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Analysis of Cognitive Investigation and Intervention of COVID-19 in Different Populations

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ABSTRACT

Objective: To understand the rate of cognition and protection of COVID-19 in a community in Hubei province. Methods: The related knowledge, epidemic situation and self-protective measures of COVID-19 were investigated by mobile phone questionnaire among 836 people in a community in Hubei province. Results: The rate of the awareness of COVID-19’s relevant knowledge increased from 75.0% to 96.2%, and the implementation rate of personal protection increased from 59.6% to 92.6%. Conclusion: It is of great significance to improve residents’ awareness and protection consciousness and block the spread of COVID-19 in the community through multi-channel intervention.

1. Introduction

Since the outbreak of COVID-19 in December 2019[1], it has brought great threats and challenges to the national medical and health system. World Health Organization named the virus 2019-nCoV [2,3]. The pneumonia caused by the virus was tentatively named COVID-19 (2019 coronavirus disease, COVID-19) by the National Health Commission on February 21, 2020 [4], and put it into category B infectious diseases and manage them in accordance with category A infectious diseases [5]. By the end of April 2020, there were more than 80,000 confirmed cases in China and more than 4.8 million confirmed cases worldwide [6]. The number of confirmed cases is still rising rapidly. And 2019-nCoV appears to have lower case fatality rates, but a higher transmissibility [7]. Based on previous epidemiological studies, human is generally susceptible to the disease [8]. COVID-19 is extremely contagious [9], so it poses a great challenge to community prevention and control. Now combined with the actual situation of prevention and control in a community in Hubei, it provides a basis for the development of accurate prevention and control work in community.

2. Objects and Methods

2.1 Survey Object

A total of 871 people in a community in Hubei Province were investigated and analyzed. Among them, 306 were 18-35 years old, 288 were 36-59 years old, and 242 were

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over 60 years old. There were 433 males and 403 females.

2.2 Investigation Method

Self-designed questionnaire, including: general demographic characteristics; COVID-19’s relevant knowledge: epidemiology (symptoms (fever, fatigue, dry cough) [10], transmission of COVID-19, asymptomatic infection [11]), etiology (2019-nCoV is the pathogen of COVID-19 [12]), the carriers of the virus are wild animals [13], 56 ℃ temperature and 75% alcohol can kill pathogens [14]; self-protective measures: protective equipment, improving hygiene level, improving physical health; access to epidemic situation: Internet, television broadcast, acquired by others. 871 questionnaires were filled in, 35 questionnaires were invalid, and the rate of the effective questionnaire was 95.0%.

2.3 Statistical Processing

All the data were statistically analyzed by SPSS25.0 software. The rate in this paper was counted, and the rate (%) was expressed by X² test, P<0.05. The difference was statistically significant.

3. Result

3.1 The Awareness Rate of COVID-19’s Relevant Knowledge

The awareness rate of COVID-19’s relevant knowledge was 75.0% before intervention and 96.2% after intervention.

3.2 The Personal Protection rate

The implementation rate of self-protection was 59.6% before intervention and 92.6% after intervention.

3.3 The Personal Protection rate

The awareness rate of COVID-19’s relevant knowledge was 75.0% before intervention and 96.2% after intervention.

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4. The Intervention of Self-protective Compliance

Carry out health education to the residents in the community to improve their awareness of self-protection. Put up posters of COVID-19’s relevant knowledge in public place. Door-to-door distribution of brochures, and education to do a good job of home isolation, while reminding community residents to understand the real-time and dynamic epidemic situation of COVID-19 through various channels (mobile phone, television, radio, etc.).

Carry out health education to community residents, correctly wear masks and improve hand hygiene compliance. Put up posters of “Seven-step handwashing method” and “correct wearing Mask” in community buildings, publicize and scrub with “Seven-step handwashing method” for no less than 20 seconds, rinse with running water and wipe dry [15].

Reduce unnecessary travel and check out outsiders.
The community sets up monitoring points to persuade people who do not have a pass in the community to return, at the same time, restrictions are imposed on outsiders in the community, and outsiders who have returned to the community are registered and reported door-to-door.

Strengthen community public areas and household disinfection. The community carries on the grid disinfection management. The volunteers disinfect public places without leaving dead angles, spray the entrance hall, the elevator, the corridor, the fitness equipment, the public toilet and so on with the chlorine disinfectant containing the concentration of 500mg/L every day. Instruct residents to open windows for ventilation twice a day for more than 30 minutes each time, and wipe the surfaces of mobile phones, keys, desktops and other objects with 75% alcohol or sterilized paper towels.

5. Discussion

Through this intervention, the rate of the awareness of COVID-19’s relevant knowledge increased from 75.0% to 96.2%, and the personal protection rate increased from 59.6% to 92.6%. It shows that early community intervention can greatly improve the level of community prevention and control, so that the spread of COVID-19 in the community may be reduced to a very low level.

The majority of COVID-19’s adult patients are middle-aged and elderly people. And the population mortality rate of middle-aged and elderly patients ranks first. This is consistent with the results that the rate of the awareness of COVID-19’s relevant knowledge and the implementation rate of self-protection in the elderly group is low, and the way to obtain epidemic information is single, which can well explain that the infection rate of this kind of population is higher than that of other populations. This provides a theoretical basis for us to focus on the prevention and treatment of middle-aged and elderly people in the next step.

Multi-means protective behavior intervention can effectively improve the implementation rate of self-protection of community residents, and at the same time, it also inspires us to intervene in the psychology of community residents in the next step. Psychological intervention is carried out in various forms, such as the establishment of community psychological counseling workstations and psychological counseling hotlines, focusing on alleviating the tension of community residents towards COVID-19, and psychological counseling for suspected and diagnosed families at the same time. Relieve the excessive anxiety of the family members.

Under the existing prevention and control management in China, community prevention and control is the smallest prevention and control grid unit of national group prevention and control. Grasping the prevention and control line of the community and timely community psychological and behavioral intervention can effectively prevent the spread of COVID-19 at a larger level.

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