

Retrospective analysis on Mass Drug Administration of Deng's Herbal Tea Granula preventing from Novel Coronavirus Pneumonia (COVID-19)

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Abstract

As the kinetics of novel coronavirus pneumonia (COVID-19) outbreak still going all over the world and we can't predict when it'll make that turnaround and start coming down, seeking ways to prevent and control this disease is particularly important. Here we describe the role of traditional Chinese medicine in preventing COVID-19. In this clinical observation study, we selected 65 people who came back from Hubei province as subjects and launched a mass drug administration with them. We collected the data of the days from Hubei, non-symptoms rate, temperature before and after administration of these people. We treated them by isolating for 14 days and taking Deng's Herbal Tea Granula once a day for seven days. Then we assessed the possible efficacy of Deng's Herbal Tea Granula on COVID-19. Enrolled people had an average age of 27 years old (3–66 years old), among which 34 (53.97%) were females, with a median temperature of 36.4°C (36.1–36.8°C). The median of the days from Hubei was 16 days (10–27 days). None of them presents any abnormal clinical manifestation. Isolation is the most effective way to defend and control COVID-19, but accompanied by the treatment of Deng's Herbal Tea Granula may increase the power of prevention. Not only this plant solid beverage which made of Chinese medicine can keep the temperature of all the suspected people at a healthy and stable level, but also is suitable for a large group of ages.

1. Introduction

In December 2019, unexplained pneumonia happened in Wuhan, China, and then outbreak within a month. The real-time data came from the globe showed that 520726 patients who have been diagnosed definitely as COVID-19 in the world, with 24206 deaths as of 28-March-2020[1]. There was no proven, safe and effective, direct therapy for COVID-19, but have several clinical trials. Chen et al.[2]suggested that mesenchymal stem cell treatment may be a hint for the treatment of COVID-19. Deng et al. [3] indicated that Arbidol combines with LPV/r might benefit from decreasing the viral load of the COVID-19 patients.

Droplets and contacts were the main force to transmit COVID-19 [4]. An invited commentary[5]evaluated that recurrent novel pandemics is our new global reality. The ability to control local transmission depended on prevention, control, patient isolation, and contact tracing. The separation was the most effective way to intervene in the rapid spread of COVID-19, and early prevention and treatment were also necessary for interrupting the transmission of this disease.

As we all know, clinical manifestation and epidemic evolution of this virus are very similar to SARS. In 2003, Professor Tie Tao Deng advocated the theory of "preventive treatment of disease" and then discovered a traditional Chinese medicine to prevent SARS when SARS was rushing. Deng's Herbal Tea Granula, the plant solid beverage made of Chinese medicine, was modified based on original prescription to prevent SARS. Recent clinical data reported that traditional Chinese medicine plays a vital role in COVID-19, and its effects of prevention and control are apparent[6].

People who came back from Hubei province or touched with those who had been to Hubei province had a considerable probability of carrying the novel coronavirus even if they didn't present any clinical manifestations. Our research screened 65 people who came back from Hubei province to Guangdong province as suspected persons who may carry the virus. All suspected people had been isolated for 14 days and treated by Deng's Herbal Tea Granula once a day for 7 days. Through observing the data of clinical manifestation and temperature of them, we aim to determine whether Deng's Herbal Tea Granula has a preventive effect on COVID-19 or not.

2. Methods

2.1. Study site

Wanjiang community located at Liuhuang town of Fengshun county in the Meizhou city of Guangdong province, which covers an area of 4.8 km² and has a population of 11083 people. The northern latitude is 23°55'6.23", and the eastern longitude is 116°27'55.86"(Fig. 1). The average annual temperature of Wanjiang community is 21.3°C, the yearly rainfall is about 1622, and belongs to a subtropical monsoon climate.

2.2. Study design

Sixty-five people who came back from Hubei province to Guangdong province were selected as sample size and conducted at the study site. All of them were required to have the ability of oral drugs and have no history of an allergic reaction to Chinese medicine decoction. Children should accompany their guardians. 1–2 samples lost should be avoided.

2.3. Medicine and administration

Deng's Herbal Tea Granula, a plant solid beverage, containing honeysuckle, chrysanthemum, cogongrass rhizome, folium mori, dandelion, licorice, 5 g per sachet, were administered at least 5 g once a day for adults and children over 12 for seven days. Children under 12 should take half of the adults. Deng's Herbal Tea Granula purchase from Guangzhou University of Chinese Medicine Technology Industrial Park Co., Ltd(China).

2.4. Clinical observation

Check their bodies whether they had the clinical manifestation of COVID-19, including dry cough, dizziness, diarrhea, rhinorrhea every day, and the temperature before administration and after administration.

2.5. Statistical analysis

We summarized continuous variables as medians with interquartile ranges. For categorical variables, we calculated the percentages of subjects in each category. All studies deal with SPSS software, version 23.0. $P < 0.05$ has a significant difference.

3. Results

3.1. Baseline characteristics

Among 65 people, 3 to 66 years old of age, screened by whether they had been to Hubei province. People who came back from Hubei were suspected to be the viral carriers. One (1.59%) person took three days to return to Guangzhou, sixty-two (98.41%) persons took one day for returning, the other two persons failed to follow. And in the end, sixty-three patients were included in this study (Fig. 2).

The baseline characteristics of the human samples showed in Table 1. People (n = 63) had a median age of 27 years old (3–66 years old), among which 34 (53.97%) were females, with a median temperature of 36.4°C (36.1–36.8°C). The median of the days from Hubei was 16 days (10–27 days).

Table 1
The baseline data of the enrolled participants.

Variable	Enrolled persons(N = 63)
Age in years, median	27(3–66)
Female, %	34(53.97%)
Days for returning, median, d	1(1–3)
Days from Hubei, median, d	16(10–27)
The temperature at enrollment, median, °C	36.4(36.1–36.8)

3.2. Days from Hubei

Before isolation and Deng's Herbal Tea Granula treatment, none of the samples presented any clinical manifestations, but couldn't rule out all of them in the incubation period. The days away from Hubei before joining our group (hereinafter referred to as "Days from Hubei"), which concentrated on 10–20 days (Fig. 3) (P = 0.0419).

3.3. Non-symptoms rate

After treatment, no samples showed any symptoms such as dry cough, feeble, dizziness, diarrhea and rhinorrhea, the chance of non-symptoms was 100% (Table 2).

Table 2

Efficacy outcomes and adequate clinical and non-symptoms rate of Deng's Herbal Tea Granula treatment among the enrolled participants.

Variable	Enrolled persons(N = 65)
Excluded(%)	0.03
Lost of follow-up (%)	0.03
Rate of non-symptoms(%)	100%
Dry cough	0
Feeble	0
Dizziness	0
Diarrhea	0
Rhinorrhea	0
Temperature after treatment, median, °C	36.4(36.2–36.7)

3.4. Temperature

The median of the heat after administration was 36.4°C(36.2–36.7°C) (Table 2). The comparison between "before administration" and "after administration" was shown in Fig. 3b.

3.5. Ages for Deng's Herbal Tea Granula

Deng's Herbal Tea Granula is suitable for a large group of ages, from 3 years old to 66 years old(Fig. 5).

Data on Non-symptom rate and temperature after administration indicated that no one presented any symptoms and the body heat kept at a stable and standard level. Deng's Herbal Tea Granula can help the persons who suspected to be the viral carriers go through the incubation period safely and suitable for a large group of ages.

4. Discussion

In our present study, we investigated whether Deng's Herbal Tea Granula has a potentially preventive effect on COVID-19. To clarify the impact of Deng's Herbal Tea Granula on COVID-19, we analyzed some factors that were related to this disease, then performed clinical observation of suspected persons and detected their temperature. Collectively, our results demonstrate that Deng's Herbal Tea Granula has a preventive effect on COVID-19 and is suitable for a large group of ages.

With this disease, in some respects similar to influenza, but it spreads very quickly, you can even spread it when you're not symptomatic, and this virus proved to spread by droplets and even by aerosol. Coughing and sneezing can produce aerosol which would hang around the environment for a bit. When you stay

under the same roof with someone who had already infected COVID-19, you may inhale the aerosol into your body without any consciousness. Hubei province was the origin of COVID-19 in China, so people who had ever been to here should suspect as viral carriers. Yang et al.[7]showed that a total of 85 patients have Hubei travel/residence history and 49 have contact with people from Hubei in 149 RT-PCR confirmed positive subjects in Wenzhou city. Panzhai et al.[8]summed some different cases of the incubation period, such as 5.2 days, 12.5 days, 6.4 days and 19 days. Due to the long incubation period of COVID-19, we must hold highly skeptical of the people who just returned from Hubei province. We selected 65 people who came back from Hubei province as subjects of this study. There was a significant difference of days from Hubei among these people ($P = 0.0419$). Fever, dry cough, dizziness, diarrhea and rhinorrhea are primary responses of COVID-19, so temperature and presence of clinical signs were chosen for observation indexes of this study. From the outcomes, the median of temperature before administration was 36.4°C ($36.1-36.8^{\circ}\text{C}$), the midpoint of body heat after administration was 36.4 ($36.2-36.7^{\circ}\text{C}$), none presented any clinical signs. Our results implied that Deng's Herbal Tea Granula could help the suspected people to maintain healthily and go through the incubation period safely.

COVID-19 belongs to a borne respiratory illness, which has a high degree of morbidity and mortality and can spread quickly from person to person. S.H. Ebrahim et al.[9]suggested that mass gatherings were related to the continued transmission of this novel pathogen, cancellation and suspension of the mass gathering was critical to it. The containment via case isolation alone is not enough[10], so the medical countermeasures seem to be available in the early phase. Considering the possible toxic and side effects on other anti-viral drugs, Deng's Herbal Tea Granula expected to be an excellent choice to be this medical countermeasure.

Chinese medicine emphasis on "Prevent disease before its occurrence", which can help us to regulate the body condition, improve immunity and resist the virus. COVID-19 belongs to the category of "plague" in Chinese medicine. Run Feng L et al.[11]showed that traditional Chinese medicine could inhibit the virus replication and protect against the virus attack. Deng's Herbal Tea Granula was made of Chinese medicine, consisted of 6 herbs which played the role of heat-clearing and detoxification can contribute to intervene in this disease to occur.

There are also some limitations to our study. On the one hand, we examined only 65 patients, and our results can only represent preliminary exploratory observations. On the other hand, we investigated only the community, and the range was a little bit limited. Also, some clinical, biochemical indexes needed to be detected, which may make the results more convincing.

Our finding supports the premise that traditional Chinese medicine plays an essential role in COVID-19, and Deng's Herbal Tea Granula used for preventing this disease. Our study raises the possibility that traditional Chinese medicine can prevent and cure this disease. We used a new type of Chinese medicine for COVID-19, which tasted better than standard Chinese medicine decoction. Based on this preliminary observation, we plan to explore the mechanism of Deng's Herbal Tea Granula on COVID-19 in further research.

5. Conclusion

Isolation is the most effective way to defend and control COVID-19, but accompanied by the treatment of Deng's Herbal Tea Granula may increase the power of prevention. Not only this plant solid beverage which made of Chinese medicine can keep the temperature of all the suspected people at a healthy and stable level, but also is suitable for a large group of ages. Deng's Herbal Tea Granula maybe the first choice for someone who wants to self-medicate and protect against COVID-19. Taking this plant beverage frequently during this outbreak can help us to improve the condition of our bodies, like increasing the ability of anti-viral and anti-infection.

Declarations

Competing Interests

The authors declare no competing interests.

Acknowledgments

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Figures

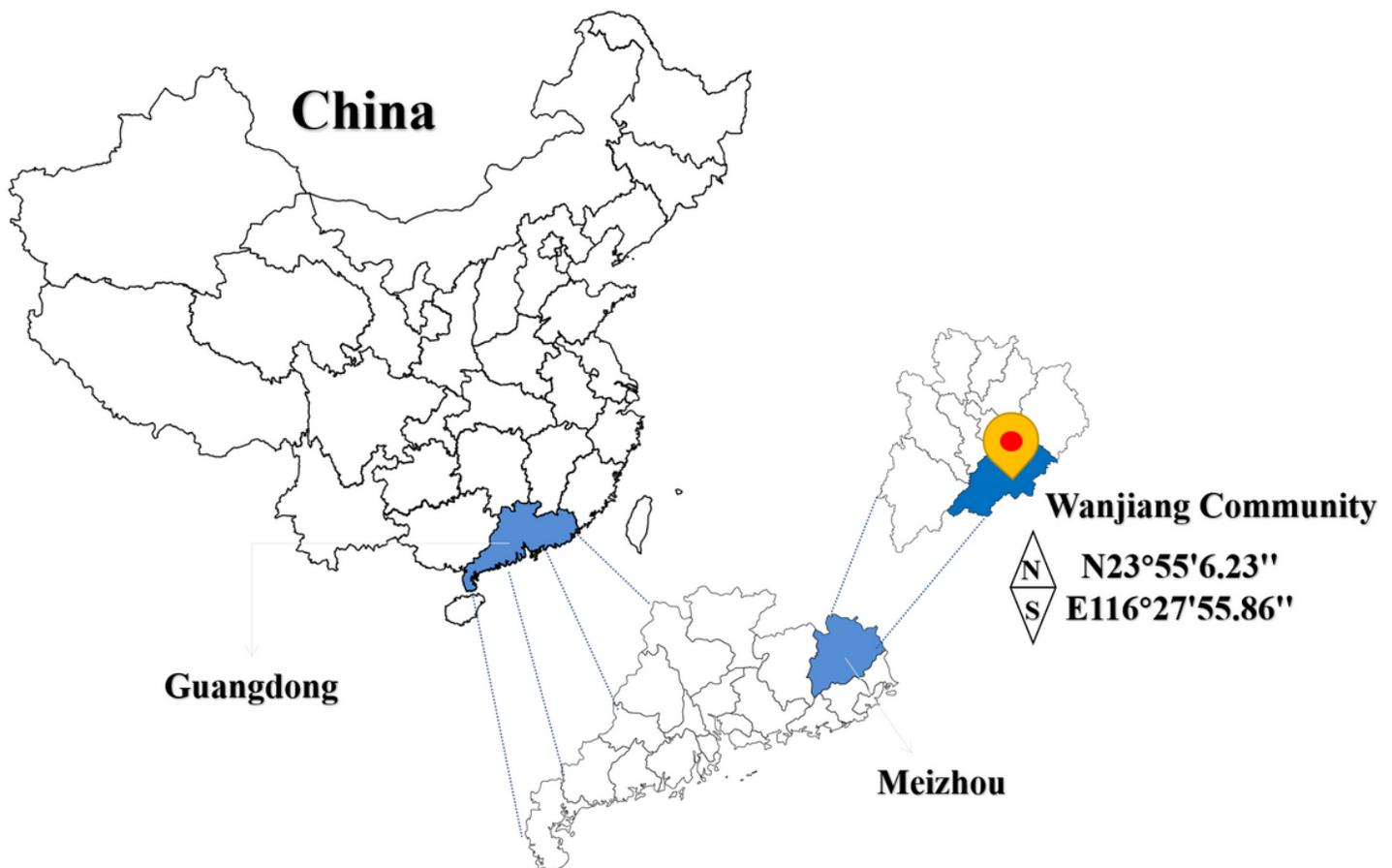


Figure 1

The geographical location of Wanjiang community. Note: The designations employed and the presentation of the material on this map do not imply the expression of any opinion whatsoever on the part of Research Square concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. This map has been provided by the authors.

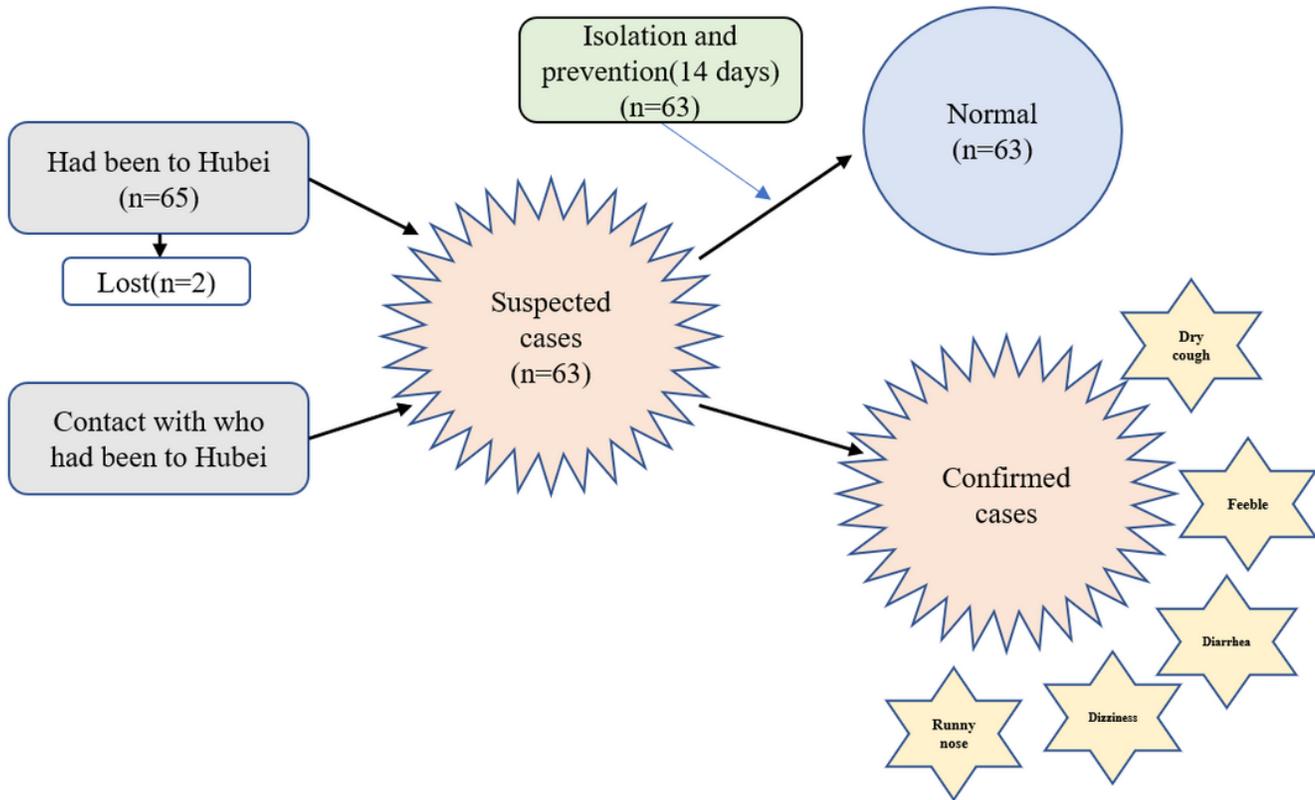


Figure 2

Structure of this study.

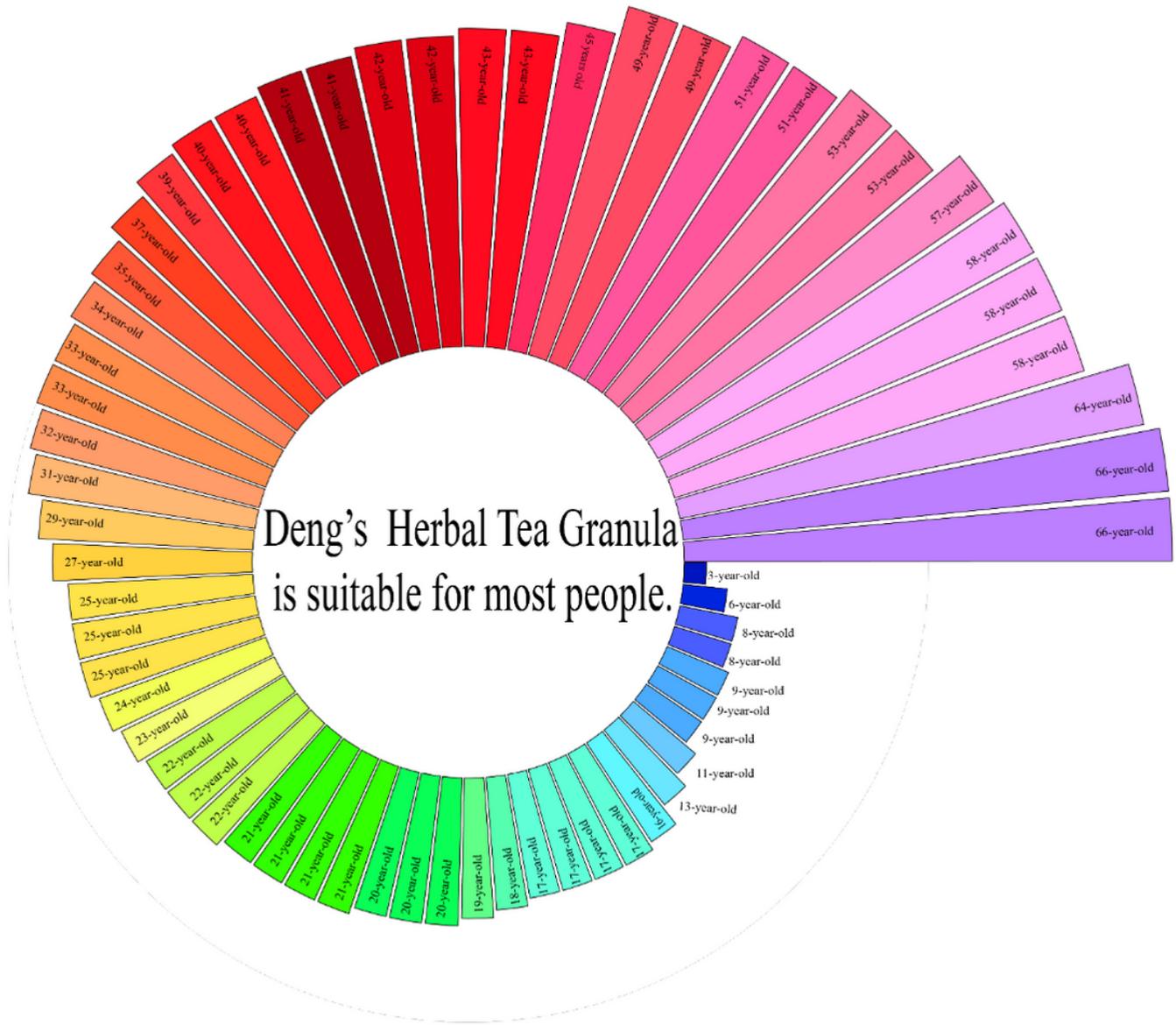


Figure 4

Ages of enrolled participants.