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Letter to the Editor

Nursing Experience of COVID-19 Prevention and Control in a Regional Central Hospital in a Non-Wuhan Area in China

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Dear Editor-in-Chief

Coronavirus disease 2019 (COVID-19) was first reported in Wuhan China in Dec 2019, then spread rapidly throughout the world. It has become an international threat to public health. During the outbreak period, medical staff in hospitals who were at high risk of becoming infected were in charge of receiving and treating patients with COVID-19. There have been reported cluster infections of medical staff in larger hospitals in China, Italy, Spain and other countries.

We outlined the practical nursing management strategies successfully followed in a general tertiary hospital involved in the of pre-screening 195458 patients, treatment of 316 suspected cases, and 4 confirmed COVID-19 cases from Dec 2019 to Mar 29, 2020, with no infection of medical staff.

At the onset of the COVID-19 outbreak, our hospital rapidly organized a multidisciplinary team of medical experts, infection prevention and control experts and nursing experts. The team developed a serious of strategies to prevent the spread of COVID-19. Firstly, we restricted hospital accesses to reduce the risk of cross-infection. All patients entering the outpatient and inpatient buildings were divided into three categories. Fever patients were escorted to fever clinics with independent access. Ordinary patients could enter through the main entrance of the clinic hall, then exit through the entrance of the inpatient building, enabling patients to flow in one direction (1). Medical staff used the staff-use only access. A three-level triage system was established to early identify patients with COVID-19 to prevent transmission to health-care workers or other patients (Fig. 1).

Secondly, we readjusted the distribution of clinics. Respiratory clinics and fever clinics were placed in relatively independent well-ventilated areas and were open 24 h a day. The layout followed the requirements of the Technique Standard for Isolation in Hospitals (WS/T311-2009)(2)." Three areas and two channels" were designed, including clean areas, semicontaminated areas, contaminated areas, staff channels, and patient channels. To avoid the cross-infection of patients during the waiting period, the triage nurses placed the patients (at least 1 m distance) in three different areas according to their symptoms and epidemiological histories. During the consultation, only one patient could enter each consultation room. After the consultation, the nurse arranged blood collection, CT, and other examinations for the patients according to the doctor's orders (Fig. 2). If the test results showed a high degree of suspicion, the doctor would inform the management team to transfer the patient to the isolation wards immediately with no further interventions. The remaining patients were discharged to their homes for isolation and received a follow-up within three days.

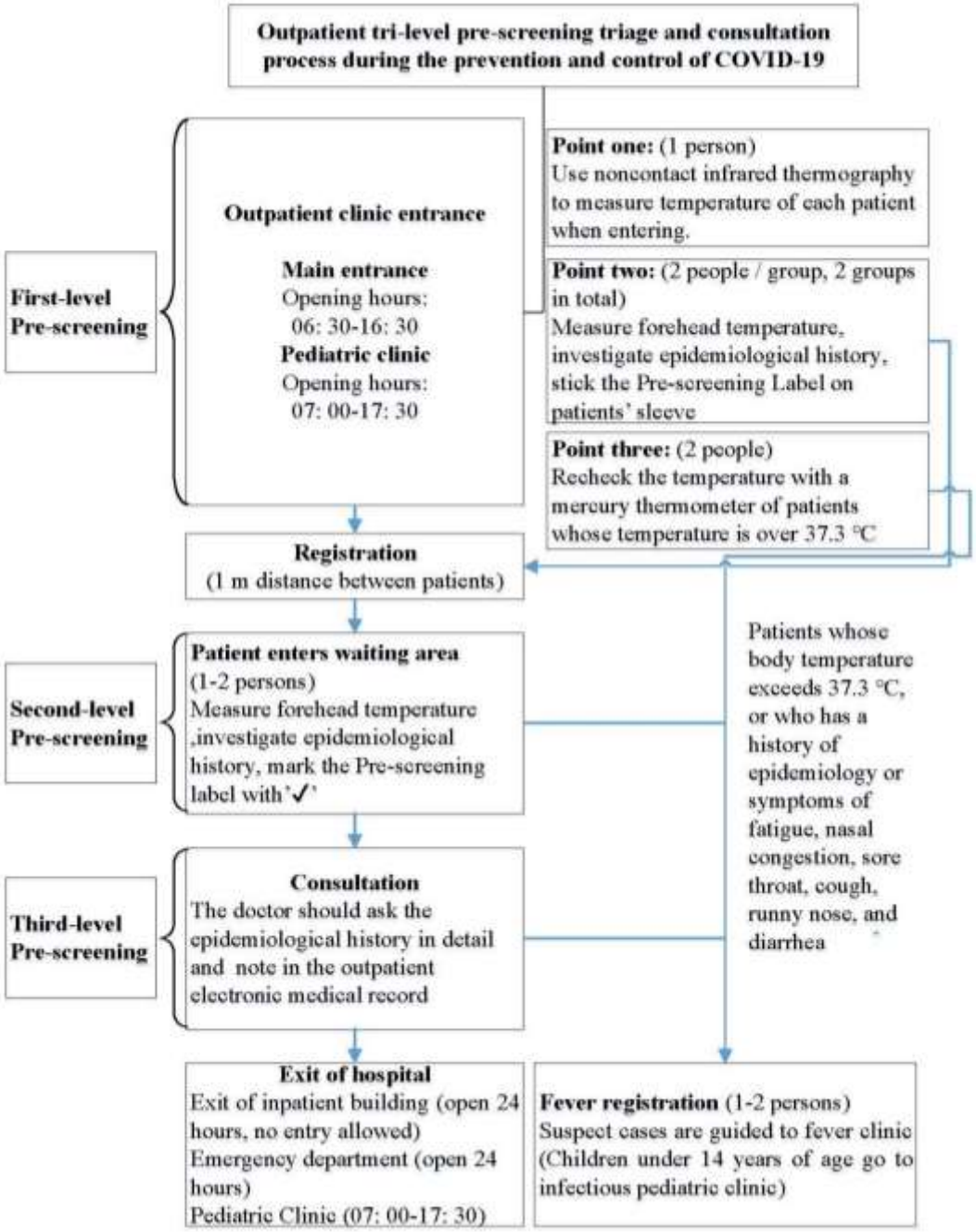

Fig. 1: Outpatient tri-level pre-screening and triage for COVID-19 during the outbreak

We set the isolation hospital for COVID-19 in a separate hospital located away from the residential center. Isolation wards, a radiology department, a clinical laboratory, and a pharmacy were set up in the isolation hospital. Essential medical and emergency equipment were provided to ensure the diagnosis and treatment of COVID-19 patients. Suspected patients were isolated in a single room. Diagnosed patients could be isolated together with 2 to 3 patients in one room if there were not enough isolation wards (3).

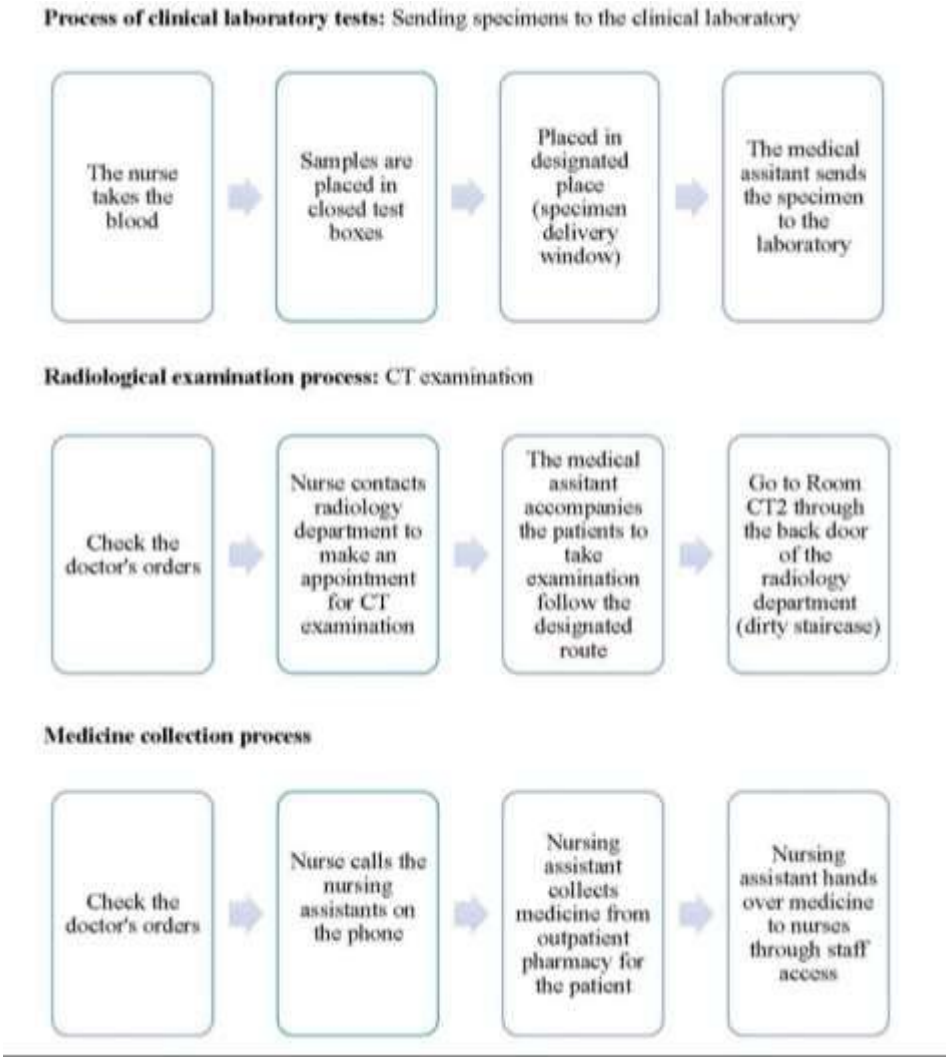

Fig. 2: Actions taken by the nurses for the patients according to the doctor's orders

During the outbreak, the orderly management and distribution of personal protective equipment (PPE) were essential for COVID-19 prevention and control. We established a two-level warehouse management system for PPE. The hospital-level warehouse of the isolation hospital stored medical supplies. Input/output forms were used to record the usage of PPE. The ward-level warehouse was equipped with daily requirements of protective supplies. Medical staff followed the policies and procedures of isolation precautions to use PPE (4). The nurse in charge reported the quantity of PPE used so that replenishment could be provided in time. Reasonable distribution and usage of PPE could be obtained through the two-level warehouse management system.

Through the implementation of the above strategies, no medical staff has been infected with COVID-19. We hope these management strategies could help the Chinese government and the rest of the world better cope with COVID-19.

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Conflicts of interest

The authors declare that they have no competing interest.

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