Handbook on COVID-19 Infection Prevention and Control in Communities

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Part I Standards for Prevention and Control of COVID-19 Infection in Primary Care Institutions

I. Key Points of Standards for Prevention and Control of COVID-19 Infection for Healthcare Professionals in Primary Care Institutions

1. According to what principles should healthcare professionals in primary care institutions take personal protection?

Take protective measures such as droplet isolation, contact isolation and air isolation, and take appropriate personal protection measures according to different risk exposures.

2. How should primary healthcare professionals take graded protective measures?

See Fig. 1 for the protection of primary healthcare professionals.

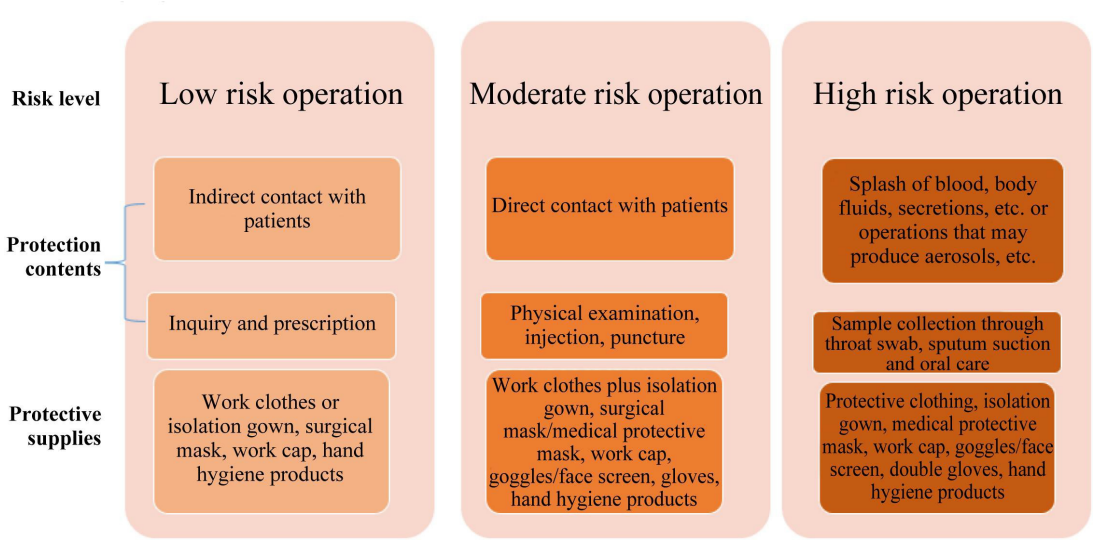

Fig. 1 Management Process of Graded Protection for Suspected Cases of COVID-19 Infection by Primary Healthcare Professionals

3. What protective measures should preview and triage personnel take?

Wear surgical masks, work caps, work clothes, ordinary isolation gowns and latex examination gloves. It is forbidden to leave the diagnosis and treatment area with gloves. Keeping hand hygiene is not limited to wearing gloves.

4. What protective measures should community clinical healthcare professionals take at the forefront?

Wear surgical masks/medical protective masks, work caps, work clothes and pay attention to hand hygiene. Assess the risk level based on the specific diagnosis and treatment situations, and further wear isolation gowns, latex gloves and goggles.

5. How to take protective measures during on-site service at a patient's house?

Try to avoid on-site service at patients' houses. For those who really need on-site service, detailed epidemiological history survey should be carried out first.

For families in non-epidemic areas and without epidemiological history, the staff should wear work clothes, work caps, surgical mask and disposable shoe covers. Carry quick drying hand disinfectant and carry out standard hand hygiene when leaving. If physical examination, dressing change, gastric tube

replacement and other direct contact operations are required, corresponding protection should be made according to the risk exposure level, such as wearing goggles, replacing medical protective masks, wearing disposable latex gloves, adding disposable isolation gowns, etc.

In epidemic areas or for families with epidemiological history, the corresponding protection should be improved after fully assessing the risk level.

During the epidemic period, it is suggested that family visits should be made by appointment at different times for on-site service, with reasonable time arrangement and compliance with the principle of "one patient, one protection procedure".

6. How do community healthcare professionals choose hand hygiene methods?

Wash hands when there is visible contamination such as blood or other body fluids on the hands.

When there is no visible contamination on the hands, choose quick-drying hand disinfectant for disinfection.

After contacting the blood, body fluids and secretions of patients with infectious diseases and articles contaminated by infectious pathogenic microorganisms; Hands should be washed and disinfected after directly examining, treating or nursing infectious disease patients or disposing their dirt.

7. How community healthcare professionals disinfect and manage their diagnosis and treatment areas?

In accordance with the *Hospital Air Purification Management Standard*, strengthen the ventilation management of the diagnosis and treatment environment, strictly implement the requirements of the *Technical Specification for Disinfection in Medical Institutions* and other documents, and do a good job in the disinfection management of the diagnosis and treatment environment, office goods, medical devices, patient materials and other materials, so as to effectively reduce the transmission risk in medical institutions and ensure the medical quality and safety. Minimize unnecessary personnel exchanges between departments. When face-to-face contact is necessary, try to keep a distance of more than 1 m. For specific contents, please refer to Table 1[2] for daily environmental cleaning and disinfection of primary care institutions and during the pandemic.

Ⅱ. Key Points of COVID-19 Infection Disinfection and Hospital Infection Prevention and Control in Primary Care Institutions

1. How many kinds of disinfections does it include?

Include preventive disinfection, concurrent disinfection and terminal disinfection. Preventive disinfection should be carried out for preview and triage points and outpatient clinics where suspected cases have not been found. Concurrent disinfection should be carried out for pollutants discharged by suspected patients and their contaminated articles and places in a timely manner. After the daily work of fever clinics is completed, and after the patients leave the isolation clinic, the terminal disinfection should be done.

2. Which are the key disinfection targets of primary care institutions?

Sphygmomanometers, electrocardiograms and other related diagnosis and treatment equipment, floors, walls, tables and chairs of outpatient service centers, triages, nurse stations, infusion rooms and operation rooms, the surface of examination beds, as well as the air in the above-mentioned places, and the hands of healthcare professionals.

3. How do primary care institution clean and disinfect the environment daily and during the pandemic?

According to the *Hospital Air Purification Management Standard*, strengthen the ventilation management of diagnosis and treatment environment, strictly implement the requirements of *Technical*

Specification for Disinfection in Medical Institutions and other documents, do a good job in cleaning and disinfection of the environment, equipment, patient materials, etc., effectively reduce the transmission risk in medical institutions, and ensure medical quality and safety. See Table 1[2] for cleaning and disinfection of the environment in primary care institutions daily and during the epidemic period.

Table 1 Look-up Table for Environmental Cleaning and Disinfection of Primary Care Institutions Daily and during the Epidemic Period

Scope and method of cleaning		High risk area					Moderate risk area					Low risk area			
		Preview and triage	Radiology department	Fever clinic	Isolated consultation room	Emergency	General clinic/medical technical department	Pharmacy	Laboratory department	Infusion room	Toilet	Office	Meeting room	Administrative department	Medical staff lounge
Object surface															
Cleaning frequency	≥2 times/d	—	▲	—	—	—	▲	▲	▲	▲		▲	▲	▲	▲
	≥4 times/d	▲	—	▲	▲	▲	—	—	—	—	▲	—	—	—	—
	Disinfect whenever suspected cases are found	▲	▲	▲	—	▲	▲	—	▲	▲	▲	—	—	—	—
Disinfection method	Chlorine-containing disinfectant	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	—	—	—	▲
	Disinfectant wipes	△	△	△	△	△	△	△	△	△	—	△	△	△	△
	Chlorine dioxide spraying	△	△	△	△	△	△	△	△	△	△	△	△	△	△
Concentration of chlorine-containing disinfectant	500 mg/L	▲	▲	—	—	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	1,000 mg/L	△	△	▲	▲	△	△	△	△	△	△	—	—	—	—
	2,000 mg/L	△	△	△	△	△	△	△	△	△	△	—	—	—	—
Ground															
Cleaning frequency	≥2 times/d	—	▲	—	—	—	▲	▲	▲	△	—	▲	▲	▲	▲
	≥4 times/d	▲	—	▲	▲	▲	—	—	—	△	▲	—	—	—	—
Concentration of chlorine-containing disinfectant	500 mg/L	▲	△	—	—	▲	△	△	△	▲	▲	▲	▲	▲	▲
	1,000 mg/L	△	—	▲	▲	△	△	△	△	▲	△	—	—	—	—
Air															
Disinfection method	Open windows for ventilation	△	—	△	△	▲	▲	▲	▲	△	△	▲	▲	▲	▲
	Ultraviolet rays	—	△	▲	▲	—	▲	▲	▲	▲	—	—	—	—	—
	Air sterilizer	—	△	△	△	△	▲		△	△	—	—	—	—	△
	Hydrogen peroxide atomization/fumigation	△/★	△/★	△/★	△/★	△/★	△	△	△	△	△/★	—	—	—	—
	Peracetic acid atomization/spraying/fumigation	△/★	△/★	△/★	△/★	△/★	△	△	△	△	△/★	—	—	—	—
	Chlorine dioxide atomization/spraying/fumigation	△/★	△/★	△/★	△/★	△/★	△	△	△	△	△/★	—	—	—	—
Cleaning frequency	≥2 times/d	—	▲	▲	▲	—	▲	▲	▲	▲	▲	▲	▲	▲	▲
Duration	≥30 min	—	▲	—	—	—	▲	▲	▲	▲	—	▲	▲	▲	▲
	1 h	▲	—	▲	▲	▲	—	—	—	△	—	△	△	△	△

Note: 1. ▲ Required, △Optional, ★Terminal disinfection, -None

2. Select the concentration of disinfectant according to the pollution degree, and increase the concentration in case of blood, body fluids, excreta and other pollution.
3. During the epidemic period of COVID-19, the principle of "one patient, one cleaning and disinfection procedure" should be followed, and the frequency should be increased on the basis of daily cleaning and disinfection depending on the number of patients and pollution exposure.
4. Except when evidence-based medicine shows that a certain disinfectant or concentration is ineffective for COVID-19, the commonly used disinfectant and recommended disinfection methods are applicable. The recommended disinfection concentration of chlorine dioxide is 400 ~ 600 mg/L.
5. The concentration of chemical disinfectants should refer to GB27953-2011 Hygienic Requirements for Disinfectants in Foci or ProductSpecifications.
6. Cleaning and disinfection of all indoor environments and surfaces of objects includes: all indoor movable equipment and furniture (including toilets) should be disinfected by effective disinfection methods, and wastes should be removed and articles should be sorted out, which should meet the qualified standards for cleaning and disinfection.

4. How to disinfect indoor air?

(1) All outpatient clinics and operation rooms should be ventilated as much as possible, and air disinfection should be carried out when necessary.

(2) Air disinfection should be done in fever clinics and isolated consultation rooms exposed to suspected patients. Directional ventilation for air disinfection can be used for air disinfection when there are people in the room, and ultraviolet radiation or aerosol spray of chemical disinfectant can be used when there are no people in the room.

(3) Terminal disinfection: 2,000 mg/L peracetic acid or 30 g/L aqueous hydrogen peroxide solution should be used for disinfection by aerosol sprayer at 10 ml/m^3, and the room should be sealed for 60 min. After disinfection, open windows for ventilation.

5. What should we pay attention to when disinfecting medical environment and articles?

(l) Disinfection of ground and wall: When there is visible dirt, the dirt should be completely removed before disinfection. When there is no visible dirt, 500 mg/L chlorine dioxide or other chlorine-containing disinfectant can be used for disinfection through wiping or spraying (see the product manual for the proportioning method). When disinfecting the ground, spray the disinfector once from the outside to the inside, with the spraying amount of 100 ~ 300 ml/m^2. After indoor disinfection is completed, spray the disinfector again from the inside to the outside, and the disinfection time should not be less than 30 min.

(2) Object surface: When there is visible dirt on the surface of diagnosis and treatment facilities and equipment, examining couches, door handles, etc., the dirt should be removed before disinfection. When there is no visible dirt, 500 mg/L chlorine dioxide or other chlorine-containing disinfectant can be used for disinfection through wiping, spraying or soaking. After 30 minutes of disinfection, wipe the surface clean with clear water.

6. How to disinfect the skin and mucous membrane of healthcare professionals?

Medical staff should pay attention to their hand hygiene. In case the skin is polluted by pollutants, the pollutants should be removed immediately, and then dip disposable absorbent material in 0.5% iodophor disinfectant, chlorine-containing disinfectant or hydrogen peroxide disinfectant and wipe and disinfect the affected area for more than 3 minutes, and clean with clear water. Affected mucosa should be flushed with a large amount of normal saline or 0.05% iodophor for disinfection.

7. What are the basic requirements for prevention and control of COVID-19 infection in primary care institutions?

(1) Formulate emergency plans and work procedures.

(2) Carry out full training.

(3) Take effective measures to protect healthcare professionals: primary care medical institutions should standardize their disinfection, isolation and protection work, and reserve quality and sufficient protective supplies. On the basis of strict implementation of standard preventive measures, strengthen the prevention and control of infection caused by contact transmission, droplet transmission and airborne transmission. All healthcare professionals should not go out to attend the meeting except for mandatory tasks and other special reasons.

(4) Pay attention to the health of healthcare professionals: rationally allocate human resources and arrange shifts to avoid overwork of healthcare professionals. Provide nutritious meals to enhance the immunity of healthcare professionals. According to the post characteristics and risk assessment results, carry out active health monitoring of body temperature, respiratory symptoms, etc.

(5) Strengthen infection monitoring: do a good job in early warning and forecasting, find hidden dangers and improve them in time. When suspected patients with COVID-19 infection are found,

the information should be reported within 2 hours and the corresponding disposal measures should be done.

(6) Do a good job in cleaning and disinfection management (refer to the Part One).

(7) Strengthen the management of patients' visits: primary care medical institutions should do a good job in the management of patients and minimize the congestion of patients. When patients suspected of being infected with COVID-19 are found, isolation or transmission control measures should be taken according to law, and special personnel should guide the suspected patients into the isolation area according to the designated standard route. And take medical observation and other necessary preventive measures for the accompanying personnel and other close contact personnel of the patient according to regulations. If the institution has no capacity to treat the patient, the patient should be referred to a medical institution with the capability for diagnosis and treatment in a timely manner.

(8) Strengthen patient education: Actively carry out education for patients and their accompanying personnel so that they can understand the protection knowledge of COVID-19. Instruct patients to correctly choose and wear masks, correctly implement cough etiquette and hand hygiene, etc.

(9) Strengthen the management of medical waste: Carry out standardized disposal in strict accordance with the *Regulations on the Management of Medical Waste* and the *Measures for the Management of Medical Waste in Medical and Health Institutions*.

8. How to strengthen the management of high-risk departments?

(1) Implement the preview and triage system, guide patients with fever to the fever clinic, formulate and improve the emergency plan for transfer and treatment of suspected patients and strictly implement it.

(2) Reasonably set up isolation areas to meet the needs of on-site isolation and treatment of suspected patients.

(3) Healthcare professionals should strictly carry out personal protection and manage the diagnosis and treatment environment.

(4) The diagnosis and treatment area should be well ventilated and regularly cleaned and disinfected.

(5) Take effective measures such as setting up waiting areas to avoid crowd gathering.

9. What are the guiding principles for different personnel in COVID-19 Infection Prevention and Control? Refer to Table 2 for personal protection.

Table 2 Guidelines for Personal Protection of Different Personnel in COVID-19 Infection Prevention and Control

Workplace	Sequence (left to right)									
	Hand hygiene	Work cap	Surgical mask	Medical protective mask	Work clothes	Protective clothing	Gloves	Isolation gown	Protective screen/goggles	Shoe cover/boot cover
General departments	●	○	●	-	●	-	-	-	-	-
Preview and triage	●	●	●	-	●	-	○	●	-	-
Fever clinic	●	●	-	●	●	-	○	●	○	○
Diagnosis and treatment of suspected cases	●	●	-	●	●	●	Double layer	○	●	●
Patient transfer/accompanying examination	●	●	-	●	●	●	●	○	●	●
Sample collection of suspected cases	●	●	-	●	●	●	Double layer	○	●	○
Routine laboratory testing	●	●	●	-	●	-	●	-	-	-
Environmental cleaning and disinfection	●	●	-	●	●	●	Long sleeve thick rubber gloves	○	●	○
Administration	●	-	●	-	○	-	-	-	-	-

Note: ● Should be used; ○ Used according to risk exposures; -None; Air-purifying respirators can be used when conditions permit for operation with high risk exposures.

Ⅲ. Transfer and Management Process of Suspected Cases of COVID-19 Infection

1. What is a suspected case of COVID-19 infection?

Carry out comprehensive analysis combined with epidemiological history and clinical manifestations

Epidemiological history

(1) Travel history or residence history in Wuhan City and its surrounding areas, or in other communities with case reports in China, or overseas countries or regions with serious epidemic situation within 14 days before the onset of the disease;

(2) Contact history with COVID-19 infected persons (positive for nucleic acid test) within 14 days before onset of the disease;

(3) Contact history with patients with fever or respiratory symptoms from Wuhan City and its surrounding areas, or from other communities with case reports in China, or overseas countries or regions with serious epidemic situations within 14 days before the onset of the disease;

(4) Clustering onset: two or more cases of fever and/or respiratory symptoms occur within 14 days in a small scale (such as families, offices, school classes, workshops and other places).

Clinical manifestations

(1) Fever and/or respiratory symptoms

(2) Having the above-mentioned COVID-19 radiographic characteristics

(3) The total white blood cells and lymphocyte count were normal or decreased in the early stage of onset

Meet any one condition of the epidemiological history and conform to any two of the clinical manifestations. No clear epidemiological history but conform to three of the clinical manifestations.

2. How to manage suspected cases of COVID-19 infection?

Suspected cases should be isolated and treated in designated hospitals with effective isolation conditions and protection support, and suspected cases should be isolated and treated in a single room. Suspected cases can be excluded if they are tested negative in two consecutive COVID-19 nucleic acid tests (sampling time interval should be at least 24 hours) and COVID-19-specific antibodies IgM and IgG are still negative 7 days after onset. Suspected cases excluded should continue to be isolated and observed at home for 14 days after discharge.

See Fig. 2 for the management process of suspected cases

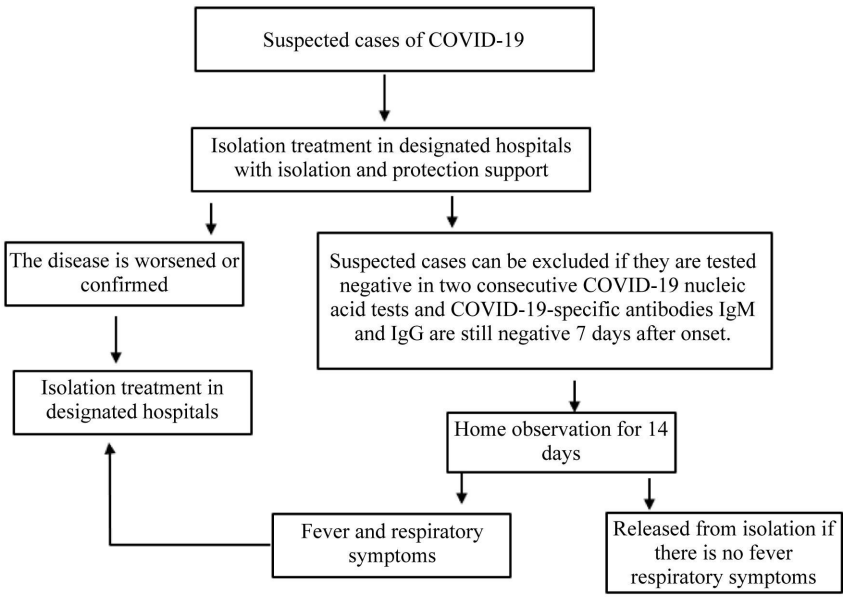

Fig. 2 Management Process of Suspected Cases with COVID-19 Infection

3. How to transfer suspected cases with COVID-19 infection found by primary care institutions?

The transfer process of suspected COVID-19 cases found by primary care institutions is shown in Fig. 3

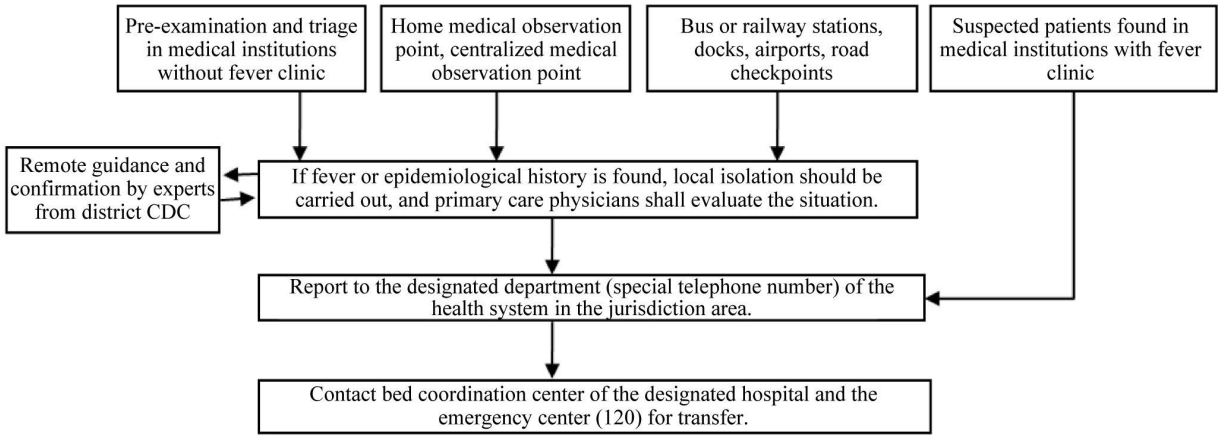

Fig. 3 Transfer Flow Chart of Suspected Patients with COVID-19 Infection

4. What are the requirements for the transfer of suspected cases with COVID-19 infection?

(1) During patient transfer, the on-board medical equipment (including stretchers) of the ambulance vehicle is specially used for special patients, the cab is strictly sealed and isolated from the carriage, and a special area for placing contaminated articles is set up inside the vehicle.

(2) Healthcare professionals and drivers involved in the transfer should wear work clothes, disposable gloves, disposable work caps, medical disposable protective clothing, medical protective masks, protective screens or goggles, work shoes or rubber boots, waterproof boot covers, etc.

(3) Ambulances should have the basic conditions for transferring patients with respiratory infectious diseases, and negative pressure ambulances should be used for transfer as much as possible. The

ambulance should be kept sealed during transfer, and the vehicle should be disinfected after transportation. For severe cases, the vehicle should be equipped with necessary life support equipment to prevent the patient's condition from deteriorating further during the transfer.

(4) Protection of healthcare professionals and drivers, disinfection of vehicles, medical supplies and equipment, and strict disinfection after ambulance returns before transferring the next patient.

5. How to transport suspected COVID-19 patients tested negative in nucleic acid test?

After the patients are admitted to the designated hospital and tested negative in nucleic acid tests for 2 consecutive times, they should be sent back home by special bus to continue medical observation until the expiration of the period. For those who have passed medical observation, they can go home by themselves. For those whose basic diseases have not been healed and need to continue hospitalization in the specialized hospital, they need to be transferred to the specialized hospital in a coordinated manner. See Fig. 4 for the process.

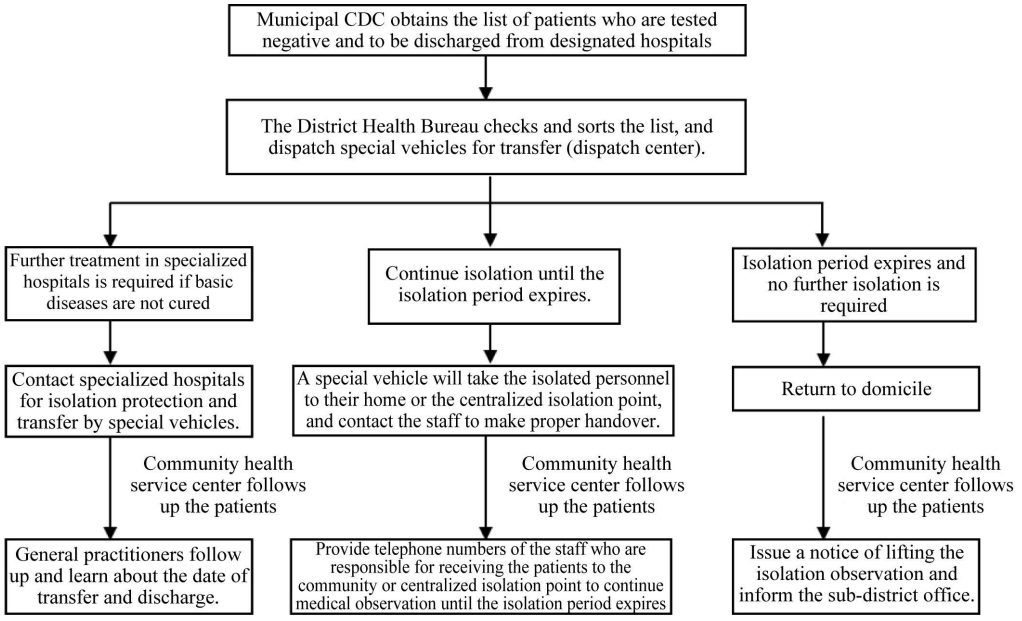

Fig. 4 Transport Process of Suspected Patients with COVID-19 Infection After Tested Negative in Nucleic Acid Test

IV. Medical Observation and Management Process for Close Contacts of COVID-19 Infection

1. Who are close contacts of COVID-19?

From two days before the symptoms of suspected cases and confirmed cases appear, or two days before the sampling of specimens of asymptomatic infected persons, personnel who have close contact with them have not been effectively protected, including the following personnel:

(1) Living, studying, working together or other persons in close contact with suspected cases or confirmed cases, such as those working close to them or sharing the same classroom or living in the same house.

(2) Healthcare professionals including clinicians and nurses, family members visiting the suspected or confirmed cases or other personnel with similar close contact, such as visiting or staying with patients in a closed environment, as well as other patients share the same ward with the suspected or confirmed cases and their accompanying personnel.

(3) People who take the same vehicle and have close contact with the confirmed cases and asymptomatic infected individuals (within 1 meter), including nursing staff, accompanying personnel (family members, colleagues, friends, etc.), and other passengers and crew members who are found to be likely to have close contact with confirmed cases and asymptomatic infected persons after survey and evaluation.

(4) Other personnel who meet the criteria for close contacts after surveyed by on-site investigators.

2. How to determine the medical observation period of close contacts?

14 days after the last unprotected contact with the confirmed case and asymptomatic infected person. If the close contacts of confirmed cases or asymptomatic infected persons are tested negative during medical observation, they still need to continue until the observation period expires. After the suspected cases are excluded, their close contacts can be discharged from medical observation.

3. What are the requirements for centralized medical observation sites?

(5) Centralized medical observation sites should be relatively independent and far away from densely populated areas.

(6) The interior of the centralized medical observation site should be divided into living area, material guarantee supply area and medical observation area according to needs, and the zoning mark should be clear.

(7) Centralized medical observation sites should provide single-room and independent toilets for close contacts. Central air conditioning is not recommended.

(8) It is better to have independent septic tanks in centralized medical observation sites. Sewage should be disinfected before entering the municipal drainage pipe network.

4. How to carry out centralized medical observation on close contacts?

See Fig. 5 for the management process of centralized medical observation for close contacts of COVID-19 infection.

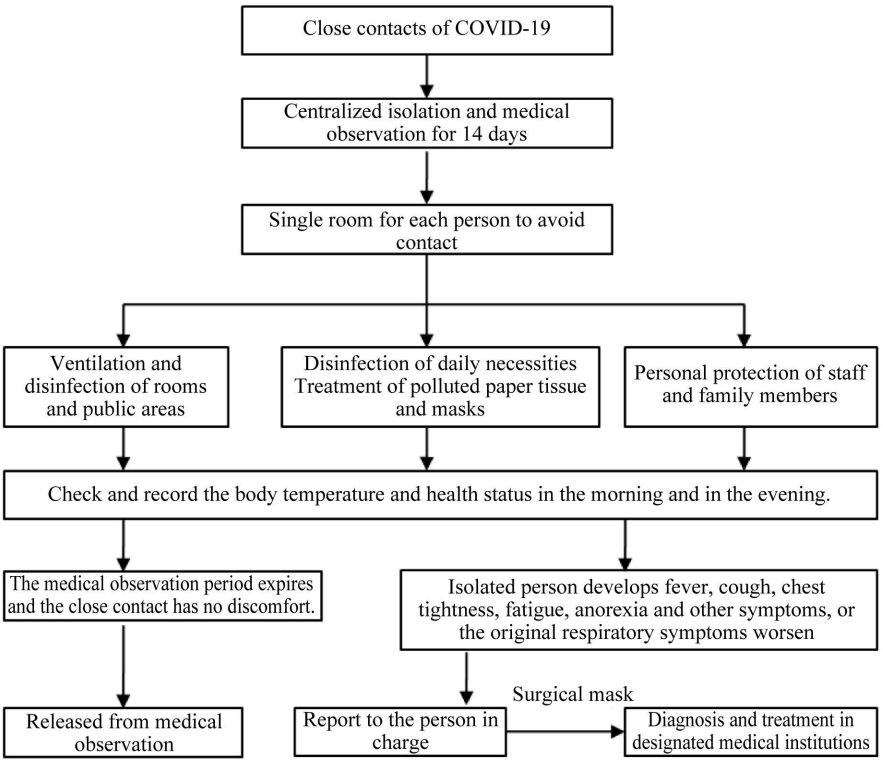

Fig. 5 Management Process of Close Contacts of COVID-19 Infection

5. How do close contacts during medical observation prevent and control COVID-19 infection?

(9) Open windows in the observation room for ventilation; Keep the door closed at all times.

(10) Wearing masks is not necessary in the isolation rooms. Wash hands in time before and after wearing surgical masks and after handling used masks.

(11) Do not go out during the observation period. If you have to go out, you can only go out with the approval of the medical observation management personnel. You should wear a disposable surgical mask, wash or disinfect your hands before going out and do not go to crowded places.

(12) Avoid using central air conditioning.

(13) Ensure sufficient rest time and nutrition, and maintain a good state of mind. Limit eating and drinking in isolation rooms.

(14) Pay attention to cough etiquette. Cover your nose and mouth with paper towel or elbow when coughing, and do not spit everywhere. Throw the paper towel and masks into a special garbage can with a lid after use.

(15) Used articles should be cleaned and disinfected in time, and meals and daily necessities should be placed at the door of the room by the contact person.

(16) When acute respiratory symptoms such as fever, cough and shortness of breath occur, contact the observation personnel at the isolation point in time.

6. How to disinfect medical observation sites?

(1) Air disinfection: Open windows for ventilation every day. When there are no people on site, disinfectants such as peracetic acid, chlorine dioxide and hydrogen peroxide can be sprayed in ultra-low concentration for disinfection. Close doors and windows during air disinfection. After the disinfection is completed, open windows for ventilation.

(2) Tableware treatment: The tableware used by medical observation personnel should be cleaned separately using detergent and clear water and disinfected in time. Boil for 30 min to disinfect the tableware, or soak them in chlorine-containing disinfectant with available chlorine of 500 mg/L for 30 min, and then wash with clear water.

(3) Disinfection of ground and wall: When there are visible pollutants, it should be completely removed before disinfection. When there is no visible dirt, 500 mg/L chlorine dioxide or other chlorine-containing disinfectant can be used for disinfection through wiping or spraying. When disinfecting the ground, spray the disinfector (100 - 300 ml/m^2) once from the outside to the inside. After indoor disinfection is completed, spray the disinfector again from the inside to the outside, and the disinfection time should not be less than 30 min.

(4) Disinfection of object surface: When there are visible pollutants in bed fences, bedside tables, furniture, door handles, household supplies, etc., the pollutants should be completely removed before disinfection. When there are no visible pollutants, wipe, spray or soak with 500 mg/L chlorine dioxide or other chlorine-containing disinfectants for disinfection, and wipe clean with clear water after 30 min. Disinfect bathroom and toilet surfaces at least once a day.

(5) Disinfection of textiles such as clothes and bedding: Aerosol generation should be avoided during collection, and it is recommended to treat them as medical wastes. When there are no visible pollutants, if the textile needs to be reused, it can be disinfected by circulating steam or boiling for 30 min. Or soak it in 500 mg/L chlorine-containing disinfectant for 30 min, and then clean according to routine. Or directly put it into the washing machine after packing them in water-soluble packaging bags, wash and disinfect them for 30 min at the same time, and the effective chlorine content of 500 mg/L is maintained; Valuable clothes can be disinfected by

ethylene oxide.

7. How to protect community healthcare professionals in medical observation sites?

(1) Healthcare professionals entering the isolation area are recommended to wear work clothes, disposable work caps, disposable gloves, protective clothing, medical protective masks, protective screens or goggles, work shoes or rubber boots, waterproof boot covers, etc.

(2) It is recommended to wear work clothes, disposable work caps, double gloves, protective clothing, KN95/N95 and above PM protective masks or medical protective masks, protective screens or goggles, work shoes or rubber boots, and waterproof boot covers when collecting respiratory tract specimens. When necessary, you can wear waterproof apron or waterproof isolation gown.

8. How to deal with the abnormal situation of close contacts during medical observation?

In case of any symptoms (including fever, chills, dry cough, expectoration, nasal obstruction, runny nose, sore throat, headache, fatigue, muscle soreness, joint soreness, shortness of breath, dyspnea, chest tightness, conjunctival congestion, nausea, vomiting, diarrhea and abdominal pain, etc.) of the close contact, immediately report to the local health department, and send him/her to a designated medical institution for diagnosis and treatment according to the provisions, and collect specimens to carry out laboratory testing and investigation work. If the investigation result shows that he/she is a suspected case or confirmed case, medical observation should be carried out on the persons in close contact with him/her.

9. How to deal with close contacts' domestic waste during the medical observation?

(3) Gloves, paper towels, masks and other wastes used by close contacts should be placed in a special medical waste garbage bag in their rooms and treated as medical waste.

(4) Other domestic wastes should be collected and treated by the staff in a unified way, and disinfection should be carried out at centralized garbage collection and transportation points on a daily basis.

(5) In case of suspected symptoms such as fever and dry cough are found in close contacts, their domestic waste should be treated as epidemic-related medical waste.

V. Process Flow of Clustering Onset in COVID-19 Infected Families

1. What is clustering onset?

Two or more cases of fever and/or respiratory symptoms occur within 14 days in a small scale (such as families, offices, school classes, workshops and other places).

2. What is a clustering epidemic?

More than 2 confirmed cases or asymptomatic infected persons are found in a small scale (such as families, offices, school classes, workshops, etc.) within 14 days, and there is the possibility of interpersonal transmission or infection caused by common exposure.

3. How do primary care institutions identify clustering onset within families?

(1) Active Discovery: Daily visits are made to family members with returnees from epidemic areas, including body temperature monitoring and symptom inquiry. If 2 or more cases with fever or other respiratory symptoms are found, attention should be paid to the similar symptoms, the onset time and whether the onset of the disease among family members is within 14 days. If it is clustering onset, it is recommended that they go to the fever clinic of a designated hospital. Upon receiving the notice from the disease control department that there are confirmed cases or suspected cases within the jurisdiction of the primary care institution, regularly visit the family members and urge symptomatic patients to go to a designated hospital as soon as possible to reduce the risk of further

transmission.

(2) Passive discovery: For cases that go to primary care institutions due to fever, dry cough, diarrhea and other symptoms, in addition to asking about their contact history in epidemic areas, of epidemic focus personnel or confirmed cases, attention should also be paid to the incidence of family members and the contact history in epidemic areas, of epidemic focus personnel or confirmed cases of family members.

4. How to deal with clustering onset within families?

See Fig. 6 for the process flow of clustering onset in COVID-19 infected families

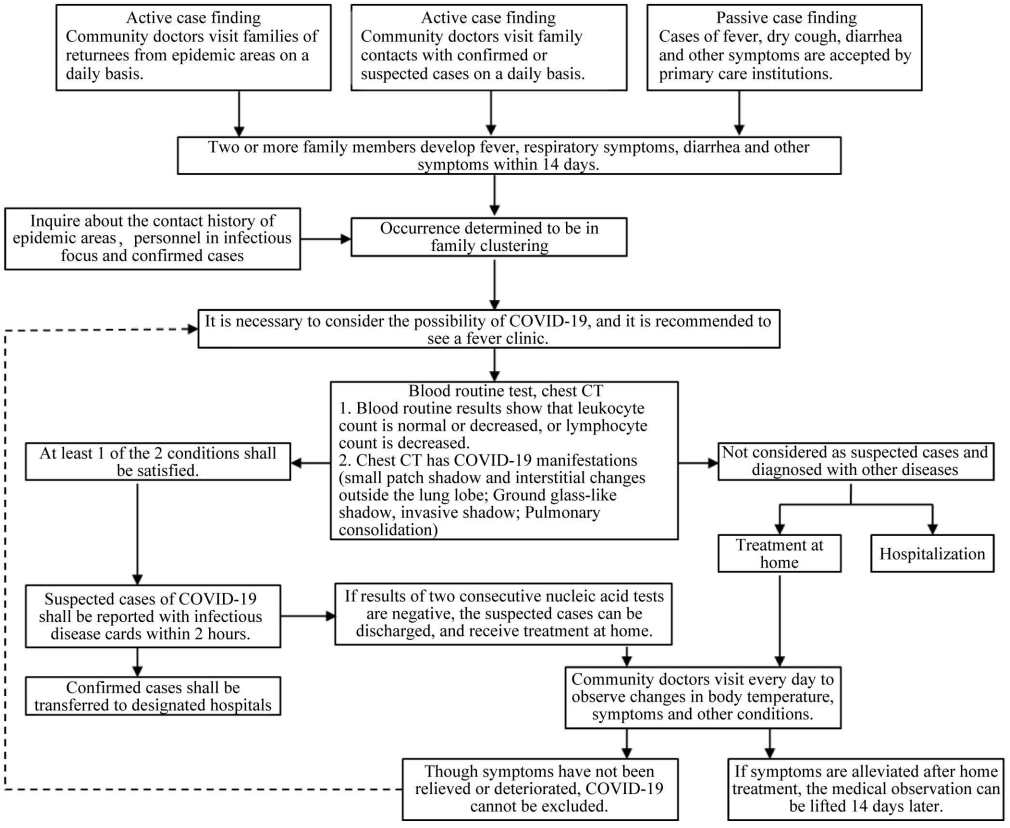

Fig. 6 Process Flow of Clustering Onset in COVID-19 Infected Families

5. How to provide psychological counseling for patients with clustering onset and close contacts personnel?

Guide patients and close contacts to pay attention to objective and correct epidemic information and not be affected by various negative news; Give timely medical help to reduce their panic caused by anxiety. Give correct guidance to the residents of the community through publicity.

VI. Follow-up Visit and Rehabilitation of Discharged COVID-19 Infected Patients

1. What is the discharge standard for COVID-19 infected patients?

(1) Body temperature returns to normal for more than 3 days

(2) Respiratory symptoms improve obviously

(3) Pulmonary imaging shows that acute exudative lesions are significantly improved

(4) Tested negative in nucleic acid tests for respiratory tract specimens such as sputum and nasopharyngeal swabs twice in a row (sampling time interval is at least 24 hours for two continuous

samples)

Those who meet the above conditions can be discharged from hospital.

2. How to manage discharged patients?

After discharge, patients should generally stay at home. Primary care medical institutions should make good contact with designated hospitals, accept patient information referred by designated hospitals in a timely manner, share medical records, and strive to achieve information sharing and business collaboration of residents' health records, electronic medical records, discharge follow-up files, etc. Guide discharged patients and their families to do isolation management and self-health monitoring as required; understand the patient's body temperature and respiratory symptoms in a timely manner, and focus on strengthening the monitoring of the elderly and discharged patients suffering from chronic basic diseases such as hypertension and diabetes. Provide community rehabilitation services or home rehabilitation guidance for discharged patients with mild or common symptoms as needed.

Primary care physicians assist designated hospitals to arrange follow-up plans 2-4 weeks after discharge and make appointments for follow-up time. Inform the patients that reexamination will focus on blood routine, biochemistry and percutaneous oxygen saturation, and the etiological detection of COVID-19 will also be reexamined when necessary. Patients with pneumonia should be examined by chest CT imaging to understand the absorption of pulmonary inflammation.

Carry out information interaction with discharged patients under management through online health consultation APPs, cable TV network and other means, and provide health management services for discharged patients through "Internet plus" and other forms.

See Fig. 7 for the management process of discharged patients

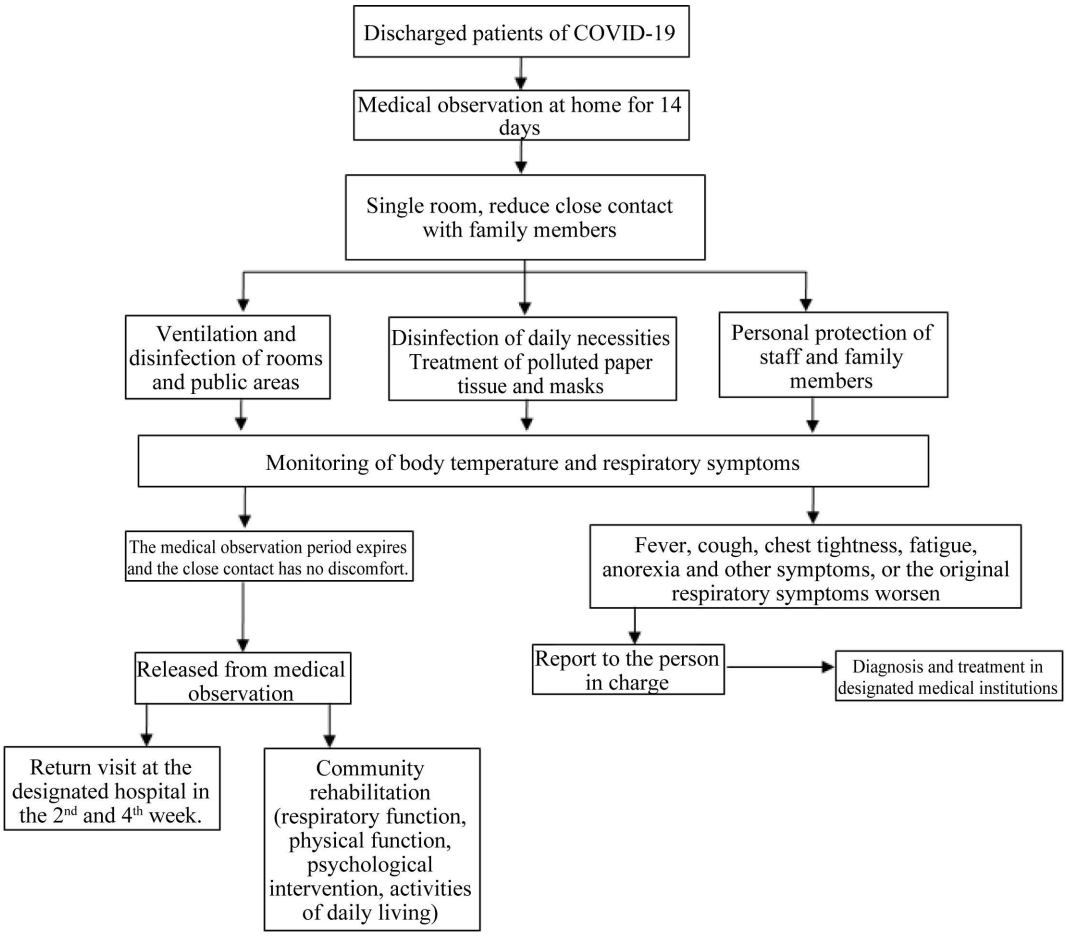

Fig. 7 Management Process of Discharged Patients of COVID-19 Infection

3. How to evaluate the functions of discharged patients after rehabilitation?

(1) Respiratory function evaluation: Dyspnea Index Scale (mMRC) is used for evaluation, and if possible, pulmonary function examination is recommended in regions or institutions.

(2) Physical function evaluation: Borg Scale of Perceived Exertion and unarmed muscle strength examination are used for evaluation.

(3) Mental function evaluation: Self-rating Depression Scale (SDS), Self-rating Anxiety Scale (SAS) and Pittsburgh Sleep Quality Index are used for evaluation.

(4) Evaluation of activities of daily living: the evaluation table of Modified Barthel index is used for evaluation.

(5) Six-minute walking test: Patients are required to walk as fast as possible in a straight corridor, and the six-minute walking distance is measured, with the minimum turn-back distance ≥ 30 meters.

4. How to provide rehabilitation guidance for patients with mild and common symptoms?

(1) Respiratory function training: including abdominal breathing training, pursed-lip breathing training, and guide patients to carry out respiratory rehabilitation exercise training.

(2) Aerobic exercise and strength training: Formulate personalized aerobic exercise prescriptions according to the individual conditions of patients, starting from low intensity, step by step, 20-30 minutes each time, 3-5 times a week. On the basis of aerobic exercise, carry out gradual resistance training in an appropriate amount.

(3) Psychological intervention: Design occupational therapy that can produce pleasant effect and divert attention to achieve the purpose of adjusting emotions and relieving pressure. Nursing staff and rehabilitation therapists trained in professional psychology can also carry out professional psychological counseling, including mindfulness relaxation therapy and cognitive behavioral therapy. The method of allowing patients to repeat their traumatic experiences should be used with caution so as not to cause repeated injuries to them. If the patient has mental disorders, it is recommended that psychiatric specialists intervene.

(4) Activity of daily living ability training: Provide guidance to patients on activities of daily living.

VII. Key Points of COVID-19 Prevention and Control Work in Affected Rural Areas

1. What is the work flow of COVID-19 prevention and control in medical institutions in rural areas?

The basic principles should be to improve the screening efficiency of suspected cases, control the source of infection as soon as possible, and protect the susceptible population from infection. Scientific and effective screening, test, examination and transfer procedures should be followed, and preview and triage, isolation observation room, fever clinic, etc. should be set up respectively. See Fig. 8 for the prevention and control process.

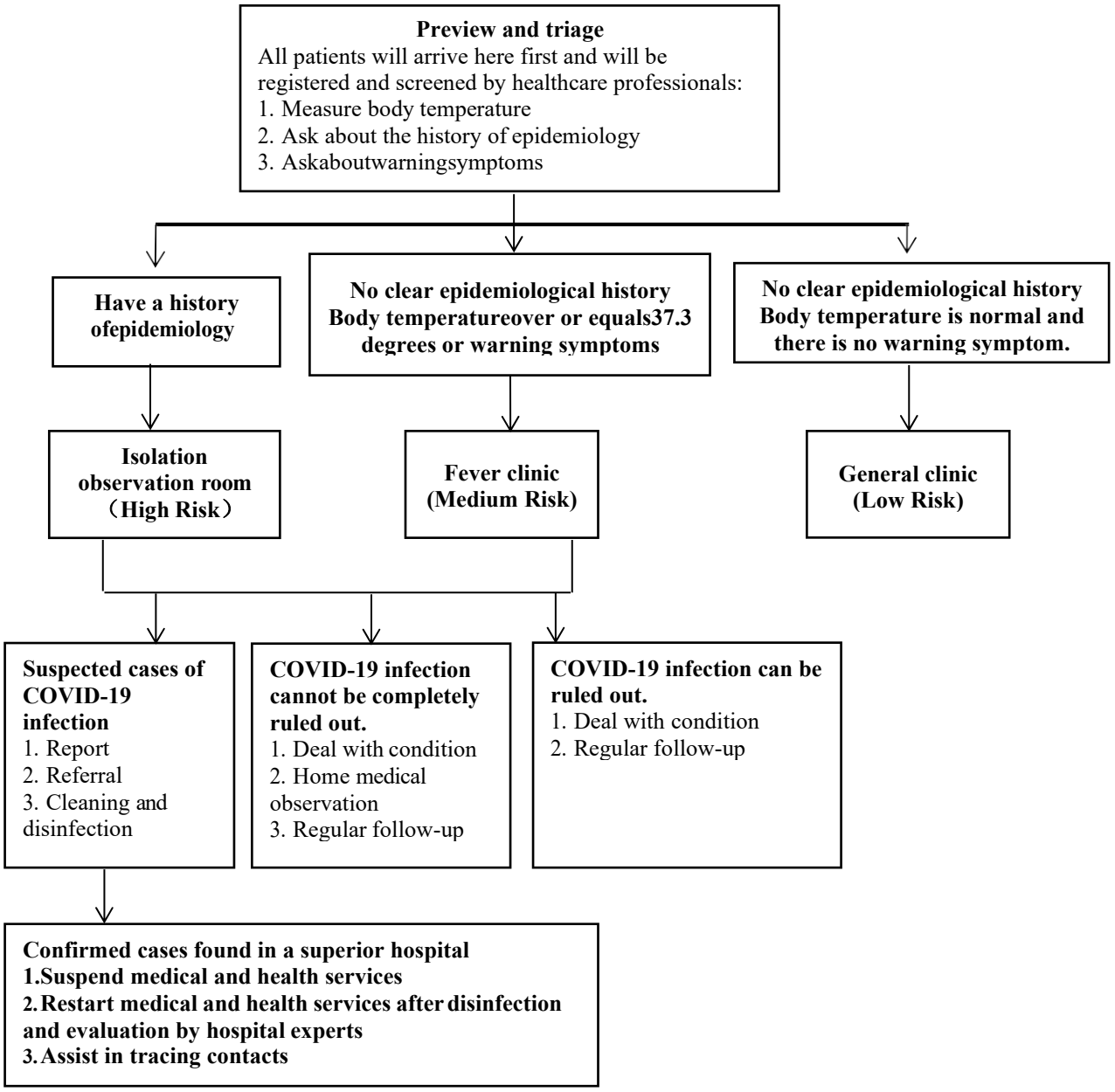

Fig .8 Flow chart of COVID-19 prevention and control in medical institutions in rural areas

2. How do primary care institutions in rural areas do a good job of referral during COVID-19 infection?

The main responsibility of medical and health institutions in rural areas is to find patients, do a good job of investigation, timely referral to designated medical institutions. If any patient in the suspected cases in the isolation observation room has epidemiological history, and meet the clinical manifestations of fever and/or respiratory symptoms, refer the patient to a superior designated medical institution for diagnosis and further treatment. On the way to the referral hospital, effective personal protection should be done, and ambulances can be used if possible. For suspected patients or patients with fever, primary care institutions should be responsible for the transfer of personnel, and severe cases should be transferred in ambulance.

3. How do medical personnel in medical institutions in rural areas take effective personal protection?

In order to avoid COVID-19 infection, healthcare professionals in rural areas should actively take

corresponding standard prevention and protection measures. Commonly used standard personal preventive measures are respiratory hygiene, hand hygiene, etc. Appropriate personal protective equipment should be used according to the risk assessment results (see Part One, Key Points of Standards for Prevention and Control of COVID-19 Infection for Healthcare Professionals in Primary Care Institutions).

Process of wearing and taking off protective articles: (1) how to wear protective articles. Wash or disinfect hands → put on protective hat → put on medical protective mask → put on isolation gown → put on gloves. (2) How to remove protective articles. Take off gloves → wash or disinfect hands → take off isolation gown → wash or disinfect hands → take off masks and hats → wash or disinfect hands.

4. How can medical and health institutions in rural areas keep villagers informed of diagnosis and treatment information and carry out health education?

The healthcare professionals in rural areas should maintain regular or constant communication with the villagers, continue to provide villagers with evidence-based cutting-edge information, and clearly answer villagers' questions related to the epidemic situation and response to their health-related knowledge consultation and education, reduce missed diagnosis, panic and false alarm, so that villagers or patients can realize that healthcare professionals are accurate, clear, continuous and cutting-edge information sources. Healthcare professionals in rural areas should ensure that the information they provide to villagers is consistent with that issued by relevant health departments in China. When communicating with villagers, use the easy-to-understand language and pay attention to and ensure the actual effect of communication with villagers and patients.

Choose the form of health education that will not cause crowd gathering. It is suggested to use online consultation services such as 24-hour telephone or WeChat, or to carry out online health education and health consultation services through remote consultation centers and health WeChat groups.

5. During the pandemic, how can medical and health institutions in rural areas carry out family doctor signing and basic public health services in an orderly manner?

Suspend services such as health examination for the elderly, reasonably adjust children's health care and vaccination clinic services, and suspend newborn visits and children's health examinations. For health management of pregnant and lying-in women, children, the elderly and patients with chronic diseases such as hypertension and diabetes, follow-up services can be carried out through online channels, such as telephone, WeChat, SMS, video, health online Apps, etc. Relevant follow-up records should be entered into villagers' health records in a timely manner. The family doctor service team should take the initiative to care for the contracted villagers, push targeted health education and epidemic prevention and control information, provide health education services, and guide the contracted villagers to carry out self-health management and personal protection. For patients with chronic diseases with clear diagnosis and stable condition, medical institutions should implement long-term prescriptions and extended prescriptions for patients with chronic diseases in accordance with regulations so as to reduce unnecessary frequency of visits.

VIII. Work Points of Designated Hospitals for COVID-19 Infection

1. What kind of people are admitted to designated hospitals?

According to the requirements of the local health department, the patients with confirmed severe diseases, suspected severe diseases and confirmed mild diseases infected by COVID-19 should be admitted to designated hospitals.

2. How to lay out the medical service areas of designated hospitals?

According to the latest edition of *Technical Guidelines for Prevention and Control of COVID-19*

Infection in Medical Institutions, *Observation Work Plan for First Diagnosis Isolation Points forPatients with Suspected COVID-19 Infection* and *Technical Specifications for Hospital Isolation*, reasonable layout of medical service areas is required.

It is suggested to provide "three areas" and "two channels": fever clinic and isolation ward are divided into "three areas", i.e. Clean area, potential contaminated area and contaminated area, and "two channels" are set up in the area: staff channel and patient channel.

3. How to allocate medical protective supplies in designated hospitals?

According to the latest edition of *Technical Guidelines for Prevention and Control of COVID-19 Infection in Medical Institutions* and *COVID-19 Diagnosis and Treatment Scheme*, the protective supplies are allocated in combination with the working conditions of medical institutions and the level of diagnosis and treatment operations. Refer to the following scheme:

(1) Intensive care unit.

① List of supplies: GB medical protective clothing, medical protective mask (N95), disposable goggles or protective masks, isolation gowns, disposable medical gloves, etc.

② Configuration standard: GB medical protective clothing, medical protective masks (N95), disposable goggles or protective masks, isolation gowns and other items, according to the number of critically ill patients for 6 shifts per day, 3 medical personnel per shift; Disposable medical gloves can be replaced at any time.

(2) Isolation ward (including some severe patients)

① List of supplies: Qualified medical protective clothing, medical protective mask (N95), disposable goggles or protective masks, disposable medical gloves, etc.

② Configuration standard: medical protective clothing, disposable goggles or protective masks (1 for one time-person per patient, 2 shifts per day; Medical protective masks (N95) (1 for one person-time per patient and replaced every 3-4 hours). Disposable medical gloves can be replaced at any time.

4. How to carry out disinfection for epidemic prevent and control in designated hospitals?

Based on the *Law of the People's Republic of China on Prevention and Treatment of Infectious Diseases*, medical institutions should carry out disinfection in accordance with the latest edition of *the COVID-19 Prevention and Control Plan, the General Principle on Disinfection for Epidemic Focus* (GB19193-2015), and *the Hygienic Requirements of Disinfectant in Epidemic Focus* (GB27953-2011). Please refer to Fig. 9 for the specific operation scheme.

Place	Key area	Disinfection object	Method	Disinfection duration	Operational precautions
Designated hospital	Preview and triage	Table surface	Wipe with 250mg/L-500mg/L chlorine-containing disinfectant or 75% alcohol	At any time	Level 1 protection is sufficient for daily preventive disinfection: masks, hats, gloves and white coats. Level 2 protection for terminal disinfection: mask, hat, 2 layers of gloves, isolation clothing, rubber shoes or shoe covers and goggles. For daily preventive disinfection, you can make cleaning before disinfection, but for terminal disinfection to the source of infection, the principle of disinfection before cleaning should be followed. Spraying disinfection: starting from the height of 1.5 m on the wall surface, and the ground, spray in the order of first left and then right, first top and then bottom, and then back and forth. The liquid medicine should be wet but cannot flow, and the liquid absorption volume should be 200 ml per square meter (i.e. for 8 L sprayer, about 40 ~ 50 m^2) , and open windows for ventilation after the sealing time is reached. Wiping for disinfection: used for valuables, non-corrosion resistant articles and workbenches.
		Hall	Open doors and windows for ventilation	At any time	
	Fever clinics, wards for infectious diseases	Foot pad at entrance (wards excluded)	500mg/L chlorine-containing disinfectant	Soak or spray, spray once dry	
		Wall and floor	Spray 1,000 mg/L chlorine-containing disinfectant	Once in the morning and once in the evening for at least one hour.	
		Valuable non-corrosion resistant medical articles	Wipe with 75% alcohol	At any time	
		Desktop or workbench in use	wipe with 1,000 mg/L chlorine-containing disinfectant	At any time, at least once in the morning and once in the evening.	
		Indoor air	Irradiate with fixed or movable ultraviolet lamp, a 30 W lamp for 15 m^2	At least once a day, it takes not less than 30 minutes to complete the irradiation work.	
		Terminal disinfection	Spray 1,000 mg/L - 2,000 mg/L chlorine-containing disinfectant	Ventilation after 2 hours of action	
	Public area	Desktop or workbench	Wipe with 500 mg/L chlorine-containing disinfectant or 75% alcohol	Once in the morning and once in the evening for at least 30 min.	
		Wall and floor	500mg/L chlorine-containing disinfectant		
		Valuable non-corrosion resistant medical articles	Wipe with 75% alcohol	At any time	
	Medical waste	Storage point	Spray 1,000 mg/L - 2,000 mg/L chlorine-containing disinfectant	Depending on the amount of the medical waste, it can be disinfected at any time when the amount is large. Twice a day if the amount is moderate.	
	Replaced protective supplies	Recyclable items	Soaked in 2,000 mg/L chlorine-containing disinfectant	After soaking for 1 hour, rinse repeatedly	
	Patient-related	Vehicles for transferring patients	Spray 2,000 mg/L chlorine-containing disinfectant		Disinfection after suspected or confirmed patients transferred alight the vehicles
		Clothing and bed sheets	Soaked in 250mg/L - 500mg/L chlorine-containing disinfectant	30 minutes	It is recommended to boil for 30 minutes. If soaked in disinfectant, the articles should be submerged in it.
		Secretion, excrement, vomit	Soaked and mixed in 30,000mg/L-50,000mg/L chlorine-containing disinfectant	For 2 ~ 6 hours	
		Corpse	Soak bed sheets in 50,000 mg/L chlorine-containing disinfectant	Timely handle the corpse after death	Soak cotton with disinfectant and block all cavities such as mouth, ear, nose, etc. with the cotton. Wrap the corpse tightly with soaked sheets and cremate it in time.

Figure 9 Knowledge of COVID-19 Prevention, Control and Disinfection in Designated Hospitals

5. What details need to be focuses in the management of the hospitalization process of confirmed and suspected patients?

Formulate a management system for patients entering and leaving the hospital, including confirmed and suspected patients entering the entrance of the ward building from the periphery of the center and taking special elevators. The patient's personal belongings should be packed in plastic bags and properly stored in the ward. Face-to-face visits are strictly prohibited for confirmed and suspected patients during hospitalization, and the articles sent to patients should be collected and handed over by the personnel in the isolation ward. Personal belongings (clothes, hospital documents, medical insurance cards, etc.) should be taken out of the ward after being disinfected by the hospital. Security guards should be arranged in the medical area to prevent patients from going out, escaping or having accidents.

6. How to dispose of medical waste in designated hospitals?

(1) Define classification and collection scope: Wastes generated from outpatient clinics and wards (rooms) related to diagnosis and treatment of COVID-19 patients and suspected patients, including medical wastes and domestic wastes, should be classified and collected as medical wastes.

(2) Standardize packaging containers. Warning signs should be provided on the outer surface of containers. Make sure that there is no damage or leakage before filling containers. The collection bucket should be the treadle type and covered. Use two packaging bags with gooseneck knot sealing at the same time, sealed separately.

(3) Carry out safe collection. Collect wastes as per medical wastes in a timely manner. When the outer surface of a container is polluted by infectious wastes, another packaging bag should be added. Collect disposable isolation gowns, protective clothing and other articles after use by category, and extrusion is strictly prohibited. Each packaging bag and sharp object box should be attached or pasted with a Chinese label, which includes: medical waste generating unit, generating department, generating date and category, and should be marked with "COVID-2019" in the special instructions.

(4) Carry out waste treatment by area. For medical wastes generated in potential contaminated areas and contaminated areas of fever clinics and wards (rooms) of COVID-19 patients and suspected patients, 1,000 mg/L chlorine-containing disinfectant should be sprayed on the surface of the packaging bag for disinfection (spraying evenly) or a layer of medical waste packaging bag should be added outside the packaging bag before such wastes leaving the contaminated area; and the medical wastes generated in the clean area should be disposed of as per the conventional medical wastes.

(5) Treat pathogenic specimens properly. High hazardous wastes such as specimens containing pathogens and related preservation solutions in medical wastes should be subjected to pressure steam sterilization or chemical disinfection treatment at the place of generation, and then collected and treated as per infectious wastes.

Part II COVID-19 Prevention and Control Standards for Different Populations

I. Prevention and Management of the General Population

1. Who are included in the general population?

The general population here refers to other people except the elderly patients with chronic diseases, pregnant and lying-in women and children. The general population is divided into three categories: people from areas with high incidence of epidemic; people from non-epidemic areas; and local healthy people. Different groups have different infection risks and different management processes.

2. How to manage personnel from areas with high incidence of epidemic?

For those who come from areas with high incidence of the pandemic within 14 days, 14 days of home or centralized medical observation should be strict implemented, with the neighborhood committee or village committee staff to collect basic information, and primary medical personnel to assist in health monitoring. During the observation, in case of fever, dry cough and other respiratory symptoms or diarrhea and other digestive tract symptoms, timely contact primary medical personnel for referral examination and follow-up results. If there are basic diseases such as hypertension, diabetes, chronic obstructive pulmonary disease, etc., and related problems or discomfort occur during observation, contact primary medical personnel in time and further treat the problems according to the disease condition (see Fig. 10).

Primary care physicians should strengthen health publicity and targeted guidance for the above personnel, and send health tips, self-protection knowledge, home disinfection and isolation knowledge through telephone, SMS, WeChat and other means.

3. How to manage personnel from non-epidemic areas?

It is recommended to adopt home isolation for 14 days since the arrival. In principle, one should not go out during the isolation period at home and should take proper personal protection. Primary care physicians should strengthen health education, publicize personal protection knowledge, home disinfection knowledge, etc. People with fever or other symptoms during observation should report in time and contact primary care personnel for relevant examination and treatment.

4. How to manage the local healthy population?

For local healthy people, primary care physicians can send health tips, self-protection knowledge, home disinfection and isolation and other knowledge to contracted residents through various channels for health education and health guidance. Questions related to the pandemic and health can be answered through WeChat, telephone, etc. Residents are advised to go out less and must take personal protection when going out.

In case of respiratory symptoms or other discomfort, primary care physicians can make inquiries and guide medication through telephone and WeChat, or the patients can go to nearby medical institutions for medical treatment while taking good protection.

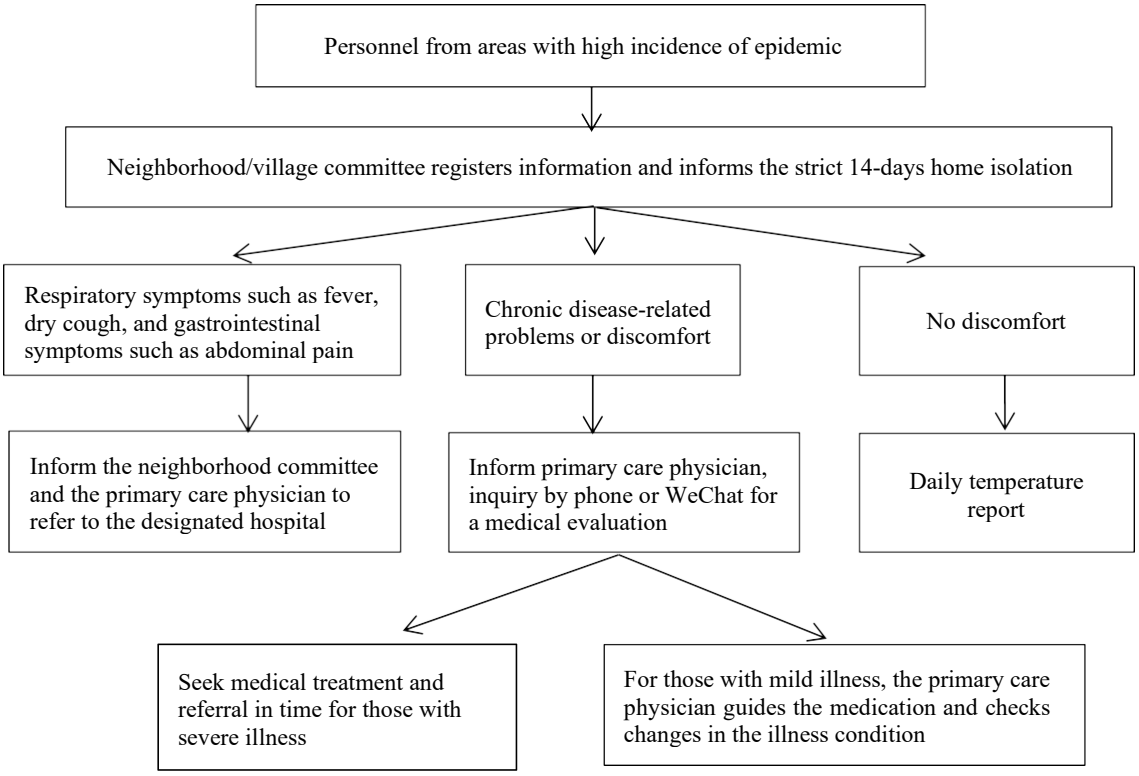

Fig. 10 Home observation management process of personnel from areas with high incidence of COVID-19

II. Home Prevention and Management of Elderly Patients with Chronic Diseases under Epidemic Situation

1. How to guide the elderly patients with chronic diseases to take proper prevention at home during the epidemic period?

The principle is to cut off the transmission route of the virus and enhance self-immunity.

(1) Minimize going out; refuse unnecessary visits and avoid activities such as visiting relatives and friends, holding or joining parties and dinners, and going out to play. If you do need to go out, wear a mask correctly, do not go to crowded places, and avoid taking a crowded transportation means.

(2) Pay attention to hand hygiene and cough etiquette; wash hands often with hand sanitizer or soap, especially after coughing or sneezing, before meals and after defecation, after returning home, etc. When sneezing or coughing, cover your nose and mouth with paper towel or elbow.

(3) Take regular indoor disinfection; wipe the surface of articles with chlorine-containing disinfectant, such as kitchen, tables and chairs; often open windows for ventilation to reduce the concentration of microorganisms in indoor air and reduce the risk of infection.

(4) Monitor body temperature and health status; in case of discomfort such as fever and cough, contact the neighborhood committee in time, consult community medical and health institutions or seek online consultation, and decide on further treatment measures according to the disease condition, so as to avoid blindly going to the fever clinic and increasing the risk of virus infection.

(5) Have a balanced diet, take regular work and rest and appropriate home exercise, such as radio gymnastics, square dance, Taijiquan and other sports.

(6) The elderly are suggested to do functional exercises and exercises to improve flexibility and balance ability. For stretch and swivel exercises aiming at the joint muscles of shoulder, neck, waist and back, each group of stretches should last about 20 to 30 seconds and a total of 2 to 4 groups are suggested. In addition, back bridge, Xiaoyanfei (exercise imitating a flying bird), etc. can also be practiced.

(7) Encourage elderly patients with chronic diseases to learn about COVID-19 through TV, radio, WeChat and other channels, build up confidence in overcoming the pandemic, and avoid severe insomnia, anxiety and depression caused by excessive panic.

(8) If there is a family member who is under home observation, the elderly and patients with chronic diseases should try their best to avoid contact with the observed member. If conditions permit, other family members should be responsible for taking care of the observed member. At the same time, tableware of such member should be separated from others. Eat separately and do not share towels and clothes.

(9) Carry out daily health monitoring, suspicious symptoms (fever, cough, sore throat, chest tightness, dyspnea, fatigue, nausea, vomiting, diarrhea, conjunctivitis, muscle soreness, etc.) should be promptly reported to the community to seek medical treatment.

2. How do primary care institutions carry out health management for elderly patients with chronic diseases during the epidemic period?

According to the regional epidemic prevention and control classification (low risk, medium risk, high risk), the differentiated management by region is implemented.

(1) Low risk regions

Provide normal medical and health services in an all-round way, including contracted family doctor services and basic public health services, to ensure the smooth implementation of outpatient medical treatment, inspection and other services. Health check-ups for the elderly can be arranged to assess their lifestyle and health status, and targeted health guidance can be given according to the results of the physical examination. Regular follow-up of patients with chronic diseases is carried out in the form of outpatient follow-up, telephone follow-up or family visit to inquire about the symptoms and lifestyle of patients, understand their medication status, evaluate the disease condition and carry out corresponding health education and classified intervention. In case of acute and critical illness, emergency referral should be carried out after treatment, and the referral should be actively followed up 2 weeks later.

(2) Medium and high risk regions

For medium-risk regions, it is required to gradually resume normal medical and health services as soon as possible, while carrying out epidemic prevention and control properly. For high-risk regions, the priority is to guarantee medical and health services for key groups. The above two types of regions have suspended the arrangement of health examination and other services for the elderly, and suspended face-to-face health management with the elderly and patients with chronic diseases such as hypertension and diabetes. Follow-up services can be provided through telephone, SMS, WeChat, health APPs and other means. Regular home visits for the elderly have been suspended. For patients who do need home visits, refer to the corresponding visit process. For patients with chronic diseases who need long-term medication, long-term treatment prescriptions should be adopted as far as possible to reduce the number of medical visits under the condition of ensuring medication safety. Rely on telemedicine to maintain contact with secondary and tertiary hospitals to realize the management of patients with special chronic diseases and the allocation of drugs. Dynamic adjustment should be made at any time according to the regional risk level to gradually resume normal medical and health services.

III. Home Prevention and Management for Children and Pregnant and Lying-in Women during the Pandemic

1. What aspects should be included in children's home prevention guidance during the epidemic period?

Carry out health education, popularize epidemic prevention knowledge, and guide parents to take proper prevention and control measures for children at home.

(1) Reduce going out. Try to avoid going out, visiting relatives and friends, or going to crowded places. If the children do need to go out, choose masks suitable for children, preferably N95 masks and disposable surgical masks, and wear them correctly with the help of parents. Parents wash their hands and change clothes after going out before contacting children. Refuse others to touch children or talk to children closely so to avoid contact between children and people infected with the novel coronavirus or who have been to areas with high incidence of the pandemic.

(2) Wash hands frequently. Wash hands in time after going home, before meals, after defecation, after sneezing and after touching unclean objects. Teach children six-step washing techniques to keep their hands clean. Older children can complete hand-washing independently under the guidance of their parents, while young children need to complete it with the assistance of their parents. At the same time, teach children to cover nose and mouth with paper towel or elbow when sneezing or coughing.

(3) Regular indoor ventilation and disinfection. For children's articles, clothes, toys, etc., 75% ethanol (medical alcohol) and chlorine-containing disinfectant (such as 84 chlorine-containing disinfectant) are selected for disinfection.

(4) Ensure children's balanced diet, regular daily schedule, adequate sleep and proper home exercise, and reduce their use time of electronic products. Breast-feeding is still suitable for infants, but mothers need to wear masks when feeding.

(5) Carry out health monitoring. Pay attention to children's body temperature, mental state, eating and sleep, etc. If there is fever, fatigue, cough, etc., contact the neighborhood committee in time, consult medical institutions or seek professional online consultation, and follow the doctor's advice.

(6) Pay attention to the psychological and emotional changes of children. Children may have negative emotions such as loneliness, irritability and loss after staying at home for a long time, so parents should understand this and increase communication with children and accompany them to have fun.

(7) Family members who have discomfort symptoms or are isolated at home should live separately from children to avoid direct contact with children.

2. Recommendations for children's vaccination during the epidemic period?

Vaccination should not be delayed: first, newborns should be vaccinated with the first dose of hepatitis B vaccine and BCG vaccine within 24 hours; second, if the mother is positive for hepatitis B surface antigen (HBsAg), the vaccination unit should vaccinate the baby with the second and third doses of hepatitis B vaccine as soon as possible; third, vaccination after rabies exposure and vaccination after tetanus toxoid exposure [1].

Vaccination priority for children who exceed the immunization schedule time: priority will be given to vaccination of national immunization program vaccines such as leprosy vaccine, mumps vaccine and other vaccines containing measles components, poliomyelitis vaccine and DPT vaccine [1].After the pandemic is over, arrange the vaccination make-up of all immunization programs in a timely manner.

Children who really need vaccination in the near future: vaccination units and vaccination personnel should reasonably arrange the opening time, carry out proper preview and triage, and require an interval of more than 1 meter between children. Actively implement telephone appointment, WeChat appointment and other methods, make vaccination plans, and implement off-peak medical treatment. The vaccination sites should be disinfected in strict accordance with regulations with ultraviolet rays, chlorine-containing disinfectants, etc., and windows should be opened regularly for ventilation to maintain indoor air circulation. At the same time, when parents bring their children to medical institutions for vaccination, they should wear masks and take personal protection. They should inform children to avoid touching objects, playing and gathering with other children everywhere. After vaccination, they should stay away from the crowd for 30 minutes in the

specified area and leave as soon as possible if there is no discomfort. After returning, pay close attention to the children's physical condition. Generally, fever, local redness and swelling after vaccination can relieve naturally without special treatment. If there are other discomfort that cannot be relieved, contact the vaccination unit or go to the hospital in time.

Precautions during delayed vaccination: Take health monitoring of children and other family members, touch children's foreheads in the morning and evening, and measure body temperature in time if there is fever. If family members have cough, sore throat and other symptoms, they should take the initiative to isolate them to avoid cross infection with children.

3. How to guide the home prevention of pregnant and lying-in women during the epidemic period?

Pregnant women at the second and third stages, once infected, are easy to suffer severe diseases that not only affect their health, but also endanger their fetuses. The main points of home prevention measures are as follows:

(1) Try to reduce going to crowded places, avoid close contact with others, avoid visiting relatives and friends, and wear masks when going out. Avoid contact with people with respiratory tract infections and people who have been to areas with high incidence of the pandemic within 2 weeks.

(2) Open windows for proper indoor ventilation, keep the temperature appropriate, and avoid cold.

(3) Pregnant and lying-in women's towels, bath towels, tableware, bedding and other personal daily necessities should be used separately to avoid cross infection. Tableware can be disinfected by boiling at high temperature for 30 minutes after use.

(4) Pay attention to hand hygiene. Wash hands with hand sanitizer/soap and running water before meals, after defecation and after getting home, or use alcohol-containing quick drying hand disinfectant. Avoid touching your nose and mouth with your hands. When sneezing or coughing, cover your nose and mouth with paper towel or elbow.

(5) Maintain balanced nutrition, work and rest regularly, sleep adequately, exercise properly, keep a good mood and strengthen weight management. Wash your hands correctly before breastfeeding.

(6) Self-health monitoring. Measure body temperature and body weight changes daily and monitor fetal movement regularly. In case of fever, cough, etc., consult primary care institutions or seek professional online consultation in a timely manner, and go to the hospital after protection when necessary.

Part III The Role of Primary Care Institutions in the Protection of Key Places, Institutions and Crowds

I. Personal Protection

1. How should students take protection measures on their way back to school?

When students return to school by public transport, it is suggested to wear a disposable medical mask throughout the whole journey. Take health monitoring on the way back to school, and take the initiative to measure the body temperature when you feel feverish. In case of suspicious symptoms, you should wear a surgical mask, avoid contact with other personnel as much as possible, inform your guardian and crew members, and follow the guide of the crew members for isolation or medical treatment.

2. What should students pay attention to after returning to school?

After returning to school, students should monitor their body temperature and health status every day and try their best to stay at campus.

Wear masks correctly and avoid participating in gathering activities. If you need to have close contact with teachers and classmates, you should try to keep a distance of 1 meter.

Have meals in off-peak hours and eat separately. Maintain hand hygiene and cough etiquette. In case of suspicious symptoms, teachers or guardians should be informed in time and medical treatment should be carried out according to regulations.

3. What should employees of enterprises do for health protection?

If employees have suspicious symptoms such as fever, fatigue, cough and sore throat, they should not go to work, but report such symptoms and seek medical treatment in time. It is suggested to establish a personal health declaration system. Set up a body temperature detection point at the entrance of the office, and personnel entering and leaving the office should take body temperature. Those whose body temperature exceeds 37.3°C are not allowed to enter. Ventilation should be strengthened in the office space. Natural ventilation is preferred. Window opening and ventilation should be conducted every 2-4 hours for 20-30 minutes each time. For offices with a large number of personnel, the times of window opening can be appropriately increased. If air conditioning is used, ensure the air supply safety of the air conditioning system and the sufficient fresh air input. All exhaust air should be directly discharged to the outside. Ensure the normal operation of hand washing facilities. Employees should wash their hands first when entering office areas, workshops and dormitories. When conditions permit, prepare quick-drying hand disinfectant and inductive hand disinfection facilities. Public goods and public areas (floor, corridors, toilets, elevators, etc.) should be cleaned and disinfected regularly to maintain environmental sanitation, cleanliness and timely removal of garbage. When there are many people in the same office, it is recommended to wear disposable medical masks that meet the requirements and keep a moderate distance (more than 1 meter).During the epidemic period, reduce the number of centralized meetings and try to hold remote video meetings, telephone meetings and other meetings through the network. Organizations that provide centralized meals should pay attention to food safety and hygiene. Meals should be divided into different time periods as far as possible to avoid gathering. Seating intervals should be kept at more than 1 meter. Enterprises should pay special attention to protective measures during work, supply of protective materials, and personnel reserve and training.

4. What are the precautions when collecting express packages?

Express locker is the first choice for collecting packages. Non-contact methods such as fixed-point receiving and sending, fixed-point delivery, etc. should be adopted. After receiving packages, hand hygiene should be done in time.

5. What should I pay attention to when going to the hospital?

If medical treatment is needed during the epidemic period, try to choose the nearest medical institution that can meet the needs of diagnosis and treatment and has a small number of patients. Make an appointment and preparation before going to the hospital. Avoid public transport on the way to the hospital. Only necessary examinations and medical operations should be performed when seeking medical treatment. Non-fever patients should avoid fever clinic as much as possible when seeking medical treatment. The time for medical treatment should be shortened as much as possible. Wear a mask during the whole process of medical treatment and carry out hand hygiene in time.

6. How to protect bare parts such as face and hands when going to the hospital?

It is recommended to wear long-sleeved clothes and trousers when going to the hospital for medical treatment during the epidemic period. Wear masks and gloves all the way. Avoid touching public facilities and articles with hands during medical treatment. Wash hands with soap or use quick-drying hand disinfectant for hand hygiene in time after medical treatment.

7. How to eat safely during isolation at home?

During home isolation, pay attention to food safety and hygiene first. Do not eat raw or undercooked milk, eggs or meat. The cutting tools and chopping boards used for cutting raw food and cooked food should be fixed and used separately. Secondly, pay attention to balanced diet.

Ensure food diversity, eating both refined grains and coarse grains, both meat and vegetables. Have enough fresh fruits and vegetables, as well as sufficient water.

8. What should I pay attention to when going out during the epidemic period?

If you need to go out during the epidemic period, you should try to avoid places with dense crowds and poor air circulation. Once virus carriers enter, the virus will easily spread in these places. You should try to choose walking, cycling or traveling by private car when going out. When choosing public transportation facilities, you should wear a mask all the way to avoid contact with public goods in public places and reduce the chance of contact with viruses. At the same time, close contact with people with respiratory symptoms (coughing or sneezing) should be avoided as much as possible.

9. What should I do when I return home during the epidemic period?

After returning home, first take off the mask in the correct way and put it in a special position. Disposable masks should be discarded according to relevant requirements. The coat and shoes you wear when you go out are suggested to be placed at the door area. Then wash hands with hand sanitizer/soap and running water, or use quick drying hand disinfectant containing ethanol.

II. Protection Measures of Public Places and Vehicles with Poor Air Circulation

1. How to prevent and control COVID-19 in public places during the epidemic period?

(1) Maintain indoor air circulation in public places: Adopt natural ventilation, and exhaust equipment such as exhaust fans can also be turned on to strengthen indoor air circulation.

(2) Set up a body temperature monitoring post at the door to measure the body temperature of each employee and customer. Only when the body temperature is normal can the personnel enter, and they should always wear masks.

(3) Use elevators reasonably, limit the number of people taking elevators each time, and keep a proper distance.

(4) Set up an emergency area for people with suspected symptoms for temporary isolation in time, and then deal with them in accordance with relevant regulations.

(5) Strengthen daily health protection and health education: ① Maintain environmental sanitation and timely clean up wastes. ② Keep toilets clean and dry, provide hand sanitizer, and ensure normal use of faucets and other facilities. ③ Strengthen cleaning and disinfection of public goods and public contact articles. Wipe surface of such articles with chlorine-containing disinfectant with available chlorine 500 mg/L, and wipe with clear water after 30 minutes.

(6) Cancel unnecessary indoor and outdoor mass activities.

2. How to protect public transport means such as passenger stations, bus stations and airports during the epidemic period?

(1) Conduct passenger information registration. Information such as the type and number of passenger identity documents and contact number are collected through ticketing declaration and online declaration of scanning two-dimensional codes.

(2) Control the number of passengers, and arrange passenger to sit separately as far as possible.

(3) Conduct body temperature monitoring, and passengers above 37.3°C should be temporarily isolated in the emergency area.

(4) Passengers and attendants wear masks; passengers keep quiet as much as possible to reduce communication, and cover their nose and mouth with paper towels or elbow and arm when sneezing.

(5) Increase the number of disinfections in public facilities and public areas, and equip toilets and

hand basins with disinfectant. Spray 500 mg/L chlorine-containing disinfectant twice a day for disinfection, and wipe it clean with clear water after 30 minutes.

3. How to take protection measures when taking a taxi during the epidemic period?

(1) The interior of the vehicles should be cleaned and disinfected before carrying passengers every day.

(2) The drivers carry disinfectant wipes to increase the frequency of cleaning and disinfection of door handles and other parts.

(3) The drivers wear masks and remind passengers to wear masks, reduce communication, and cover their nose and mouth with paper towels or elbow and arm when sneezing.

(4) Vehicles should be equipped with disinfectants. When passengers vomit, disinfectants should be used to cover and disinfect vomitus. Then remove vomitus and disinfect the surface of objects with disinfectants.

(5) If disinfection is required, the disinfectant containing available chlorine 250 mg/L ~ 500 mg/L can be used to spray or wipe the car. However, attention should be paid to wiping it clean with clear water after 30 minutes of disinfection to reduce the corrosion of chlorine-containing disinfectant to articles. Disinfectant wipes can also be used for wiping and disinfection. If there are suspected and confirmed patients, the terminal disinfection of the vehicle should be conducted under the guidance of professional personnel.

4. How to use air conditioning and ventilation systems in public places safely and rationally during the epidemic period?

(1) When the air conditioning and ventilation system is an all-air system, the return air valve should be closed to choose the completely new air mode.

(2) When the air conditioning and ventilation system is a fan coil unit plus fresh air system, it should ensure that fresh air is directly taken from the outside, and it is forbidden to take air from the machine room, corridor and ceiling.

(3) For rooms with a large depth, measures should be taken to ensure ventilation in the internal area.

(4) When the air conditioning and ventilation system is a fan coil unit system without fresh air (similar to household split air conditioning), doors or windows should be opened to enhance air circulation.

(5) The new airport and its surrounding environment must be cleaned and disinfected to ensure that fresh air is not polluted.

III. Workplace Protection

1. How to prevent and control COVID-19 in public places during the epidemic period?

(1) Define subjects of responsibilities and establish a targeted prevention and control work plan.

(2) Establish a health monitoring system to monitor body temperature every day. Monitor the health status of the staff on their way to and from home, and report suspected symptoms of the staff and seek medical treatment in time. People are not allowed to go to work with diseases.

(3) Reduce the density of personnel, reduce common goods, shorten communication time, maintain mutual spacing, and minimize the risk of infection. Establish a flexible working system. It is recommended that each person's office area should not be less than 2.5 square meters, and the distance between two persons should not be less than 1 meter.

(4) Reduce gathering activities. Meetings should be held by video, Internet, telephone and other means.

(5) Maintain indoor air circulation, giving priority to ventilation and cleaning and sanitation. Carry out preventive disinfection on public goods and parts such as table (bench) surfaces, door handles, faucets, handrails, etc. that are frequently touched. When necessary, preventive disinfection should be carried out on the ground and walls. For details, please refer to the *Guidelines for Preventive Disinfection during the COVID-19 Pandemic*.

(6) Staff should maintain personal hygiene, wash hands frequently and wear disposable medical masks. Keep work clothes clean and sanitary.

2. How to take protection measures when eating in the dining hall?

(1) Maintain air circulation, with cleaning as the main method and preventive disinfection as the auxiliary. Food and drinking utensils should not be shared with others and should be disinfected after use.

(2) Set up a special person or post a reminder in a conspicuous position to remind dining staff to wash their hands before purchasing (taking) meals and keep their hands hygienic.

(3) Do not take seats together. Do not chat when eating. Wear a mask all the way when waiting and after eating. The distance between personnel should be kept at more than 1 meter.

(4) Organizations with a large number of personnel should take personnel dispersion measures to extend the dining time, let people eat at off-peak hours and reduce the gathering of personnel.

(5) If conditions permit, organizations should distribute lunch boxes to employees to avoid dining in the dining hall, reduce gathering and reduce risks.

3. How to take protection measures when taking escalators and elevators?

(1) It is suggested to avoid taking elevators as much as possible. When taking elevators, wear masks, limit the number of people each time, and keep a proper distance from each other. If someone waiting has suspicious symptoms such as cough, you are recommended to avoid taking the elevator with such person.

(2) Conduct proper cleaning and disinfection. The ground and side walls of elevators should be disinfected twice a day. The frequent contact parts such as elevator buttons and escalator handrails should be disinfected not less than 3 times a day.

(3) When pressing elevator buttons, you can use facial tissue or wet wipe to wrap your finger to avoid direct contact. And wash your hands in time after touching buttons. Don’t eat in the elevator. After leaving the elevator, first clean your hands. You can use hand sanitizer (soap) and running water to wash your hands, or use hand disinfectant containing ethanol.

4. How to take protection measures when working in the office?

When there are more than one people in the same office, it is recommended to wear masks and keep a moderate distance from others. Keep the air circulation in the office. Don’t spit on the ground. You can spit on paper towel first and throw it into closed garbage bin when convenient. When coughing or sneezing, you should cover your nose and mouth completely with paper towel and then throw it into a closed garbage bin. If there is no paper towel, your elbow can be used to cover the nose and mouth to prevent the spread of the virus. Try to avoid all kinds of parties and eat at off-peak hours. Pay attention to personal hygiene and wash hands frequently.

IV. Kindergarten Protection

1. How to take protection preparation before kindergartens open?

(1) Formulate the epidemic prevention and control work plan, including the responsibilities of each post, emergency plan, etc., and train and drill the corresponding personnel.

(2) According to the requirements of the higher authorities and the latest version of COVID-19 prevention and control plan, all teaching staff should be trained in system, knowledge and skills.

(3) Prepare sufficient prevention and control materials, including protective articles such as masks and thermometers, and disinfection articles such as chlorine-containing disinfectant. Set up a temporary isolation room of which the location is relatively independent.

(4) Conduct cleaning and preventive disinfection.

(5) Collect the location and health status of each teacher and student. All teachers and students who go out will be isolated at home for 14 days after returning to their place of residence. Only healthy people can enter the school.

2. How to carry out protection after kindergartens open?

(1) Carry out health education on protection work for parents, teachers and students to develop good health habits.

(2) Strengthen ventilation in public places, with ventilation not less than 3 times a day and not less than 30 minutes each time. The kindergarten ground, surface of facilities and objects in public areas should be disinfected and recorded regularly every day, and public class sites should be disinfected once before each class of students entering such sites. Strengthen garbage classification and timely disposal.

(3) Teachers wear medical masks when giving lectures.

(4) Staff and children should take their body temperature when entering the kindergarten every day. Parents should not enter the kindergarten. Children's health conditions should be checked the in morning, at noon and in the evening, and full-day observation should also be conducted. If there is any discomfort such as fever, the emergency plan should be started immediately.

(5) Strengthen the management of sick leave and absence, make records, follow up, register and report in time.

(6) Try to avoid organizing large-scale group activities.

3. How to deal with suspected or confirmed cases in kindergartens?

(1) A teacher with suspected symptoms should immediately wear a mask to go to the fever clinic.

(2) If a child has suspected symptoms, the kindergarten should immediately use the (temporary) isolation room, and notify parents to take their child to a nearby medical institution with pediatric fever clinic while taking proper health protection. At the same time, special personnel will be assigned for follow-up.

(3) Investigate the general contacts who live and study together with the confirmed or suspected patients, and conduct disinfection under the guidance of the prevention and control center or the medical institute. Teachers and students who are judged to be close contacts should be isolated for 14 days according to regulations.

V. School Protection

1. What preparations should be made before school starts?

(l) Formulate a sound emergency plan for infectious disease prevention and control according to the situation of the school.

(2) The school has a daily collection of the health status of teaching staff and students and implements the "daily report" and "zero report" systems.

(3) The school carries out knowledge and skills training on prevention and control regulations, personal protection and disinfection for all teaching staff.

(4) Thoroughly clean the school before the start of school, carry out preventive disinfection on the surface of objects, and open windows and ventilate the classroom.

(5) All teaching staff and students who go out or go to another city should be isolated at home for 14 days before returning to school.

(6) Set up a (temporary) isolation room with relatively independent location to temporarily isolate personnel in case of fever and other symptoms.

(7) Prepare materials, including thermometers, hand sanitizer, hand disinfectant, masks, gloves, disinfectants and other necessary protective articles and disinfection articles.

2. How should prevention and control work be carried out after school starts?

(1) Collect the health status of teaching staff and students every day by the morning and noon examinations, implement the "daily report" and "zero report" systems, and report to the competent department.

(2) Strengthen the cleaning and disinfection of object surfaces, key places and floors by spraying or wiping with disinfectant with available chlorine 500 mg/L.

(3) Strengthen ventilation in public places, with ventilation not less than 3 times a day and not less than 30 minutes each time. Choose all-fresh air mode for centralized air conditioning and ventilation system.

(4) Strengthen the cleaning and disinfection of food (drinking) utensils. Food (drinking) utensils should be used separately by different people and be disinfected after use.

(5) Strengthen the classified management of garbage, collect and remove it in time, and disinfect it regularly with disinfectant with available chlorine 500 mg/L.

(6) Strengthen personal protection. School gate guards, cleaners and canteen staffs should wear disposable medical masks or surgical masks.

(7) Strictly implement hand hygiene measures for teaching staff and students.

(8) Strengthen the management of absence due to illness. Make records of absenteeism, early departure and leave, and timely follow up and report teaching staff and students who are absent from work or study due to illness.

(9) Avoid organizing large-scale group activities.

(10) Instruct teaching staff and students to avoid going to crowded places, especially places with poor air circulation, and to reduce unnecessary going out during the epidemic prevention and control period.

3. What prevention and control measures should be taken when suspected cases occur on campus?

(1) If teachers and students are found to have suspicious symptoms such as fever, fatigue and dry cough, they should be isolated immediately and arranged to seek medical treatment nearby.

(2) Timely report to the disease control and prevention institution or medical institution in the jurisdiction, and actively cooperate with the epidemiological investigation.

(3) Disinfect the environment and articles under the guidance of CDC personnel in the jurisdiction.

(4) Teachers and students who are determined to be close contacts should receive 14 days of home or centralized isolation for medical observation.

VI. Nursing Home Protection

1. What is the focus of risk prevention and control in nursing homes?

For nursing homes, it is necessary to focus on preventing and controlling imported epidemic cases and internal spread of the diseases.

2. What are the preventive control measures for nursing homes?

(1) Air circulation: Nursing homes need to maintain good air circulation.

(2) Health monitoring: Measure body temperature in the morning and evening respectively every day, register daily information, ask about the physical condition of the elderly at any time, and pay attention to the elderly who take drugs for a long time for chronic diseases.

(3) Set up a temporary isolation point: The temporary isolation room should be located in the downwind area of the nursing home with low flow of people, good ventilation and independent toilet.

(4) Personal protection of staff: Wear masks at work and strictly abide by the "four hand cleaning moments": before contacting the service object, during the service process, after contacting the service object's domestic waste, and after cleaning the environment.

(5) Material preparation: Prepare prevention and control materials and provide sanitary products such as hand sanitizer, soap and paper towel.

(6) Environmental sanitation: The main method is cleaning, supplemented by preventive disinfection, to avoid excessive disinfection.

(7) Strict visiting system, avoiding necessary visits. Conduct health registration of visitors and ask about their recent travel history. Those with fever, dry cough and other symptoms should be refused to enter the nursing home. Visitors should wear masks strictly.

(8) Emergency management: In case of physical discomfort or disease onset of the elderly, staff of the nursing home should discuss with the elderly and their families in time. After reaching an agreement, they should seek help from medical institutions or call 120 emergency calls for medical treatment. When returning from a medical institution, the elderly should be isolated and observed for 14 days, and move in the nursing home when there is no abnormality.

3. How to prevent and control suspected and confirmed cases in nursing homes?

(1) Pay close attention to the health status of the personnel in the institution. In case of confirmed or suspected cases, patients should be isolated and observed immediately and sent to a doctor for investigation in time. Carry out comprehensive disinfection of such patients' possible activity sites, standardize the disposal of their personal belongings, and carry out 14 days of isolated medical observation on the close contacts as required.

(2) Restrict the activities of roommates of fever patients, and require them to wear masks and avoid contact with others.

(3) Cooperate with the CDC within the jurisdiction in epidemiological investigation of suspected or confirmed cases, as well as investigation of close contacts.

Part IV Psychological Intervention against COVID-19

I. Common Psychological Problems and Solutions of Different Groups

1. What are the common physical and mental reactions?

Physiological aspects: insomnia, fever, dizziness, headache, palpitation, chest tightness, blood

pressure changes, nausea, vomiting, sweating and other physical discomfort.

Emotional aspects: fear, nervousness, anxiety, depression, anger, helplessness, grief, worry, irritability, remorse, guilt, etc.

Behavioral aspects: increased alertness, paranoia, impulsiveness, hostility, tense or too close interpersonal relationships, decreased decision-making power, avoidance, social withdrawal, slow response, numbness, alcohol abuse or excessive smoking, etc.

Cognitive aspects: lack or loss of certainty, security, trust and control, difficulty in concentrating, memory decline, etc.

2. What impact will the public's psychological experience in the early stage of prevention and control have on the future?

The outbreak of the pandemic was sudden, and the public was not given sufficient time to prepare psychologically. The public's psychological gap was large. The initial medical resources could not meet the demand for medical treatment at first. Worry, anxiety, terror, weakness, anger and even despair were common in communities and fever clinics. Although this problem has been solved gradually, people who have experienced this stage will maintain the psychological shadow more or less. If relatives and friends died, many people will feel guilty, regretful and unable to accept the reality. Generally, such emotion will be relieved within one month. If it exists for more than 3 months, it is recommended to go to a psychiatric specialist for help.

3. What psychological problems will the cured patients have during the recovery period? What are the solutions?

- Some patients may have the idea that "if they survive in great trouble, they will be blessed". After being discharged from hospital, they will become careless and indulge themselves, failing to carry out isolation and reexamination according to regulations.

- Some patients suffer from excessive worries about positive nucleic acid examination, nervousness, anxiety, excessive attention to their physical condition, insomnia, and even depression.

- There are also patients who use the term "that disease" to refer to COVID-19. This psychological isolation to some extent shows that they are unwilling to accept the fact that they have been ill.

First of all, tell patients that the above psychological problems are normal stress reactions of people after experiencing major emergencies. Secondly, guide patients to gradually resume normal life, work and rest regularly, keep in touch with relatives and friends, and enrich their lives. Thirdly, inform patients that they can get help through the online psychosocial support platform or the local hotline, take the initiative to carry out psychological counseling, and gradually get rid of their psychological burden. Finally, if a patient's self-psychological adjustment lasts for more than 2 weeks but the effect is not good, or even gradually aggravates, and affects his/her daily work and life and interpersonal communication, recommended he/she go to the psychiatric department or clinical psychological department of a psychiatric hospital or a general hospital for treatment.

4. What are the characteristics of the psychological problems of healthcare professionals in primary care institutions? How to resolve them?

In addition to infection risks, the workers in primary care institutions undertake a lot of overloaded work. In particular, the workers in non-infectious departments need to remember the knowledge about COVID-19 prevention and control in a short time and get familiar with related policies and measures of prevention and control, but also should instruct community residents in prevention and control. In months of continuous work, involving various emotions of the masses and demands of superiors, the psychological changes of community healthcare professionals under pressures are likely to cause occupational exhaustion, manifested by emotional indifference, fatigue, low efficiency, lack of the sense of accomplishment, dependence on tobacco and alcohol and even self-harm, which may be mistaken as inexertion or non-performance.

During the relatively stable epidemic or holidays by turns, community healthcare professionals may be led by trained psychiatrists or mentally healthy workers in relaxation training and group activities, including the Balint team, and emergency communication. For healthcare professionals who have directly dealt with deaths in the community, it is recommended to take individual medical interviews. For the healthcare professionals with obvious stress responses, such as repeated

intrusive thinking, repeated nightmares, unwillingness to see people, and increased alertness, psychiatric evaluation should be carried out. Those suffering from post-traumatic stress disorders should receive psychotherapy or appropriate medical intervention for two months at least.

5. What are the characteristics of psychological problems of community management personnel? How to resolve them?

The occupational exhaustion of village (neighborhood) committee staff, grid staff and public security officers is similar to that of community healthcare professionals. Different tasks are to be completed at different stages of prevention and control. Continuous adjustment of prevention and control measures and security needs will lead to pressures on community management personnel and may affect their psychological state.

Community management personnel can relieve psychological pressure through thematic group discussions consisting of three parts. First, what is the biggest pressure during fighting against this pandemic? Then, what has been done? After the two issues are discussed, group sharing should be performed. Finally, mental health professionals or workers should present psychological stress issues and occupational burnout knowledge. Community cadres are encouraged to seek help through psychological hotlines and online psychological service platforms. For those with serious psychological problems, those who continuously feel bad, pessimistic and disappointed, are advised to receive further psychiatric examinations.

6. What are the characteristics of psychological problems of community security personnel and volunteers? How to resolve them?

Community security personnel and volunteers directly provide management services to community residents. They are main objects of community complaint and dissatisfaction, and are likely to be forgotten during commending and rewarding. They have the same psychological stresses as the masses, but are hardly concerned about in psychological intervention services and psychological support. Particularly, online service volunteers are likely to be forgotten in subsequent psychological assistance services due to high mobility.

For these people, psychological education should be performed in a simple manner, including the understanding and identification of common psychological responses, learning to talk to people as appropriate, and encouragement of pressure relief by familiar and skilled means (e.g. sports, binge-watching and listening to stories). Volunteers should disengage them from the voluntary services that have been completed and return to their normal life, to avoid alternative trauma. If pressure cannot be relieved by the aforesaid means, assistance may be sought from mental health professionals.

7. What psychological problems may children and adolescents have? How to help them?

The sudden tension and adults' anxiety during the pandemic will make children and adolescents feel worried and fearful, and some of them may experience stress-related emotional responses and behaviors, which vary for children at different ages.

Preschool children are not able to fully understand the causes of specific events and adults' anxiety as they are still young, but they can feel changes in adults and their living environment, showing more physiological responses (eating and sleeping) and behavioral responses (e.g. crying and sticking to people). They may also be quieter and act better. Parents need to understand that children's physiological changes may be caused by psychological impact.

School-age children are more concerned about and fearful of physical injury, illness and death. They may demonstrate behavioral regression, repeated play of games of related topics, repeated inquiries, nervousness, fear, increased aggressive behaviors. Parents should not deem them ignorant and disobedient.

The most common responses of adolescents include anxiety, worry, depression, anger and other emotions, or aggressive or risky behaviors. They are susceptible to individual phenomena or speeches, which may affect their values and worldviews. Parents should maintain appropriate communication with their children, keep abreast of their emotional responses and thoughts, resolve their distress, and provide safety guidance.

General principles: Instead of being flustered and irritable, parents should comfort children and adolescents in words and sentences can be understood by them, explain changes in the surrounding environment, and have more companionship and parent-child interaction, to grant children and adolescents a sense of security. If the child has excessive worry about diseases, parents can tell stories about human fight against diseases and the latest knowledge about diseases (e.g. people are unlikely to be affected if wearing masks and not going out temporarily, in accordance with the requirements for prevention and control), depending on the ages of children, thus reducing unnecessary excessive panic of children.

8. How to help people whose relatives have passed away?

Some people have psychological trauma as they cannot accompany and farewell to their relatives at the end of their life during the pandemic. They should be cared more, to help them through normal sad responses, gradually face the sadness and establish a new life-work relationship.

The psychological assistance to grief is divided into four steps: 1. gradually help them to accept the fact that their loved ones have passed away; 2. encourage and instruct them to express sadness as appropriate; 3. help them overcome obstacles in adaptation after the death of a loved one; 4. help them to gradually accept and adapt to the new environment. Through farewell activities, the bereaved should be assisted to make a final farewell, and supported and encouraged to continue their life and start a new relationship in a healthy and frank manner.

The bereaved suffering from complicated grief or other serious mental and physical illnesses (e.g. depression and suicide) should be transferred to a professional institution in time for grief psychotherapy or specialist treatment.

II. How to Identify Special Concerns?

1. Who are high-risk people for psychological problems related to the pandemic?

Families involving the death of a loved one, or with more than one person infected, or suffering from major property losses or extreme financial difficulties during the pandemic;

Patients with acute stress disorder, post-traumatic stress disorder and depression due to the pandemic;

Patients involving attempted suicide, depression, schizophrenia, alcohol abuse or drug dependence before the pandemic or those suffering from severe physical diseases;

Peoples with no or insufficient social support systems in daily life, such as the empty-nest elderly, divorced, widowed or single;

People undertaking some tasks in epidemic prevention and control, individuals without satisfactory or expected results, or people facing job adjustments for various reasons.

2. How to assess the level of suicide risk? How to deal with it?

Suicide assessment can be divided into four steps: pessimism, despair, suicide plan, and suicide attempt.

For those who feel a little pessimistic about life, the cause of pessimism should be investigated and actively listened, and social resources should be linked to provide psychosocial support;

For those who feel desperate on the basis of pessimism, the cause of despair should be investigated, and assistance should be requested from mental health professionals, in addition to psychological support;

People who have been found with a suicide plan, such as those who have visited the site and prepared drugs, should be transferred to mental health professionals in time.

People who have attempted suicide should be immediately transferred to mental health professionals.

3. How to evaluate needs of psychological services via mental health self-assessment questionnaires?

Different countries may use different questionnaires which are most common used and have been standardized by local population. Here are two examples used in China as a reference.

The SRQ-20 questionnaire is a kind of self-screening questionnaire regarding psychological service needs. It is applicable to adults, with a total of 20 questions and focusing on the mental health in the past month. People with a score of 8 points or more may suffer from psychological pain, and psychological assistance is recommended for them.

Introduction to SRQ-20 questionnaire evaluation: You may have been troubled by the following in the past 30 days. If an item matched your situation and occurred in the past 30 days, select “Yes” and add one point. If an item did not match your situation or occur in the past 30 days, select “No” and add 0 point. Answers are independent of correctness. If you are unsure about the answer to a question, give the most appropriate answer.

The adult screening questionnaire, i.e. 12-item general health questionnaire (GHQ-12) is also a kind of self-screening questionnaire, which focuses on physical evaluation and indirectly reflects psychological problems. It is more likely to be accepted in primary care institutions. The total score ranges from 0 to 12, among which 3 points is a dividing line.

Introduction: In order to help you better, we would like to know your health status in the last two or three weeks. Please select the answer that best suits your current situation. Answers are independent of correctness. Note: Each question should be answered based on your situation in the last two or three weeks.

4. How to communicate with people who need psychological assistance?

If there are people with psychological service needs, community healthcare professionals may as the following questions: What can I do for you? Do you have anything to tell me? Do you want to talk with me? Or, community healthcare professionals can learn about their psychological service needs by focusing on their daily life (e.g. diet, sleep, people living together with them, and recreational activities) or physical conditions, muscle tension, panic and the like.

To be aware of their capabilities in psychological response, community healthcare professionals may ask the following questions: Do you have similar experience in the past? How did you deal with it? Do you have successful experiences? In terms of psychological resources, community healthcare professionals may investigate their relatives and friends, occupations, hobbies and personalities, and help them to discover and use the psychological resources around them.

In the case of emotional release (e.g. crying, complaining and even cursing) in communication, community healthcare professionals should recognize that they are only an emotion outlet instead of a target.

Bad facts should be conveyed by supporting information and hope in time.

III. How to Carry out Mental Health Care and Psychological Assistance?

1. How to perform psychological self-care?

Guarantee normal diet and nutrition, and have spare time to rest and sleep. Pay attention to your physical status and alarm signals from your body. Seek medical help in a timely manner. Maintain stable emotions and, in the case of excessive stress, talk more with familiar people, stop what you are doing, and relax in an appropriate place for some time. Always admonish yourself that "I am not almighty". Keep in touch with family and friends, and seek help in time in the event of difficulties. It is not advertised to relieve pressure by unhealthy means such as smoking and drinking.

2. How to find out the people needing mental health care around you?

If your colleague is overly busy or irritable at work, makes mistakes or speech errors frequently, is forgetful, has the memory declining, or shows continuous anxiety and depression; gets drunken or conduct speeding frequently; or often has physical problems, remind him or her to take appropriate breaks, and receive relaxation training and other mental health care. If it is really impossible to take a break, determine the boundary between work and rest. For example, when you are in the rest area, stop thinking about work.

3. What are other ways to obtain psychological support?

The psychological assistance hotline is a convenient and quick way to ask for help. There is no need to worry when calling the psychological assistance hotline, because what you say is not deemed "right" or "wrong" and you can just express your feelings. The phone operator will clarify your feelings instead of simply repeating what you have said. Preferably, each call should focus on one question and last for 30-40 minutes.

Part V Contents and Key Points of Community Publicity and Education on Scientific Prevention and Control of COVID-19 Infections

I. Why Community Publicity and Education are Necessary in Scientific Prevention and Control of COVID-19?

Community medical institutions are responsible for publicizing the core knowledge about prevention and control of COVID-19 to community residents in time according to the normative and accurate information provided by authority prevention and control institutions. They can regularly provide health advice and medical guidelines by health publicity and education. Health publicity and education can help the public correctly understand and prevent diseases, regulate prevention and control behaviors, perform personal protection, reduce large-scale public gatherings, and early seek medical treatment after appearing symptoms. Health publicity can further increase the awareness of residents, help them perceive correct measures of prevention and control, reduce public panic. Rumors must not be believed or spread, which is very important for COVID-19 prevention and control.

II. Where are Community Publicity and Education Performed?

Community publicity and education can be performed in residential communities, primary and middle schools, public places (e.g. shopping malls, supermarkets, public transportation stations, public transportation vehicles and event handling centers), workplaces (e.g. enterprises and public institutions) and medical and health service centers. The forms of publicity and education are various in different places.

III. Who are Qualified to Perform Community Publicity and Education?

Community publicity and education can be performed by the following personnel: healthcare professionals of medical institutions at all levels, especially primary care institution, staff of disease control centers, staff of community neighborhood committees, trained volunteers and other related

personnel. The capabilities of the personnel in all positions should be fully utilized in community publicity and education, and relevant prevention and control information should be disseminated based on the job content.

IV. How to Train Publicity Personnel?

The publicity personnel should be trained on job-related prevention and control knowledge based on their positions in primary prevention and control, until they are aware of job responsibilities, work contents and related prevention and control information. On the one hand, prevention and control personnel should have a deep understanding of job responsibilities. On the other hand, the cognitive burden for understanding of non-job-related prevention and control knowledge should be reduced.

Depending on the scope of application of prevention and control knowledge, different training methods can be adopted.

1. Training of general prevention and control knowledge

All primary prevention and control personnel should be trained on the general epidemic prevention and control knowledge, including: knowledge about COVID-19, correct hand washing method, cough etiquette, avoidance of close contact (keeping a distance of at least 1 m), indoor ventilation management, personal protection and disinfection regulations, suspicious symptoms ofCOVID-19 infection, and reporting principles.

Messages can be pushed through APPs and other platforms for the staff to read and learn. Reading and learning can be investigated by data monitoring. Leaflets should be printed and distributed for reference in epidemic prevention and control. Posters and scrolling videos or audios should be available in workplaces and rest areas to create an immersive learning atmosphere.

2. Training on job-related prevention and control knowledge

Key points in relevant guidelines and commonsense can be summarized based on the job responsibilities for prevention and control. Learning materials should be compiled in a feasible manner. The operable prevention and control plans can be formulated through learning relevant prevention and control knowledge and in conjunction with actual conditions.

V. Training of Prevention and Control Staff in Communities, Enterprises, Public Institutions, Schools, etc.

The prevention and control staff in different places should have the general prevention and control knowledge. Key training should be conducted in different prevention and control places.

1. Community workers:

Purpose of training: Encourage and guide the people who have trips recently or with respiratory symptoms to be isolated at home; help the isolated personnel to see a doctor in accordance with relevant procedures, thus reducing the risks of virus spreading; and identify clustering cases.

Content of training: knowledge about isolation at home, disinfection and care; how to identify clustering cases; and precautions for isolated personnel to see a doctor, etc.

2. Workplaces in enterprises and public institutions:

Purpose of training: Prevent and control virus spreading in workplaces.

Content of training: correct selection and use of masks; and disinfection and management of commonly used items (e.g. telephones and printers),public spaces and other items (e.g. elevators and door handles).

3. Child care institutions and schools

Purpose of training: Detect the suspicious symptoms of children and adolescents at the early stage, prevent virus spreading in schools, and guide parents to cooperate in isolation and observation.

Content of training: main symptoms of COVID-19 infections; emergency treatment of suspicious symptoms/suspected cases; knowledge about isolation, disinfection and care at home; and epidemiological survey content (to provide information for tracking children among close contacts).

4. Service institutions for the elderly:

Purpose of training: Prevent and control the spreading of imported epidemics and internal diseases, and promptly detect and deal with health emergencies of the elderly.

Content of training: epidemiological survey content (strict screening of visitors); early detection of clustering cases; emergency treatment of suspicious symptoms/suspected cases; handling of health emergencies unrelated to COVID-19.

5. Public places:

Purpose of training: Identify and dissuade improper behaviors in public places, and carry out publicity, education and explanation.

Content of training: waste classification and disposal, indoor ventilation management, environment and object surface disinfection, disinfection and management of confined spaces such as elevators, etc.

6. Centralized isolation areas

Purpose of training: Discover and deal with physical and psychological problems of the isolated personnel in a timely manner, to prevent the spreading of the pandemic.

Content of training: main symptoms ofCOVID-19 infections, identification and disposal of common psychological problems during the pandemic; emergency treatment of suspicious symptoms/suspected cases; waste classification and disposal, etc.

7. Rural areas

Purpose of training: Publicize the general knowledge about epidemic prevention and control; dissuade people from inappropriate behaviors such as gatherings; and provide guidance on epidemic prevention and control during trips to resume work and production.

Content of training: knowledge about prevention and control such as hand hygiene, indoor ventilation, environmental disinfection, in conjunction with local living habits; and personal protection in public places such as public transportation vehicles and stations. Such knowledge can be disseminated by slogans and pithy formulas in line with local languages and customs.

VI. How to Select an Appropriate Publicity Method?

Using radios, televisions, newspapers and other media, broadcast the transmission routes, protective measures, precautions and other related knowledge to residents, to help the public learn about the pandemic, strengthen self-control and avoid panic.

Compile and distribute publicity information together with communities in a unified manner, and publicize COVID-19 prevention and control through social media, health APPs, SMS, electronic screens, large screens and other means, to make community residents vigilant and protect themselves.

Organize the community neighborhood committee members and volunteers to publicize the knowledge about COVID-19 prevention and control in conjunction with actual conditions. Actively disseminate the prevention and control knowledge by simple and lively means (e.g. floor posters and

comics) to further improve the capabilities of the public in prevention and control and build confidence in prevention.

VII. Key Directions and Points of Publicity and Education

During the publicity and education in communities, healthcare professionals should keep the content scientific, correct, timely and universal as much as possible. In order to facilitate prevention and control in communities, the focus of publicity and education is as follows.

1. Knowledge about COVID-19 and its infection: introduce the features and physical and chemical properties of COVID-19. Emphasize that COVID-19 and SARS viruses are classified into the same category, but they are different from each other. In addition, COVID-19 can be killed efficiently by UV rays, 75% ethanol and chlorine-containing disinfectants or at 56 °C for 30 min.

2. How to prevent the spread of COVID-19: Introduce main transmission routes of this virus, and emphasize its general susceptibility. Publicize the importance of isolation and observation, to make residents understand and support isolation and observation and mitigate the fear of isolated people. Promote main preventive measures against COVID-19, including hand hygiene, correct selection and use of masks, and home disinfection. Raise action suggestions for life scenarios, such as taking an elevator and going out for shopping.

3. How to detect and treat COVID-19 early: For the people who have traveled or lived in key regions, close contacts with confirmed or suspected patients, and people engaged in clustering onset, reasonably publicize the early symptoms of COVID-19 infections. For the residents with corresponding symptoms, properly guide them to seek medical treatment. Encourage residents to detect symptoms and seek medical treatment as early as possible.

4. How to correctly prevent COVID-19 infections: Enhancing self-immunity is essential to prevent diseases. Raise suggestions on reasonable diet and healthy exercise for different target groups.

5. How to correctly understand the treatment of COVID-19 infections: Although there are no special drugs at this stage, comprehensive treatments can be performed to cure most patients and eliminate the panic of residents.

6. Psychological counseling of residents during the pandemic: suspected patients, close contacts and other isolated personnel may have psychological problems such as anxiety, depression, fear, and anger. Community healthcare professionals should promptly detect them, and perform psychological counseling and science education while guaranteeing the safety.

Part VI Community Prevention and Control by Fully Using IT Means

1. How to use IT means to improve the quality of community resident registration, screening and reporting?

Using online reporting, provide support for the filling, reporting and level-by-level statistics of epidemic data, focusing on suspected and confirmed cases. Register local residents' travel and health information by mobile APP, WeChat and other means, set up "High risk reminder" and other functions in the information system, and focus on timely tracking of "high-risk people" , to dynamically learn about the prevention and control among community residents.

2. How to expand the scope of medical services via "Internet +"?

Establish an online consultation platform to provide consultation services to community residents, including the symptoms, severity, fever details and symptom duration. As long as people answer all questions based on their specific conditions, a risk assessment report on COVID-19 infection can be formed in a short time. Provide third-party services such as fever clinic consultation and online registration, and help residents to perform online self-assessment before fever diagnosis and consult the nearest fever clinic in the event of fever. People can also inquire treatment services in advance in the nearest fever clinics through

platforms.

3. How to perform remote diagnosis and treatment?

Take advantage of the resources of large hospitals, and build a multi-level interactive service platform for diagnosis and treatment. Provide remote consultation, prevention and guidance services in major hospitals, including designated provincial hospitals for treatment, and deploy expert resources by IT means, to improve the capabilities of primary and community health institutions in dealing with the pandemic, mitigate the pressure on diagnosis and treatment in designated hospitals, and reduce the risks of trans-regional spreading.

4. How to accelerate the screening of confirmed and suspected COVID-19 patients?

Read films remotely by IT means, and perform preliminary screening of CT images of COVID-19 through image recognition and other techniques. Use highly sensitive detection algorithms to detect minor and unobvious suspected lesions, and help doctors to effectively screen and identify suspected patients.

5. How to ensure the security of information products (services) in community prevention and control?

For information products (services) in community prevention and control, technical and other necessary measures should be taken in accordance with the mandatory requirements of the laws, administrative regulations and national standards, such as the *Cybersecurity Law of the People's Republic of China*, to ensure the safe and stable network operation and effectively respond to cybersecurity incidents. Providers of information products (services) in community prevention and control should implement safety protection according to the requirements for Level 3 protection and above, and have capabilities in data encryption, desensitization, and crawling prevention.

6. How to protect the privacy and security of information products (services) in community prevention and control?

For the information products (services) in community prevention and control, the information of community residents should be collected in line with the requirements for epidemic prevention and control, and explicitly used for prevention and control of this epidemic, with clear prompts to and approval by community residents. The use for other purposes must be further approved by community residents.

Part VII Nutritional Intervention for COVID-19 Prevention

1. Why do the elderly need special nutritional support?

With the increase of age and changes in body composition, a number of physical functions of the elderly may decline to varying degrees, such as decline in chewing and digestive ability, decrease of enzyme activity and hormone level, slow sensory responses such as vision, smell and taste, muscular atrophy, and reduction of lean body tissues. These changes obviously affect the capabilities of the elderly in food intake, digestion and absorption. In addition, most elderly people often suffer from chronic diseases such as hypertension, diabetes, osteoporosis, and tumors, which make them physically weak. The mortality rate caused by COVID-19 is the highest in the elderly population, indicating that the health damage of infectious diseases is inseparable from that of chronic non-communicable diseases for one person. Especially for the elderly, the health damages are superimposed, which may result in a vicious circle.

Nutrition is the fundamental of physical health. Poor diets will lead to decline in the physique, anti-infection ability, and failure to resist the invasion of disease. The nutritional needs of the elderly are complicated and unique. Compared with young and middle-aged people, the elderly featured less muscle mass, lower basal metabolic rate and fewer activities, so they have fewer demands for energy and less food intake. However, the demand for quality protein and multiple micronutrients has not

decreased, and that for some nutrients may rise. For example, the elderly need more vitamin D than young and middle-aged people. Accordingly, the elderly need food with higher nutrient density.

In terms of the control of chronic diseases, the elderly are more sensitive to some nutrients than young and middle-aged people. For example, the elderly are more sensitive to sodium in salt and have instable blood pressure due to fewer activities and less sweating; and also lack of appropriate feedback control over the increase in blood glucose arising from refined sugar. These factors determine the need for more considerate and comprehensive care in dietary nutrition.

The elderly need regular assessment of dietary pattern and nutritional status to detect risk of malnutrition, and nutritional interventions should be performed in a timely manner. Main interventions include: improvement of food composition and preparation of soft food, to suit the capabilities of the elderly in chewing, swallowing, digestion, and absorption; selection of food with high nutrient density and bioavailability to provide more nutrients with the limited intake; and appropriate nutritional supplement based on assessment, to prevent malnutrition.

2. Is breastfeeding allowed for infants during the pandemic?

Breast milk is ideal for infants. Healthy women can breastfeed their infants immediately after the delivery, to provide immune protection for infants, and should be enabled to breastfeed as soon as possible after childbirth. Efforts should be made for breastfeeding within one hour after childbirth, so that newborns drink breast milk first. The mothers in the breastfeeding period should continue breastfeeding to continuously protect infants and avoid contamination in a series of formula milk preparations. Breastfeeding mothers should stick to breastfeeding as needed while staying at home. Infants who are less than 6 months old are preferably breastfed to meet the growth needs and avoid potential infection risks arising from contaminated water and other food, and those who are more than 6 months old should be breastfed until the age of 2 years or more.

Breastfeeding is not recommended for breastfeeding mothers infected with COVID-19. Breast milk should be squeezed or sucked e to maintain lactation. Breastfeeding can be continued when mothers are cured and reunited with infants. When breastfeeding is not possible, infant formula food should be fed in line with national food safety standards.

3. How to add supplementary food to infants during the pandemic?

Supplementary food can be added to the infants who have been 6 months (180 days) old or more during breastfeeding. First, iron-rich pasty food (e.g. minced meat or liver) should be added first. If the supply of minced meat or liver is restricted during the pandemic, iron-fortified rice flour can be used instead. Only one kind of new food can be added to diversify food (vegetables, fruits, cereals, beans and nuts).

If the caregiver is infected withCOVID-19 or have symptoms such as fever or cough, the caregiver should be replaced and prevented from direct contact with children.

4. How to pay attention to food hygiene and safety during infant feeding?

Prior to preparing and feeding food, caregivers should wash hands by seven steps, and keep the hands of infants clean. Safe, high-quality and fresh supplementary food should be selected and kept clean in the preparation process. Raw and cooked food should be separated, and leftovers must be properly kept and disposed of and not fed to infants. The feeding bottles or tableware must be thoroughly disinfected in a timely manner after the use, and further cleaned and disinfected before the use. They should be disinfected preferably by boiling and disinfectants must not be used.

5. How to assess the nutritional status of infants during the pandemic?

Length and weight are intuitive indicators that reflect the feeding and nutritional status of infants. During the COVID-19 epidemic, caregivers can measure the weights and lengths of infants via weighing scales and tapes at home. The length and weight should be measured once every half a

month for the infants who are less than 6 months old, and once every three months for those who are 6 months old or more. Caregivers should check the growth of infants in accordance with the *Children's Growth Curves* of the World Health Organization. The growth of infants has its own rules, so caregivers should not only pursue the upper limits of reference values. The optimal growth mode for the infants with normal birth weights is to essentially maintain their distribution in the population at birth.

6. How to use nutrient supplements to infants?

The vitamin D 10 μg (400 IU) should be supplemented every day a few days after birth. In particular, when infants cannot go out during the pandemic, the vitamin D should be supplemented as early as possible. It is not necessary to supplement calcium to the breastfed infants. The vitamin K1 (1 mg) should be intramuscularly injected to newborns after the birth. In order to avoid going out during the COVID-19 epidemic, nutrient supplements can be bought online as needed.

7. How to maintain the appropriate weight gain in pregnancy during the pandemic?

Excessive or insufficient weight gain in pregnancy has adverse impact on the health of mothers and children. Excessive weight gain in pregnancy is more likely to cause hypertension and diabetes in pregnancy and large childbirth, while insufficient weight gain in pregnancy may increase the likelihood of low birth weight. During the COVID-19 epidemic, pregnant women take fewer exercises, which may increase the likelihood of weight gain. While staying at home, pregnant women should monitor their weights once a week via the weighing scale. The recommended weight gains in pregnancy corresponding to the pre-pregnancy BMI (weight/height, in kg/m^2) are as follows.

Table 1 Recommended Weight Gains in Pregnancy based on Pre-pregnancy BMI

Pre-pregnancy BMI (kg/m^2)		Weight Gain in Pregnancy (kg)	Weight Gain during the Second and Last Trimester (kg/week)
Malnutrition	<18.5	12.5-18.0	0.51 (0.44-0.58)
Normal weight	18.5-24.9	11.5-16.0	0.42 (0.35-0.50)
Overweight	25.0-29.9	7.0-11.5	0.28 (0.23-0.33)
Obesity	≥30.0	5.0-9.0	0.22 (0.17-0.27)

The intake of quality proteins (e.g. fish, poultry, eggs, lean meat, and soybeans) and dietary fiber (e.g. vegetables, fruits and coarse grains) can be guaranteed by avoiding unbalanced diets such as high-sugar foods (e.g. pastries, sugar, chocolate, and ice cream) and high-fat foods (e.g. fat meat and fried food). In addition, pregnant women should exercise appropriately through simple housework, pregnancy yoga and the like, in order to avoid fat accumulation and maintain a healthy weight. Diet overindulgence should be avoided during the stay at home.

8. How to exercise after giving birth?

Excessive weight gain during pregnancy and unsuccessful weight loss after delivery are important causes of obesity of women. In addition to the reasonable diet after delivery, appropriate exercise and postpartum aerobics should be performed, to promote body recovery, maintain a healthy weight, and reduce the incidence of postpartum obesity. Constant breastfeeding is conducive to weight loss, and regular physical activities and exercises of appropriate intensity will not affect breastfeeding. Depending on the physical strength and energy, women after eutocous operations can get out of bed and move around the same day, while those after cesarean operations can get out of bed and move around the next day. Simple exercises such as minor housework, indoor activities and leg lifting on the bed can be performed during the confinement. Women after eutocous operations can start fitness exercises4-6 weeks after the delivery, and those after cesarean operations can start fitness exercises 6-8 weeks after the delivery. Exercising too early is not conducive to uterine recovery and wound

healing. Simple, local and low-intensity exercises should be carried out first, such as stretching, kicking, and leaning, to gradually restore the exercise capabilities of muscles, joints, and spines. With the body recovered and exercise capabilities enhanced, moderate-intensity exercises can be performed, such as fast walking and aerobics.

References

[1] Chinese Thoracic Society, Chinese Society of General Practice, Chinese Association of Chest Physician, etc. Expert Recommendations for the Prevention and Control of Novel Coronavirus Infections in Primary Care (First Edition) [J/OL]. Chinese Journal of General Practitioners, 2020, 19.

[2] National Health Commission. Guidelines for Protection of Various Risks of COVID-19 Infections [EB/OL]. (2020-01-30)

[3] National Health Commission. Plan for COVID-19 Prevention and Control (Sixth Edition) [EB/OL]. (2020-03-07)

[4] National Health Commission. Technical Guidelines for Prevention and Control of COVID-19 Infections in Medical Institutions (First Edition) [EB/OL]. (2020-1-23)

[5] National Health Commission. General Rules for Disinfection of Epidemic Focus [EB/OL]. (2015-06-02)

[6] National Health Commission. Guidelines for Use of Disinfectants [EB/OL]. (2020-02-18)

[7] National Health Commission. Guidelines for Isolation and Medical Observation in Prevention and Control of COVID-19 (Trial) [EB/OL]. (2020-02-05)

[8] National Health Commission. Work Plan for Transfer of COVID-19 Patients (Trial) [EB/OL]. (2020-01-28)

[9] National Health Commission. Diagnosis and Treatment Plan for COVID-19 (7th Trial Edition) [EB/OL]. (2020-03-03)

[10] National Health Commission. Notice on Accurate Classification of Primary Care Institutions in COVID-19 Prevention and Control [EB/OL]. (2020-03-02)

[11] National Health Commission. Notice on Follow-up of COVID-19 Discharges [EB/OL]. (2020-03-02)

[12] National Health Commission. Rehabilitation Plan for COVID-19 Discharges (Trial) [EB/OL]. (2020-03-04)

[13] Zhang Dongying, Yao Mi, Wang Jiaji, et al.Guidelines for COVID-19 Infection Prevention and Control in Primary Care Institutions in Rural Areas (First Edition) [J]. Chinese Journal of General Practitioners, 2020, 23 (7):763-769.

[14] National Health Commission. Notice on Further Implementation of the Requirements for Scientific and Precise Prevention based on Regions and Levels and Medical Service Management during the Pandemic [EB/OL]. (2020-02-27)

[15] National Health Commission. Notice on Strengthening Guidance on Epidemic Prevention and Control during Resumption of Work and Production in Enterprises [EB/OL]. (2020-03-07)

[16] National Health Commission. Guidelines for Medical Services of Primary Care Institutions to the Elderly with Chronic Diseases in COVID-19 Prevention and Control (Trial) [EB/OL]. (2020-02-25)

[17] National Health Commission. Notice on Scientific and Precise Prevention and Control of COVID-19 [EB/OL]. (2020-02-25)

[18] National Health Commission. Guidelines for Air-conditioning and Ventilation System Operation in Offices and Public Places during the COVID-19 Epidemic [EB/OL]. (2020-02-12)

[19] National Health Commission. Health Education Manual for COVID-19 [EB/OL]. (2020-02-06)

[20] General Office of the Ministry of Civil Affairs, Secretariat Sector of the Cyberspace

Administration of China, General Office of the Ministry of Industry and Information Technology, and General Office of the National Health Commission. Guidelines for Information Technology Construction and Application in Community Prevention and Control of COVID-19 [EB/OL]. (2020-03-05)

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