COVID-19
HOME BASED CARE

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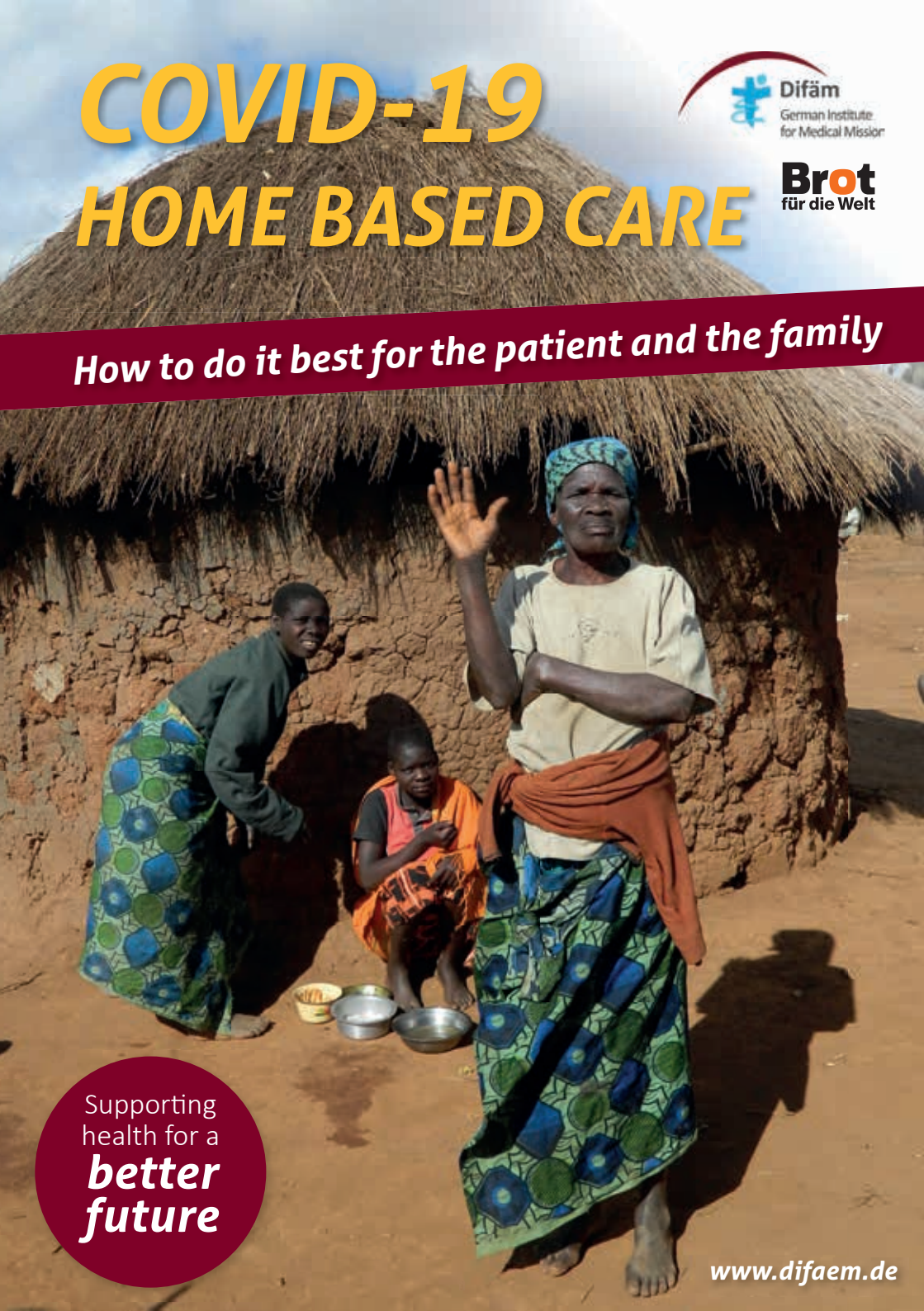
Brot für die Welt

How to do it best for the patient and the family



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German Institute
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COVID-19 HOME BASED CARE – HOW TO DO IT BEST FOR THE PATIENT AND THE FAMILY

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INTRODUCTION

Home Based Care is a well-known way of caring for sick people. We do it intuitively on a daily basis when caring for family members with mild illnesses, for example in simple malaria, diarrhoeal disease, or a flu. Home Based Care is a well-known concept that can potentially save lives if it is well integrated in the chain of care from the home to the hospital.

Home Based Care is widely used in the care of patients with chronic illnesses and is an important instrument to improve their quality of life, allowing them to stay at home and to be cared for by their loved ones, family and relatives. Now we are suggesting home based care also in the corona pandemic. This can be an important measure both for the care of patients infected with corona virus and for prevention from corona at the same time. It gives the opportunity that families can stay safe and patients that are infected with the virus can be isolated and cared for in their home environment when their symptoms are mild.

In order to prevent corona infection in a community or a family, we need to observe three basic principles:

- Keep a distance of at least 2 arms' length (1,5 m)
- Practise frequent hand washing and hygiene
- Cover your mouth and nose with a mask

If someone in our home or family suffers from COVID-19 with mild symptoms, the person needs to be isolated – meaning he/she needs to stay separate from other family members and also wear a facemask.

Such isolation is never easy. But it is easier in a setting where your loved ones can care for you and you are in a familiar environment. Contrary to many common beliefs and misconceptions, this is perfectly possible in a home setting for most of the patients that suffer from COVID-19. More than 80 % of all COVID-19 patients only develop mild or moderate symptoms. They do not need special medical care or admission in a health facility but they can be cared for at home – whilst keeping distance from their loved ones. Home Based Care is a good way of keeping the family safe and at the same time, caring for the patient in a supportive manner.

The following brochure will explain a little bit more in detail what to consider, how to set up and what to do when caring for a COVID-19 patient in a local home.

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ASSESSING THE PATIENT

Who are the carers?
First of all, it is the **family** – or better one family member – who will take care of the person affected. At the same time, the **Community Health Worker** (CHW) can play an important role. CHWs are part of a local community. They are selected and trained in basic health work. Some are volunteers who will visit homes and can support affected families.

COMMUNITY HEALTH WORKERS

In times of corona, CHWs need to take special precautions when working in a community:

As a CHW, first you need to take care of yourself and protect yourself:

- Wash your hands before entering a house or a compound

- Keep a distance of at least 2 “arms’ length” (1,5 m) from other people

- Wear a mask that protects your nose and mouth!

What should a community health worker do?
He/she can visit homes and give information on how to stay safe from coronavirus. At the same time, he/she will need to find out whether there are patients in the home that have any of the following signs of symptoms:

- Fever
- Cough
- Sore throat
- Loss of taste/smell
- General body pain, malaise
- Diarrhoea
- Any of the other symptoms that may be suggestive of COVID-19

If there is a patient with any of those symptoms, the CHW will find out whether the patient had any contact to a COVID-19 patient during the past 2 weeks or whether he/she travelled to an area where corona is common. Wherever possible, such patients should get tested. However, there may be situations where this may not be possible. Here you need to act according to your local regulations.

How can a CHW do a basic assessment?

Talk to the family and assess the patient through:

- Asking questions
- Reviewing the general condition of the patient (without getting close to the patient)
  - Does the patient have fever?
  - Is the patient fully alert? (level of consciousness)
  - Is the patient able to sit or walk?
  - Can the patient eat and drink well?
  - Are there any signs of respiratory distress?
    - Frequent coughing?
    - Obvious difficulty in breathing?
    - Count the breaths per minute

Where there are trained community health workers, they should have small pulse oximeters available to check oxygen saturation.

100 %	indicates that the blood is fully oxygenated
99 % – 95 %	are measurements that indicate a normal level of oxygen
Below 94 %	indicates that something might be wrong

If a patient has any of the following signs, take him/her to the next health facility to be assessed by a trained health worker:

- Any sign of respiratory distress (respiration rate > 20/min)
- Oxygen saturation < 94 %
- Fever
- Or any other signs of severe illness

If the patient is not very ill…

- Normal respiration rate
- Temperature below 38°C
- Normal oxygen saturation
- No other sign of severe illness

…the patient can easily be cared for at home.

The CHW should:

- Educate patient and family on good home-based care
- Explain to them how to self-isolate for 14 days

Keeping patients who show symptoms of COVID-19 in self-isolation and offering them good home based care is a cornerstone for fighting the pandemic.

CARERS

Who should care for the patient?
Ideally, only one person should be identified as immediate **caregiver**. He/she will have close contact to the patient. This caregiver does not need to be a medically trained person and does not need to be female. Also men can be caregivers! He/she should be someone who is in good health and has no underlying chronic conditions such as high blood pressure, HIV, TB, diabetes, lung or heart problems.

Ideally, the caregiver is someone who lives in the home and can provide frequent care.

ISOLATION

If **one** family member is sick, meaning that he/she has signs of corona, **all** family members need to self-isolate. This means:

- Staying on the compound for 14 days (no outside work, no shopping…)
- No visitors on the compound, and esp. nobody from outside should stay inside the house for 14 days
- Food or other supplies can be brought to the edge of the compound or to the door and left there for pickup
- Community health workers may enter the compound when keeping distance and wearing a basic PPE (coat, mask and eye protection)

All people in a household with COVID-19 or its symptoms can be isolated in the same house.

Whenever possible, the sick person should also be isolated from the other household members:

- The patient should stay in a **well-ventilated single room** (i.e. with open windows)
- If that is not possible, maintain **a distance of at least 2 meters** (> two arms' length) from the patient (e.g. sleep in a separate bed)
- If the climate allows, the person can also stay outside (garden, veranda), mark 2 meters with chalk, or place an object as a reminder to the family (physical distance!)
- The patient should put on a **mask** and maintain a distance of 2 meters from others when leaving the "sick room"

- Limit the movement of the person with COVID-19 in the house and minimize their presence in shared spaces
- Ensure that shared spaces (e.g. kitchen, bathroom) are well-ventilated (keep windows open!!!)
- All members of the family should wear masks when using shared spaces

If house space is limited, prioritize keeping those who are 60 years and older and those who have medical conditions isolated from the person with COVID-19.

The patient´s room has to be well ventilated at all times. If possible, place the bed by the window and/or provide airflow through fan/ventilator. Mark two meters with chalk or some objects to remind the family that no one should go nearer without very good reason. Only the caregiver should enter the two-meter radius with personal protection (e.g. community mask and face shield made from a water bottle).

HYGIENE

In the patient's room, there should be a **waste bag**, where all the patient´s waste should go in (tissues, facemasks, other waste). Once the waste bag is full, it should be properly closed and then be burnt. The bag should never be opened again.

Use dedicated **eating utensils** for the patient. Plates, cups and cutlery should be thoroughly cleaned with water (as hot as possible). Use bleach or household disinfectant for washing and cleaning.

Laundry like clothes and bedlinen are best left for 72 hours before washing. Wear gloves when doing laundry by hand. Wash your hands with warm water and soap immediately after removing the gloves. If gloves are not available, wash your hands immediately after handling dirty clothing and avoid touching your face.

How to handle clothes and bedlinen safely:

- Do not shake the laundry items
- Soak laundry items with laundry soap or household detergent (bleach)
- Choose the warmest available water setting. The WHO recommends water temperatures between 60–90°C (140–194°F)
- Face masks need to be washed with at least 60°C (use a stick to stir)

After washing:

- Let laundry dry completely
- Disinfect laundry baskets with household disinfectant
- Wash the hands before folding the laundry
- Ironing clothes and face masks provides additional protection

In the patient´s room, **clean all surfaces frequently.** Items used by the patient should not be used by any other household member and, whenever possible, should not leave the patient´s room.

When the patient uses the bathroom, all surfaces have to be cleaned with household disinfectant – do not forget about door handles and water taps!

For **general hygiene** in the household:

Focus on the high traffic areas from where germs spread around the home. These include your hands and frequently touched areas such as:

- Door handles and light switches
- Appliance handles, like kettle handle, doors of oven and microwave, fridge handle, phone-dials, TV remotes
- Shared computer equipment, such as keyboards
- Toilet and tap handles
- Bathroom surfaces
- Food preparation areas

You also need to think about things that can spread germs, such as sponges and cleaning cloths. They need to be changed and washed frequently (or, if possible, put 2-3 min into the microwave).

HANDWASHING

Handwashing is important for the whole family who is in self-isolation! At the same time everyone in the household, when moving in shared spaces, should wear a mask.

Always wash your hands after…

- visiting the toilet
- blowing your nose, coughing or sneezing
- contact with waste
- contact with animals, animal feed or animal waste
- doing a patient´s laundry
- carrying or cleaning patient´s belongings

Always wash your hands before...

- the meals
- dealing with medication

Always wash your hands before and after…

- the preparation of meals – and even more often, especially if you have processed raw meat (meat does not transmit corona, but can be contaminated with many other health hazardous germs)
- entering the patient´s room
- close contact with the sick (e.g. in shared spaces)
- the treatment of wounds

MASKS

The role of face masks

The corona virus is transmitted through droplets and aerosols. Transmission can be reduced by wearing a simple mask that covers your mouth and nose. Locally produced masks are sufficient.

When should you wear a mask:

- All the time when you care for the patient
- All the time when you show any symptoms that can be caused by COVID-19 and may have contact to other people, also within the own house – e.g. when leaving your room and going to the bathroom
- If you live in a house with a patient that possibly has COVID-19 and you have contact to other people from outside (e.g. CHW, medical personnel – all other contact should be avoided)
- All the time when you cannot keep a distance of at least 1,5 meters to other people, especially in public places
- In any area where the government instructions advise you to wear a mask

CARE FOR THE PATIENT

There are some points that can be done for the patient to support him/her and to ensure a best possible recovery:

1. FOOD

What to eat when you are sick: a healthy diverse diet is the best.

It contains **carbohydrates**. You have them in maize, rice, maniok, polenta, ugali, pap… These items are usually easily available and are part of your staple diet.

In a prolonged illness or when a patient is moderately ill, he/she will need **protein**. Therefore, provide at least 2 meals a day with protein: rich in proteins are for example beans, lentils, and of course: meat and eggs.

Fat is also important for providing energy and may be found in meat, oil, avocado or peanuts.

And please do not forget about **vitamins and micronutrients**, which are richly present in fruits and vegetables. Ask the patient for his/her preferences and use the fruit that is available in your area, also depending on the season.

For example, ginger contains a lot of vitamin C and green-leaf-vegetables provide micronutrients like iron.

If the patient is not up to eating a lot, you might consider preparing a chicken soup with meat. That is also a good part of a healthy diet and it provides minerals and fluids

2. FLUIDS

Patients that have fever often suffer from a general body malaise. Overall, patients who are coughing, with or without fever, and generally ill patients lose a lot of fluids via sweating and respiration especially when the breathing rate is high.

For these patients an adequate fluid intake is essential. Encourage frequent drinking.

2 litres of fluid per day should be the minimum, 3 litres may be needed with fever; if they do have diarrhoea, they may even need more. All fluids count: water, tea, fruit juice, but also soup or other fluids that you want to consider. Take care that the patients are well hydrated.

Encourage them to very frequently drink small amounts instead of large amounts at once. Here again, fruits and vegetables are important because they also contain fluids – like for example a watermelon or a pawpaw/papaya.

What should the patient drink?

- Clean water
- Tea may be helpful, with some sugar or milk
- Soup in any kind or form may be helpful and increases the fluid intake

Preparing sugar/salt solution will give additional salt and raise the blood pressure.

How to prepare a solution:

- Clean Water – 1 litre = 5 cups (each cup about 200 ml)
- Sugar – six level teaspoons
- Salt – one half level teaspoon
- Stir the mixture until the sugar dissolves

However, if a patient starts getting trouble with breathing, reduce the fluids a little bit to a maximum of 2 litres. If the patient is experiencing shortness of breath, too much fluids might make it even worse. So max. 2 litres are the amount to go for.

You may provide more if the patient tells you that he/she is thirsty.

Remember: patients with breathing problems should be taken to a health facility!

3. MEDICATIONS FOR SYMPTOMATIC RELIEF

Patients with corona infection and other flu-like illnesses often have "Body Pain" and fever:

Symptomatic treatment therefore includes the treatment with medication that reduces fever and takes away pain.

Non-steroid anti-inflammatories (NSAID) are the medication of choice when the patient experiences fever.

- **Paracetamol** is readily available and cheap. A patient can take 4 times per day 500mg. It is good for fighting fever and headache.
- **Ibuprofen** is also safe. In the beginning of the pandemic there was a bit of confusion about Ibuprofen, and for one day WHO even issued a warning. But after literature review and a review of all available data, there is no risk for using Ibuprofen in COVID-19 cases. **For Home Care you should not give more than 400mg 4 times per day.** Patients who need more should go to the nearest health facility. Remember, Ibuprofen can cause stomach problems. Check that the patient does not have a stomach ulcer or is vomiting. Ask the health workers if there is a problem.
- **AcetylSalicylicAcid (ASA, Aspirin)** seems to play a part in the outcome of more severe cases. It is discussed whether the use of low dose ASA may be helpful. But so far, there has not been sufficient data to prove any benefit.

4. SHORTNESS OF BREATH

Everybody who experiences shortness of breath should be seen by a health professional or referred to a hospital.

Community Health Nurses should be equipped with a small hand-held pulse oximeter that can detect low levels of oxygen very easily.

Counting the breaths per minute (Respiratory Rate) is a first sign. All grown-up patients with a RR higher than 20 breaths per minute should be referred. For children different rates apply according to age:

- Infant (birth–1 year) higher than 60/minute
- Toddler (1–3 years) higher than 40/minute
- Pre-schooler (3–6 years) higher than 34/minute
- School-age (6–12 years) higher than 30/minute

Children that have higher RR than indicated according to the RR normal for their age in two different counts should be referred.

However, there may be a situation where referral is not possible. Then you must take care of that patient, wherever he/she is:

A) Keep the patient in a well ventilated room

Place the patient by the window. Keep the window open most of the time. If it is tolerated by the patient, he/she can be brought outside and sit/lie in open air. But strictly no visitors are allowed and the family should keep distance.

B) Change of position

Encourage frequent change of position. If the patient stays in the same position for a very long time, parts of his/her lung (especially the parts he/she is lying on) will collapse and will not function anymore. This results in a reduced oxygen saturation. The longer the patient stays in one position, the more this partial collapse of the lung will become permanent and the more it will become difficult to reopen it (atelectasis).

That is why changing the position makes it easier to keep all parts of the lungs well ventilated. As the COVID-19 pneumonia tends to be on the backside of the lung, you might even encourage the patient to lie on his/her stomach from time to time if he/she tolerates that.

C) Exercises for the lung

With simple exercises, we can try to reopen compressed and closed alveoli.
There is a simple tool that can be used for a process we call ”Basic pulmonal recruitment manoeuvre”:

THE BUBBLE BOTTLE

You can do that in any setting.

All you need is this:

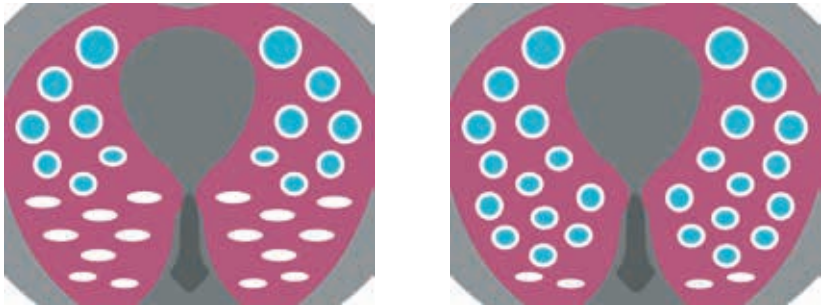
- A simple bottle (empty soda bottle etc.)
- A long straw
- Clean, non-sparkling water
- Fill the bottle with clean water
- Put the straw in the bottle until it is about 5 cm deep in the water
- Fix the straw to the bottle with some adhesive (cello) tape, if possible (not mandatory)

Instruct the patient to take a deep breath, then put the straw in his/her mouth and exhale as long as possible through the straw, blowing bubbles in the water of the bottle. The patient should do this about 5 to 10 times in a row, about 5-7 times a day.

How does the bubble bottle work?

Here is the scientific explanation how the bubble bottle works:

When the alveoli of the lung have collapsed, blood is just passing from the arterial to the venous side without any exchange of oxygen or carbon dioxide. This creates a shunt. Oxygen does not get in and carbon dioxide does not get out. In addition, this causes a high vascular resistance, as the blood is not able to go the normal way, because those ways are compressed.



before → lung-recruitment → after

The bubble bottle opens the alveoli: As you breathe through the straw, which is pretty narrow, the pressure in the lung increases. You create a kind of a PEEP (Positive End-Expiratory Pressure). And through the bubbles, you get an oscillation, meaning many tiny impulses, which help to pop open the collapsed alveoli.

With **bubble bottle exercises** you can very simply increase the effect of oxygen therapy in hospitals and you can make breathing easier for patients in home based care. Even in prolonged rehab from COVID-19 cases, you can continue bubble bottle exercises.

D) Reassure your patient

A side effect for breathing difficulties: Shortness of breath can be quite frightening and can easily lead to panic attacks. There are a few points about what you can do to fight the panic:

- Don´t panic yourself. Ensure that you are not dealing with such patients alone. You must have a backup of a nurse, a doctor or a health facility. Ensure that you can get the necessary help if needed.
- Talk to your patient quietly and reassuringly: Panic does not last forever, it will go away. Even if the breathing remains difficult, the panic will eventually ease. So explain to the patient what you will do and how it will get better.
- Place the patient by a window or take him/her outside if possible.
- Provide airflow that can be felt. This may be the wind at the window or a fan or a banana leaf, whatever is available.
- Remember to protect yourself when doing this.
- In a hospital setting, you may additionally provide oxygen, but in home based care, airflow and reassurance are the key issues.

MONITORING AND REVISITING

Patients at home should be monitored regularly. Relatives and caregivers should be instructed on alarm signals to seek further advice.

If any of the following symptoms arise, refer the patient to the next health facility:

- Rising respiratory rate: > 20/min
- Fever for more than 7 days (38 Celsius/100,4 Fahrenheit and higher)
- Any change of state of consciousness (patient always sleepy, talking irrelevant, not answering adequately, does not know where he/she is…)
- If the patient gets worse after steady state or improvement
- Severe pain
- Vomiting and diarrhoea that cannot be controlled

In COVID-19, symptoms are mild to moderate in the first week. For most patients, symptoms subside after that time and they get well.

After 7 days, the patient should be revisited. If there is no improvement, or even a deterioration of his/her situation, then this often indicates that the patient might develop a severe case and should better be referred to a health facility because he/she will need additional treatment.

REHABILITATION

Most patients will recover from COVID-19 and are well after 1-2 weeks, though a full recovery of the strained body can sometimes take much longer.

Those patients who have been quite ill may need encouragement in recuperation:

Encourage mild exercising. If patients get better, also increase the exercising. Tell the patients that it may take some time before they are back to full strength and well-being.

You may also look after patients that have been discharged from hospital after a severe illness. Those patients also need good nutrition, fluids and exercises to regain their strength. In case of shortness of breath, you might also continue the bubble exercise, especially in the morning after waking up.

Those patients are no longer infectious. You must do all you can to avoid stigma and discrimination.

Inform the family that returning patients can be taken into the family and that they are no longer infectious.

As for now, we do not know whether there will also be cases where symptoms may persist long-term (for example shortness of breath). Most of the patients with prolonged rehab so far show continuous improvement over time.

TAKE HOME MESSAGE

Home based isolation and care is possible. And more important: isolation is the only option we have to stop the spreading once someone is infected. Therefore, it is really important to provide good information on patient care in home isolation.

Awareness raising is important, education of not only the patient but also the whole family. They have to stick together and care for each other in isolation. Most of the above named points seem basic, but they are nevertheless important in providing good home based care. It is the task of the health professional or the community health worker to make the information easily understandable. The simpler the information, the more people will follow it.

Community health workers who visit the patients in homecare play an important role – in **encouragement and support** as well as in monitoring the progress. Families who are in isolation need support. Food and shopping can be organized within the neighbourhood or community. Contact via media (e.g. phone) or from the distance is very important to keep up good spirits in isolation. And stigmatization has to be fought from the beginning! After 14 days of isolation with no new symptoms, patients are not infectious anymore and can continue normal life.

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