevent colds, enhance immune function, and have potential application value in preventing colds and healthcare. Although some studies have introduced the mechanism of traditional Chinese medicine sachets, supported by a certain history and some basic research, there is still a lack of systematic clinical research on their effectiveness in preventing influenza.

This project included 100 subjects for research, aiming to improve the immunity of susceptible populations, reduce the risk of infection, and provide a convenient, economical, and daily life-friendly preventive device, especially for elderly people, children with cerebral palsy, medical workers, and other groups with low resistance or long-term exposure to danger.

2. Materials and methods

2.1. General information

In a certain area, 100 subjects meeting the inclusion criteria were recruited based on population characteristics (age, occupation, gender). The 100 subjects were divided into a sachet group (50 cases) and a control group (50 cases). The sachet group was provided with traditional Chinese medicine sachets for epidemic prevention and infection resistance (recommended to carry with them or sniff intermittently, at least 3 times a day, each time not less than 1 minute. Replace the sachet medicine after one month when the scent disappears, and continue to use for 2 months). The control group did not receive any intervention measures. After the experiment, subjects filled out a questionnaire and an efficacy evaluation form. This study has been approved by the ethics committee, and there was no statistically significant difference in baseline data between the two groups.

2.2. Inclusion and exclusion criteria

Inclusion criteria: (1) Informed consent to participate in this research; (2) Individuals not wearing traditional Chinese medicine sachets; (3) For children or elderly, informed consent signed by a family member is required. Exclusion criteria: (1) Presence of other chronic respiratory diseases; (2) Comorbidity with hypertension; (3) History of allergy to traditional Chinese medicine; (4) Currently participating in other clinical trials; (5) Women who are breastfeeding, pregnant, or planning to conceive; (6) Accompanied by other malignancies; (7) Poor compliance; (8) Presence of mental health disorders.

2.3. Research methods

The control group did not receive any intervention measures, while the sachet group was provided with traditional Chinese medicine sachets for epidemic prevention and infection resistance. The sachets were

recommended to be carried or sniffed intermittently, at least 3 times a day, each time not less than 1 minute. The sachet medicine was replaced after one month when the scent disappeared, and continued to be used for 2 months. The efficacy of the traditional Chinese medicine sachets was analyzed using an efficacy evaluation form. During use, the sachets should be placed close to the nose and mouth. At home, they can be hung in the living space. Before bedtime, they can be placed beside the pillow, where the aromatic scent can soothe the mind and promote tranquility. Generally, it is recommended to place 2–3 sachets in an area of 10–20 square meters. When going out, the sachets can be worn on the chest, tied to the wrist, or hung in the car for easy sniffing. After one week of use, the sachets can be gently shaken or tapped to distribute the scent more evenly and intensely. The effective period of one sachet is approximately one month. After use, they can be boiled for bathing or soaking feet, which can help prevent heat rash, especially for children. It should be noted that pregnant women and patients with asthma should avoid using them. The general information questionnaire for subjects was designed by the researchers.

(1) General questionnaire: This includes basic information about the subjects (age, occupation, gender, etc.) and their subjective feelings (level of preference for traditional Chinese medicine sachets, perception of their preventative abilities, intention to continue using them, etc.). (2) Traditional Chinese Medicine Sachet Efficacy Evaluation Form: This assesses the physical condition of the subjects, records experimental data, determines the efficacy of the sachets, and derives relevant results based on comparing the two experimental groups and evaluating the immune status of the sachet group.

2.4. Observation indicators

The cold prevention effects, immunoglobulin levels before and after intervention, and any side effects of the traditional Chinese medicine sachets were observed in both groups.

2.5. Statistical methods

SPSS 26.0 software was used for statistical analysis of the data. Measurement data were expressed as mean ± standard deviation (SD) and analyzed using the *t*-test. Count data were expressed as percentages and analyzed using χ^2 test. $P < 0.05$ was considered statistically significant.

3. Results

3.1. Comparison of baseline data between the two groups

There was no statistically significant difference in baseline data between the two groups ($P > 0.05$). See **Table 1**.

Table 1. Comparison of baseline data between the two groups

Group	Number of cases	Average age (years)	Gender	
			Male	Female
Control group	50	48.23 ± 6.10	19	31
Sachet group	50	47.65 ± 7.04	23	27
χ^2/t		0.440	0.657	
P		0.661	0.418	

3.2. Comparison of cold symptoms between the two groups

Upon analyzing the tabular data in **Table 2** and comparing the occurrence of cold symptoms between the two groups of subjects, it was found that there was no significant difference in the symptoms of nasal congestion, rhinorrhea, and fatigue between the two groups ($P > 0.05$). However, the likelihood of fever occurrence in the sachet group was significantly lower than that in the control group ($P < 0.05$).

Table 2. Comparison of cold symptoms between the two groups

Group	Number of cases	Fever	Nasal obstruction	Runny nose	Fatigue
Control group	50	4	7	2	0
Sachet group	50	0	2	0	1
χ^2		4.167	3.053	2.041	1.010
P		0.041	0.081	0.153	0.315

3.3. Comparison of immunoglobulins before and after intervention between the two groups

Upon analyzing the tabular data in **Table 3** and comparing the immunoglobulins (IgA, IgM, and IgG) of the two groups of subjects before and after intervention, it was observed that before the intervention, there was no significant difference ($P > 0.50$). However, after the intervention, the immunoglobulin levels increased in both groups, with the sachet group showing a significantly higher increase compared to the control group ($P < 0.05$).

Table 3. Comparison of immunoglobulins before and after intervention between the two groups

Group	Number of cases	IgA		IgM		IgG	
		Before intervention	After intervention	Before intervention	After intervention	Before intervention	After intervention
Control group	50	2.51 ± 0.46	2.52 ± 0.78*	1.74 ± 0.95	1.74 ± 0.16*	10.54 ± 2.37	11.12 ± 3.12*
Sachet group	50	2.49 ± 0.52	2.61 ± 0.17*	1.75 ± 0.78	1.95 ± 0.23*	11.01 ± 2.79	14.39 ± 2.67*
t		0.204	1.709	0.058	4.543	0.908	5.631
P		0.839	0.028	0.954	0.000	0.366	0.000

Note: Compared with before treatment, *$P < 0.05$.

3.4. Occurrence of side effects in the two groups

Upon analyzing the tabular data in **Table 4** and comparing the occurrence of side effects between the two groups of subjects, it was found that the incidence of allergies in the sachet group was 4.00%. Due to the presence of allergies, two subjects withdrew from the study midway, with $P > 0.05$ indicating no statistically significant difference in the overall occurrence of side effects between the two groups.

Table 4. Occurrence of side effects in the two groups

Group	Number of cases	Allergy (cases)	Total incidence rate (%)
Control group	50	0	0.00
Sachet group	50	2	4.00
χ^2			
P			

4. Discussion

Influenza, known as "seasonal flu" in traditional Chinese medicine, is a prevalent disease. In recent years, global climate warming and changes in the disease spectrum have led to a year-by-year increase in the incidence of influenza [3]. In China, there is a close relationship between climate and influenza across regions. Studies have found that due to differences in climatic conditions, the peak periods of influenza also vary between the north and south. Temperature plays a significant role in the high incidence of influenza during winter and spring, while humidity has a greater impact on influenza in the south during summer and autumn [4]. Additionally, research has indicated that atmospheric pressure, pressure difference, wind speed, and rainfall also affect the occurrence of influenza. The influenza virus can undergo mutation, with significant antigenic variants emerging every 2–3 years for type A influenza. Influenza is seasonal, typically stopping after 3–4 weeks of circulation. Adolescents have the highest infection rate, while elderly and chronically ill individuals are at high risk of infection. After each influenza epidemic, people generally lack immunity.

Although anti-influenza drugs are effective, they can easily lead to drug resistance. The World Health Organization recommends influenza vaccination as the most effective method to prevent influenza, with a vaccine protection rate reaching 70% to 90% [5]. However, due to insufficient public awareness of influenza vaccines and factors such as vaccine safety, efficacy, supply capacity, and cost, the influenza vaccination rate remains low in China.

Traditional Chinese medicine has played a significant role in preventing and treating infectious diseases, and many people prefer its preventive methods. Current research indicates that using traditional Chinese medicine bagged tea can reduce the incidence and duration of influenza and alleviate symptoms such as fever, nasal congestion, rhinorrhea, and pharyngeal congestion [6]. Therefore, traditional Chinese medicine has a solid public foundation in preventing influenza. Sachets, as traditional Chinese accessories, feature a refreshing aroma, high safety, easy portability, and low cost, with a history of thousands of years in China. Wearing sachets is an external treatment method in traditional Chinese medicine. By grinding medicines and placing them in a cloth bag worn on the chest, waist, or in a close-fitting pocket, the medicinal aroma is absorbed through the nasal cavity, skin pores, and meridian acupoints. This method has the effects of regulating qi, dredging meridians, promoting smooth qi and blood circulation, balancing yin and yang, and harmonizing internal organs. It can enhance the body's resistance, prevent and treat certain diseases by removing dampness, clearing heat, detoxifying, and dispelling evil spirits [7].

In this study, comparing the symptoms of cold occurrence between the two groups of subjects revealed no significant difference in nasal congestion, rhinorrhea, and fatigue symptoms ($P > 0.05$). However, the possibility of fever occurrence in the sachet group was significantly lower than that in the control group ($P < 0.05$). This suggests that traditional Chinese medicine sachets can reduce the incidence of colds and have a certain preventive effect. Comparing the immunoglobulins (IgA, IgM, and IgG) before and after intervention between the two groups showed that before the intervention, there was no significant difference ($P > 0.50$). However, after the intervention, the immunoglobulin levels increased in both groups, with a significantly higher increase in the sachet group compared to the control group ($P < 0.05$). This indicates that wearing traditional Chinese medicine sachets can significantly increase immunoglobulin levels, thereby enhancing immunity and preventing colds. Regarding side effects, the incidence of allergies in the sachet group was 4.00%. Due to allergic reactions, two subjects withdrew from the study midway ($P > 0.05$). This suggests that wearing traditional Chinese medicine sachets may cause allergies in different populations, and immediate discontinuation should

be considered in case of adverse reactions.

Besides wearing sachets, other measures can also be taken to prevent influenza, such as frequent handwashing and ventilation, which are among the most basic and important preventive measures. Maintaining clean hands and indoor air circulation can effectively reduce the risk of virus transmission. Wearing masks and avoiding crowds can prevent the spread of viruses through respiratory droplets, and minimizing unnecessary gatherings is advisable. Adopting a balanced diet rich in seasonal fruits and vegetables, drinking sufficient water, and engaging in suitable physical activities like running, brisk walking, or swimming can also contribute to good health. Maintaining adequate sleep and a regular sleep schedule, avoiding smoking and excessive stress, and fostering a positive mood are essential for enhancing the body's resistance to viruses.

5. Conclusion

In summary, this study provides preliminary clinical evidence supporting the preventive effect of sachets on influenza, laying a foundation for future large-scale, high-quality clinical research. The findings of this study pave the way for further exploration of the effectiveness and safety of medicinal prevention methods against influenza.

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Disclosure statement

The authors declare no conflict of interest.

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