

The analysis of TCM clinical characteristics and symptom for 156 cases of patients with viral variation of Covid-19 in Xi 'an

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Abstract: This paper aims to provide foundation for TCM for the treatment of novel coronavirus variation, through research and analysis of Covid-19 patients with different types of clinical characteristics and symptom. Through the investigation of clinical TCM symptoms over 156 patients with Covid-19 in Xi'an city, their general data, common symptoms, tongue observations and pulse images are collected and statistically analyzed, and the diagnosis was classified according to relevant literatures and expert opinions, so as to analyze and compare the TCM characteristics and symptom. The distribution variance of common symptoms of patients of different degrees bears statistic significance ($p < 0.05$), while the distribution of tongue observation, pulse images and TCM syndrome types in patients of different degrees are different. the pathogenesis of this novel coronal variant pneumonia is characterized by toxin, dryness, dampness, cold, deficiency and heat. Through comparative analysis of the distribution of clinical characteristics of patients with different degrees, it is found that with the increase of age, the more serious the symptom is, the higher the infection rate of the mutant virus.

Keywords: Novel coronavirus pneumonia; Mutant virus; Traditional Chinese medicine (TMC); Syndrome and characteristics of traditional Chinese Medicine

1. Introduction

The coronavirus disease 2019, COVID-19 broke in China's central city, Wuhan, the capital of Hubei province since December, 2019, then the global campaign against the virus commenced [1]. As the sixth public health emergency of international concern, the Covid-19 severely threatens the health of global people due to its high infectivity and fast transmission spread, thus the virus attracts much attention [2]. It has been two years since the outbreak of Covid-19, yet it is still wreaking havoc in the whole globe. In December, 2021, the epidemic struck in Xi'an, Shaanxi province of China, the country where the pandemic was relatively well controlled. It is reported that the source of the epidemic is mainly caused by Delta virus, a new variant of the Covid-19, which was first identified in India in December, 2020. And the virus possesses the features of stronger infectivity and shorter incubation period [3]. Though having taken the measures of vaccination as well as pandemic restrictions, the infectious rate of the virus is still rising and the infectivity of the mutant virus is continuing to increase [4].

Research has shown that traditional Chinese medicine (TCM) plays an important role in the treatment of the Covid-19, and relevant literature has conducted analysis of its clinical characteristics, providing clinical basis for the optimization of TCM treatment plan [5-8]. Yet due to the different geographical location, the clinical characteristics of patients may also be different, coupled with the rapid developing and fast spreading of the mutated virus, the prevention and treatment of the virus is urgent. There are few studies on the prevention and treatment of this mutated virus in TCM, this study is conducted to analyze the clinical characteristics of Covid-19 patients (mutation virus) in Xi'an by means of clinical investigation and research, to provide clinical foundation for the further treatment of the virus through medical methods, and offer reference for the TCM treatment of Delta (mutation) strain.

2. Materials and methods

2.1. Data source of cases

The clinical data of 156 patients with covid-19 diagnosed in Xi'an People's Hospital from December 2021 to January 2022 were collected.

2.2. Diagnostic criteria

The clinical types are divided into the mild, standard, severe and critical, with reference to the diagnostic criteria and clinical typing in The diagnosis and treatment plan for Covid-19 pneumonia (trial version 8) jointly issued by the general office of the National Health Commission and the office of the State Administration of Traditional Chinese Medicine, combining with the actual situation.

2.3. Inclusion and exclusion criteria

Patients, who are included in the diagnostic criteria of Covid-19, voluntarily signed the informed consent form, with the exclusion of severe cognitive impairment or mental disorders.

2.4. Design of the survey form

Based on the trial sixth to eighth trial editions of The diagnosis and treatment plan for Covid-19 pneumonia issued by the general office of the National Health Commission of China and the office of the State Administration of traditional Chinese medicine, and in combination with the previous literature on the clinical characteristics of Covid-19, the clinical questionnaire was developed, including contents of basic information of patients and some clinical symptoms, in which clinical symptoms, tongue and pulse conditions are open-ended design, for relevant information supplementing appropriately according to the actual situation of patients.

2.5. Investigation method

The investigation crew consists of doctors with associate chief and above title. In view of the particularity and clinical operability of Covid-19, the investigators were trained on the investigation methods and contents before investigating. The investigators went into the isolation ward at the first time to collect the clinical information of four ways diagnoses of TCM including look, listen, question and feel the pulse of the confirmed cases. And the basic data of patients should be collected within 24 hours after their admitting, then the investigators logged in to the information platform and filled the information in time. While the patient information was collected and filled in detail by the deputy chief physician and with above title. The collected content includes the basic information of the patient, the main symptoms during the onset (including systemic symptom, respiratory symptom, gastrointestinal symptom), the tongue and pulse images of the patient. The disease type of each patient is finally diagnosed through discussion.

2.6. Statistics method

Applying SPSS 22.0 statistical software, while the measurement data conforming to the normal distribution, it is expressed by the mean \pm standard deviation ($\bar{x} \pm s$), otherwise it is described by the median (interquartile spacing); The counting data is expressed in frequency (%); The qualitative data are described by relative numbers, and the comparison between groups is conducted by χ^2 test or Fisher, exact probability method. The condition of $P < 0.05$ bears statistical significance.

3. Result

3.1. General information of patients

A total of 156 confirmed cases were included. Due to the small number of severe and critical patients in this survey, the critical and severe were unified as severe analyzing. Among these patients, 67 (42.95%) were mild, 74 (47.44%) were standard, and 15 (9.62%) were severe; While the median age was 36.5 (the youngest age 19, the oldest 57) years old, 87 (55.77%) were ≤ 45 years old, 34 (21.79%) were 45-60

years old, and 35 (22.44%) were ≥ 60 years old. The distribution of different age groups in patients with different types is shown in Table 1, of which the difference of different types in age groups was statistically significant ($P < 0.05$); There are 80 people had abnormal tongue and pulse images, including 11 (16.42%) of 67 light cases, 54 (72.97%) of 74 standard cases, and all (100%) of 15 heavy cases.

Table 1: Distribution of patients of different age and type

Age group (years)	Mild(n=67) Number(%)	Standard (n=74) Number(%)	Severe(n=15) Number (%)	Total (n=156) Number(%)	P
≤ 45	6(9.25)	24(32.43)	1(6.67)	87(55.77)	>0.001
45-60	1(1.49)	29(39.19)	4(26.67)	34(21.79)	
≥ 60	4(5.97)	21(28.38)	10(66.67)	35(22.44)	

3.2. Distribution of common symptom

As shown in Table 2, the main symptoms are fever and respiratory symptoms, and the gastrointestinal symptoms are not very obvious. The main symptoms include cough (percentage > 20%), fever, fatigue, poor appetite, dry mouth, insomnia, dry throat, sore throat, shortness of breath, chest tightness, expectoration, and nasal congestion.

Table 2: Distribution of common symptoms of 156 patients with COVID-19 in Xi'an

symptom	number(n=156)	percentage(%)	symptom	number(n=156)	percentage(%)
cough	112	71.79	aversion to cold	24	15.38
fever	73	46.79	Muscle pain	21	13.46
fatigue	57	36.54	headache	20	12.82
poor appetite	46	29.49	dizziness	20	12.82
dry mouth	40	25.64	Shortness of breath	19	12.18
insomnia	39	25.00	Abdominal distension	19	12.18
dry mouth	37	23.72	Sweat	15	9.62
sore throat	35	22.44	nausea	14	8.97
Shortness of breath	33	21.15	cold limbs	9	5.77
chest tightness	32	20.51	vomit	9	5.77
expectoration	32	20.51	Loose stool	9	5.77
nasal congestion	32	20.51	diarrhea	7	4.49
runny nose	29	18.59	Joint pain	6	3.85
bitter mouth	29	18.59	abdominal pain	5	3.21
constipation	25	16.03			

3.3. Tongue image distribution

As shown in Table 3, the tongue image of patients is mainly red and light; The tongue coating is mainly greasy, white and yellow.

Table 3: Tongue image distribution of 156 patients with Covid-19 in Xi'an

tongue	number	Percentage	tongue coating	number	Percentage
red tongue	31	19.87	greasy coating	40	25.64
Pale tongue	19	12.18	white coating	38	24.36
Dark tongue	11	7.05	yellow coating	31	19.87
Tongue is dark red	6	3.85	thin coating	15	9.62
Tongue is light red	4	2.56	thick coating	9	5.77
Tongue is purple and dark	3	1.92	less coating	4	2.56
Fat tongue	2	1.28	Dried moss	3	1.92
Dullness of tongue	1	0.64	dry tongue fur	3	1.92

3.4. Pulse distribution

As shown in Table 4, the pulse image of the patients mainly includes string smooth pulse, fine smooth pulse, smooth pulse, fine pulse and moist fine pulse.

Table 4: Symptom distribution of patients with different degrees of Covid-19

pulse condition	Number(n=156)	Percentage(%)	pulse condition	Number(n=156)	Percentage(%)
Chordal smooth pulse	18	11.54	floating pulse	2	1.28
Thin slippery pulse	9	5.77	Soak up the pulse	2	1.28
Slippery pulse	9	5.77	Chordal pulse	1	0.64
Veinlet	7	4.49	Floating weak pulse	1	0.64
Moisten the fine pulse	6	3.85	Flat pulse	1	0.64
Sink slippery pulse	3	1.92	Floating number pulse	1	0.64
Fine pulse	3	1.92	Weak pulse	1	0.64
Moisten the pulse	3	1.92	Fine slow pulse	1	0.64
Pulse counting	3	1.92	Vein left sliding, right fine sliding	1	0.64
thin string pulse	2	1.28	The pulse is fine on the left and string on the right	1	0.64
Floating pulse	2	1.28	The vein is fine and smooth on the left and sink and slide on the right	1	0.64
Slippery pulse	2	1.28			

3.5. Distribution of common symptoms of patients with different degree

Table 5: Distribution of common symptoms in patients with different degrees

Symptom	Mild(n=67)		Ordinary (n=74)		Severe (n=15)		P value
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage(%)	
fever	24	35.82	36	48.65	13	86.67	0.002
Aversion to cold	0	0.00	15	20.27	9	60.00	<0.001
fatigue	13	19.40	29	39.19	15	100	<0.001
headache	4	5.97	11	14.86	5	33.33	0.013
dizziness	0	0.00	10	13.51	10	66.67	<0.001
muscle pain	5	7.46	11	14.86	5	33.33	0.026
joint pain	1	1.49	2	2.70	3	20.00	0.017F
sweat out	1	1.49	8	10.81	6	40.00	<0.001
Cold limbs	0	0.00	4	5.41	5	33.33	<0.001F
chest tightness	4	5.97	18	24.32	10	66.67	<0.001
Short of breath	1	1.49	7	9.46	11	73.33	<0.001
Short of breath	1	1.49	20	27.03	12	80.00	<0.001
cough	41	61.79	56	75.68	15	100.00	0.006
expectoration	20	29.85	43	58.11	15	100.00	<0.001
stuffy nose	20	29.85	10	13.51	2	13.33	0.42
runny nose	19	28.36	9	12.16	1	6.67	0.23
dry throat	5	7.46	18	24.32	14	93.33	<0.001
sore throat	15	22.39	14	18.92	6	40.00	0.203
nausea	0	0.00	6	8.11	8	53.33	<0.001
vomit	0	0.00	2	2.70	7	46.67	<0.001F
abdominal distention	0	0.00	19	25.68	10	60.00	<0.001
abdominal pain	0	0.00	2	2.70	3	20.00	<0.001
diarrhea	0	0.00	5	6.72	2	13.33	0.21F
constipation	0	0.00	15	20.27	10	66.67	<0.001
loose stool	0	0.00	6	8.11	3	20.00	0.003F
anorexia	4	5.97	28	37.84	14	93.33	<0.001
dry mouth	4	5.97	26	35.14	10	66.67	<0.001
insomnia	1	1.49	25	33.78	13	86.67	<0.001
bitter mouth	1	1.49	19	25.68	9	60.00	<0.001

Note: F stands for Fisher exact probability method

As shown in Table 5, Among mild patients, the main respiratory symptoms are cough, fever, expectoration, nasal congestion, runny nose, sore throat and others, while the digestive tract symptoms mainly including dizziness, limb coldness, nausea, vomiting, abdominal distension, abdominal pain, diarrhea, constipation, loose stools did not appear in any cases; Among standard patients, cough, expectoration, fever, fatigue, poor appetite, dry mouth, insomnia, shortness of breath, bitter mouth, chest tightness, dry throat, cold aversion and constipation are the main symptoms. In comparison, the proportion of gastrointestinal symptoms has increased on the premise that the proportion of respiratory symptoms remains unchanged; Among the 15 severe patients, all the symptoms of cough, expectoration and fatigue appeared, and the proportion of other symptoms are increased compared with the other two degrees, such as dry throat, anorexia, fever, insomnia, shortness of breath, shortness of breath, dizziness, chest tightness, constipation, dry mouth, etc. Meanwhile, comparing the differences of different symptoms in patients with different degrees, there is no significant difference only in nasal congestion,

runny nose and diarrhea ($P > 0.05$)

As shown in Table 6, in mild patients, the tongue texture is mainly light, and the tongue coating is mainly greasy, white and thin, and in these 67 patients, whose tongue did not appear in dark red, dim and dark purple, and tongue coating with no symptoms of less tongue coating, dry and arid. In standard patients, the tongue is mainly red, light and dark, and the tongue coating is mainly white, greasy and yellow. In severe patients, the tongue is mainly red, and the tongue coating is mainly yellow and greasy.

Table 6: Distribution of tongue image in patients with different degrees

Tongue proper	Mild(n=67) Number(%)	Ordinary (n=74) Number (%)	Severe(n=15) Number(%)	Tongue coating	Mild(n=67) Number(%)	Ordinary (n=74) Number(%)	Severe(n=15) Number (%)
Pale tongue	7(10.45)	11(14.86)	1(6.67)	greasy coating	6(9)	27(36.49)	7(46.67)
Tongue is light red	0(0)	3(4.05)	1(6.67)	white coating	6(9)	31(41.89)	1(6.67)
Red tongue	1(1.49)	21(28.38)	9(60)	thin coating	5(7.46)	9(12.16)	1(6.67)
Dark tongue	1(1.49)	9(12.16)	1(6.67)	yellow coating	1(1.49)	18(24.32)	12(80)
Tongue is dark red	0(0)	3(4.05)	3(20)	thick coating	1(1.49)	6(8.11)	2(13.33)
Dullness of tongue	0(0)	1(1.35)	0(0)	less coating	0(0)	2(2.70)	2(13.33)
Tongue is purple and dark	0(0)	3(4.05)	0(0)	dried moss	0(0)	2(2.70)	1(6.67)
Fat tongue	0(0)	2(2.70)	0(0)	moss dryness	0(0)	1(1.35)	2(13.33)

3.6. Pulse image distribution of patients with different degrees

As shown in Table 7, the pulse conditions of mild patients are mainly fine veins and stringed smooth veins; The pulse of standard patients mainly includes string smooth pulse, smooth pulse, fine smooth pulse and moistening fine pulse; The pulse image of severe patients is mainly stringed smooth pulse and fine smooth pulse.

Table 7: Pulse image distribution of patients with different degrees of COVID-19

Pulse condition	Mild(n=67) Number(%)	Ordinary(n=74) Number(%)	Severe(n=15) Number(%)	Pulse condition	Mild(n=67) Number(%)	Ordinary(n=74) Number(%)	Severe(n=15) Number(%)
Chordal smooth pulse	2(2.98)	10(13.51)	6(40)	Floating pulse	0(0)	2(2.70)	0(0)
thin slippery pulse	1(1.49)	5(6.76)	3(20)	Soak up the pulse	0(0)	2(2.70)	0(0)
Slippery pulse	1(1.49)	7(9.46)	1(6.67)	Chordal pulse	0(0)	1(1.35)	0(0)
thin pulse	3(4.48)	4(5.41)	0(0)	Floating weak pulse	0(0)	1(1.35)	0(0)
Lmmersion pulse	1(1.49)	5(6.76)	0(0)	Flat pulse	0(0)	1(1.35)	0(0)
Fine pulse	1(1.49)	2(2.70)	0(0)	Floating number pulse	0(0)	1(1.35)	0(0)
Sink slippery pulse	0(0)	3(4.05)	0(0)	Weak pulse	1(1.49)	0(0)	0(0)
Moisten the pulse	0(0)	3(4.05)	0(0)	Fine slow pulse	1(1.49)	0(0)	0(0)
Pulse counting	0(0)	3(4.05)	0(0)	Pulse left sliding, right fine sliding	0(0)	0(0)	1(6.67)
Thin string pulse	0(0)	1(1.35)	1(6.67)	Pulse left fine sliding, right chord sliding	0(0)	0(0)	1(6.67)
Floating pulse	0(0)	1(1.35)	1(6.67)	Pulse left fine sliding, right sinking sliding	0(0)	1(1.35)	0(0)
Slippery pulse	0(0)	1(1.35)	1(6.67)				

3.7. Main TCM symptoms of patients

According to the syndrome differentiation standard of traditional Chinese medicine, the classification of patients' syndrome types is proposed. There are mainly four syndrome types, as patients' degree classification changes, the distribution of syndrome types cannot be marked, while there is situation with syndromes coexisted. The syndrome types mainly include cold dampness stagnation of lung syndrome in 53 cases (34%), dampness toxin lung stagnation syndrome in 57 cases (36.54%), lung spleen qi deficiency syndrome in 6 cases (3.85%), and epidemic toxin closed lung syndrome in 10 cases (6.41%).

3.8. Distribution of TCM Syndrome Types in patients with Covid-19 of different degrees

The common symptoms of mild patients are cough, fever, expectoration, stuffy nose, runny nose, sore throat and fatigue, light tongue, white and greasy fur, thin pulse and slippery string, and the TCM syndrome type is cold dampness stagnant lung syndrome. The common symptoms of standard patients are cough, expectoration, fever, fatigue, poor appetite, dry mouth, insomnia, shortness of breath, bitter mouth, chest tightness, dry throat, aversion to cold, constipation, red, light and dark tongue, white, greasy and yellow tongue. The pulse mainly includes string slip and slip, and the TCM syndrome types are coexisted with damp toxin stagnation of the lung and vitality deficiency lung and spleen. The common symptoms of severe patients are increased, including symptoms that the tongue is mainly red, tongue coating is mainly yellow and greasy, the pulse is mainly string slippery and fine slippery, and the TCM syndrome types are coexisted with cold dampness stagnation of the lung, dampness stagnation of the lung, vitality deficiency of lung and spleen, and epidemic toxin closure of the lung.

4. Discussion

AS The Inner Classic of Emperors records that "while the five plagues, including cold epidemic, plague, epidemic throat, epidemic diarrhea, epidemic malaria, break out, it is easy to get infected among people, no matter young or old, the symptoms of them are always similar" [9], The TCM has been making great contribution to the health preserving of the Chinese nation for thousands of years. The plague in TCM refers the disease that is highly infectious and spreading among people. The Covid-19 has been rampant in the world since its beginning in December, 2019. According to the analysis of relevant experts, the novel coronavirus pneumonia falls into the range of plague in TCM, thus the TCM plays an important role in preventing, controlling and treating of the pandemic [10-11]. At present, the scholar circles, combing TCM, has launched great deals of discussion about the virus, in which it also included research targeting to the variant virus [4]. Due to the difference of the etiology, pathology and syndrome type distribution of patients in different provinces [12], and the transmission speed and viral load of the epidemic are also varied, so delivering such a analysis of the clinical characteristics of TCM for the Covid-19 is of great significance. This study is conducted to the analysis of clinical characteristics of 156 patients with mild, standard and severe variant Covid-19 in Xi'an, with the discussion of how to deal with the variant virus under the guidance of TCM, aiming to provide reference for the prevention and treatment of this variant virus in TCM.

According to the age division standard of the World Health Organization of the United Nations, 87 young patients (≤ 45 years old), 34 middle-aged patients (45-60 years old) and 35 elderly patients (≥ 60 years old) are studied in this study, including 67 mild patients, 92.54% are young and 5.97% elderly patients; There are 15 severe patients, 6.67% of whom are young and 66.67% are elderly. It can be seen that the infected population is mainly young people, and most of the mild patients are young people, while the severe patients are mainly old. The distribution proportion of patients of different ages is different, which may be closely related to social phenomena and age physique. The young are energetic, with rich life contents, and they linger in different wider place, so the infection rate is also increasing, yet they are also of strong physique and immunity, the speed of reducing into severe patients is also declined. In contrast, the elderly lead a stable life and a relatively fixed life circle, but their physical functions have all decreased, though their infectious number is small, while the antiviral ability is decreased, so the virus infection is accelerated, that is the reason why the severe cases are the old. Facing the mutated virus with increased infectivity, the transmission route should be limited, and the prevention and control should focus on the elderly principle the United Nations proposed that independence, participation, care, self enrichment and dignity are referred.

From the clinical manifestations of TCM, the common symptoms of patients are mainly respiratory symptoms, such as cough, fever, fatigue, anorexia, dry mouth, etc. the distribution of these common

symptoms conforms to the basic characteristics of the diagnostic criteria in the diagnosis and treatment plan for novel coronavirus pneumonia (trial version 8) [13]. In this study, the changes of tongue quality were mainly red and light; The tongue coating is mainly greasy, white and yellow; The pulse is mainly composed of fine veins, string smooth veins and fine smooth veins. The Xie (virus) comes from mouth and nose, and it mainly invades the lungs when the pandemic broke, while external virus invades, as it is wrote in TCM, Yang qi hides in human's body, yet the Han qi accumulating on body's surface, thus people's health is damaged, forming a trending that sputum connects each other, once the sputum is formed, then body got the chance of feeling vomiting, feebling as well as asthenia. "The reason for getting ill in winter is not the winter's sake, while the disease is still called the winter's virus." It means that when the coldness hits the body, asthenia of qi and blood, and pulse disorder. The symptoms then appear including cough, fever, red tongue, greasy tongue coating. The Xi'an, west-east of China, is back to Qinling Mountains, and it rarely rains and is cold in winter, with abnormal climate. The coldness and warmness changes alternatively, thus resulting in the virus spreading. In the research, the obvious Pathogenesis of TCM clinical characteristics mainly shows the alternate changing of coldness and warmness, contributing the virus invading to the lung, then the body gets damaged, curbing the normal moderation of body's temperature, the yang qi asthenia, the internal closing and the outer weakening; The Pathogenesis features mainly are viral, dry, damp, cold, weak and hot, which conforms to the features of damp cold disease of TCM^[14-15]. The syndrome types mainly include cold dampness stagnation of lung syndrome in 53 cases (34%), dampness toxin lung stagnation syndrome in 57 cases (36.54%), lung spleen qi deficiency syndrome in 6 cases (3.85%), and epidemic toxin closed lung syndrome in 10 cases (6.41%), and the core pathogenesis has not changed significantly compared with before. The proportion of those clinical symptoms including cough, poor appetite, dry mouth in Xi'an is increased significantly compared with that of Henan and Guangdong province^[16-17], mainly on the account of cold winter (Xie) in Xi'an.

The study made a comparison of patients of Covid-19 with different degrees, among those the mild population is the largest, which is directly related to the mutant virus strain. The conversion rate between patients with different subtypes is slightly lower than that of patients originally in Wuhan^[18-19], it shows that the toxicity of the mutant virus is weakened. Mild patients mainly have respiratory symptoms, and the disease is located in the lung, which is related to the spleen and stomach. TCM notes that the lung and the large intestine are acted as a whole, and entrails and viscera, organs inside human body, are connected, once the virus infected the lung, it is prone to attacking other organs. The clinical symptoms of mild patients are mainly fever, cough, etc., which are extremely similar to the cold symptoms caused by the cold and dryness in winter in Xi'an, with the virus lurking, it has brought troubles for the diagnose of infected patients, thus the infectious rate of the variant virus is aggravating. Comparing with the mild patients, the standard patients emerged the proportion, on the premise that the proportion of respiratory symptoms remains the same, of the gastrointestinal symptoms is increasing, for the reason of connected lung and stomach, causing phlegm dampness, cough and asthma, then the symptoms of cough, expectoration, fever are inevitably increasing. Reducing into the severe patients, the symptoms are more deepening. The transmission rate of the virus varies with different degrees of patients. The research has shown that the infectivity of patients infected with the mutated virus increases during the onset period^[20-21]. Previously, the blocking of the main transmission route of the virus is the main method to contain the virus transmission, yet the latest research shows that the survival time and transmission route of the mutated virus have exceeded the scope of people's cognition^[22]. The TCM theory emphasizes that nose is the vent of lung to the outwards, while the health of lung mainly determines people's hair and skin condition, in combination of the virus features, the method of "prevent the virus (Xie), protect the lung, mediate tendons and veins, while maintaining body vitality so to control transmission" should also be strictly implemented in dealing with the mutant virus.

5. Conclusion

In conclusion, the main cause for the outbreak of the variant virus of the Covid-19 is people's getting infected to the Xie, and the lung and spleen play an important role in the process. According the analysis this study conduct of the the clinical characteristics of TCM, while facing the mutated virus with acute onset, rapid change and strong infectivity, people should adhere to the rules of the activity range and immunity level of young people and the elderly to strictly implement the requirements of epidemic prevention and control, strengthening the screening of patients who are asymptomatic or with no obvious signs in the diagnostic criteria. Comprehending the the TCM syndrome, pathogenesis, location and other features of the pandemic plays an important role for the TCM prevention and treatment of the virus and the mutated virus that may occur in the future, and provides a basis for the development of TCM virus treatment in the future.

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