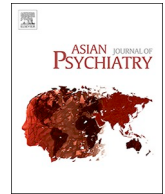




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## Two cases report of epidemic stress disorder to novel coronavirus pneumonia



### ARTICLE INFO

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### 1. Introduction

Stress disorder is a group of acute stress reactions caused by an individual's encounter with unusual stressful life events, such as natural disasters, traffic accidents, wars, Being assaulted and raped by criminals, which is manifested as some constriction of the field of consciousness, narrowing of attention and inability to comprehend external stimuli and disorientation; This state may be followed either by further withdrawal from the surrounding situation, or by agitation and over-activity (flight reaction or fugue). Autonomic signs of panic anxiety, vegetative nerve symptoms (such as tachycardia, facial sweating and flushing) are commonly present. Even some patients may show psychotic disorders when illness become quite serious clinically (Li et al., 2020; Neria et al., 2008; Galea et al., 2005; Reinhardt et al., 2020). Although this disease is not uncommon, during the novel coronavirus pneumonia (Coronavirus disease-2019, COVID-19) epidemics and pandemics, the patient neither went to the affected area, nor had contact with infected people, just stayed at home and watched TV news related the number of infected people and daily deaths for a long times, consequently appeared acute stress disorder, which is relatively rare. Two cases of our report are as follow.

### 2. Consent statement

Written informed consent was obtained from the relatives of two patients for the publication of this study

### 3. Case report 1

Zhang, A 58-year-old man, who was a farmer with senior high school level, was admitted to the clinic of our hospital and accompanied by his two sons. The outpatient number is 2002250057.

The patient still stayed at home to watch TV news related to the number of infected people and deaths every day for more than 20 days according to local government requests since the coronavirus pneumonia epidemic in many places in China. Two days ago just the patient

was admitted to the clinic of our hospital on February 2020, the patient suddenly appeared disorganized speech and grossly disorganized behavior disorder, such as, continuous shouting and disorderly spitting upon other persons, just like water sprayer, and constantly claimed to do this in order to get rid of the infected novel coronavirus he thought, and the patient showed excessive excitement and panic anxiety, for example, dancing and smashed things with his hands, and became insomnia at night, refused to eat food. No history of hypertension, diabetes and dog bites in the past was found. And No history of going to epidemic area and closing to contact with any infected persons was presented. There were also no history of mental disorders in the patient himself and other family members.

**Physical examination:** At the beginning, the patient was very uncooperative when checked. BP: 140/90 mmHg. The patient with facial sweating is normal in cardiopulmonary auscultation. Nerve system examination was not conducted due to the patient's noncooperation. **Mental status examination:** The patient's consciousness is in twilight state. He showed extreme noncooperation, and was unable to communicate effectively, such as, keeping shouting and disorderly spitting toward other persons, and claimed to do this in get rid of the coronavirus. Meanwhile, the patient showed quite fear of infected coronavirus, panic anxiety, and extreme behavior disorders, even pulled off his wife a bunch of hair at home, and smashed a chair after arriving at the hospital. The patient still refused to see a doctor. **Auxiliary Examination:** Blood routine, electrocardiogram, electroencephalogram recording and head CT both are normal. A diagnosis of acute epidemic stress disorder was made based on ICD-10 criteria.

After about 15 minutes of treated with haloperidol 3 mg muscle injection, the patient became much quieter. The patient could not recall what just happened, only said just there is a little bit of worry and fear of suffering from novel coronavirus pneumonia. Subsequently, Olanzapine was given 2.5 mg twice a day, which was increased to 5 mg twice a day at a weekend. The illness significantly improved after one week. During the second visit after one week, the patient recalled the main reason was the fear of novel coronavirus infection when frequently watched the TV news at home.

#### 4. Case report 2

Hu, A 78-year-old man, who was a resident with junior high school level, was admitted to the clinic of our hospital and accompanied by his son-in-law. The outpatient number is 2002280022.

The patient just went for a walk outside the residential area 20 days before he went to see the doctor on February 2020, and then he thought immediately he suffered a novel coronavirus pneumonia, and persistently said to the relatives that he had fever, and felt sweaty, and got angry easily, and repeatedly taken his own temperature about 20-30 times a day. He said that he had been on the blacklist of novel coronavirus pneumonia, and requested his relatives must take him to the infectious disease hospital for isolation. Four days before visiting the clinic of our hospital, the patient suddenly drank 500 ml of 75% ethyl alcohol at night and claimed to disinfect for himself. Due to the disturbance of consciousness, he was sent to a general hospital to rescue by his relatives. Although he escaped from danger after 2 days treatment in the general hospital, he still thought he had suffered novel coronavirus pneumonia and repeatedly taken his own temperature, and insisted on his illness had affected national economic development, and became insomnia at night.

Physical examination: BP: 142/88 mmHg. The patient with facial sweating is normal in cardiopulmonary auscultation. No positive signs were found in nerve system examination. Mental status examination: The patient's consciousness is clear. And contacted with the physician is passive and cooperative. The patient has hypochondriac idea with anxious and depressive affection, insomnia at night, and no insight for his illness. Auxiliary Examination: Blood routine is close to be normal, only white blood cells are slightly elevated. Electrocardiogram, electroencephalogram recording and head CT both are normal. A diagnosis of acute epidemic stress disorder was also made based on ICD-10 criteria.

#### 5. Discussion

In recent months, the outbreak of novel coronavirus pneumonia centered in Wuhan, China, poses a great threat to the health of people in China and many countries in the world. In particular, this disease is highly infectious, spread quickly. And its preclinical period and prevalence is longer and very higher. What is more serious is that the mortality rate of this disease is also quite higher. In addition, people who are quarantined lose face-to-face connections and traditional social activities, and this may be considered as a real stressful event (Zandifar et al., 2020). In such case, serious concerns, such as fear of death and anxiety emerged in ordinary people, is very common, whereas, the occurrence of serious mental disorders and even with severe behavior disorders is relatively rare. In China's battle against the novel coronavirus epidemic, all people have shown their powerful will, selfless devotion without hesitation since Lunar New Year. During the epidemic outbreak, most residents are suggested to quarantine at home and keep indoors avoid novel coronavirus infections by the local government. In two cases of our report, after more than 20 days quarantined at home, the patients only saw TV publicity and reports about this disease's mortality of each day, or only went out for a walk at the residential area, then resulted in fear of deaths, panic anxiety, severe mental and behavior disorders, which was really scarce. Patients mainly showed the fear of coronavirus infection, or thought they had suffered from the coronavirus infection, and wanted to "spit out the virus", and drunk 75% ethyl alcohol "to sterilize" for himself, meanwhile, accompanied by the corresponding behavior disorders, even with impulsively wounding and damaging items. The main cause of the patient's psychiatric symptoms is that the patients were suggested to quarantine at home to avoid novel coronavirus infection, and frequently watched TV news

about the reports of higher death rate of infected people every day. And the patient's thinking contents mainly were around these causes, accompanied by fear, panic anxiety, sweating, and incoordination of emotion and aggressive behavior. This met with the diagnostic criteria of ICD-10 in regard to the diagnostic criteria of acute stress disorder.

Certainly, it needs to differentiate with anxiety and depression. Although two patients showed some symptoms of anxiety and depression, anxiety and depression virtually have no obvious mental incentives or catastrophic events before onset of the disease, and clinical manifestations in two cases of our report were mainly around a deadly novel coronavirus pneumonia infection, at the same time the patients had apparent behavior disorders, so the diagnosis of anxiety and depression don't be considered at here.

Although post-traumatic stress disorder is not related to the individual characteristics of patients, it is more common in elderly patients and those with lower educational level (Li et al., 2020). Elderly people often suffered from many diseases and more concerned about their own health, life and death. The two cases of patient reported were both older, which was consistent with the reports of Li et al. In addition, the two cases of patient had low educational level, which was also consistent with the research reports of Li et al. (Li et al., 2020) and Tang et al. (Tang et al., 2017), which may be related to the lack of medical knowledge and misinformation acquired by the patients with low educational level. Post-traumatic stress disorder is also found in poor economic income and economic hardship (Koyama et al., 2014; Yokoyama et al., 2014), these people may be more fragile in psychology, and cannot reasonable to seek psychological adjustment and help when encountered a catastrophic event, Xu et al. (Xu et al., 2013) suggested higher monthly income patients may actively seek psychological help.

#### Financial Disclosure

All authors reported no financial relationships with commercial interests in this study.

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#### Conflict of Interest

All authors reported no conflicts of interest in this study.

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