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A Structure Review on Role of Pharmacist during Worldwide Pandemic: Covid-19

Ritika Lath[1], Aman[2], Munish Goyal[3], Sarbjot Singh[4], Shivangi Sharma[5], Sahil Kumar[6]

[1,2,6] *KC Institute of Pharmaceutical Sciences, Una HP*
[3,4,5] *Aakash Institute of Medical Sciences, Nalagarh, Solan HP*

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ABSTRACT
Since the start of the new corona virus (covid-19) outbreak in December 2019 pharmacist worldwide are playing a key role adopting ingenious strategies to diminish the adverse impact of the pandemic. The virus is transferable between human and has caused pandemic worldwide. The number of demise charge continue to rise and a wide number of countries have been enforced to do social distancing and lockdown. The Pharmacist plays a very important role in the treatment of covid-19 through vaccination and medicines. Pharmacist through various awareness programs plays an crucial role in the prevention of covid-19 by describing the use of alcohol based sanitizers, maintaining isolated contact and the use of masking.

Keywords: Covid-19, vaccination, Pharmacist, pandemic, transferable.

I. INTRODUCTION

Pharmacist is a health professional who is responsible for manufacturing, management, distribution of the medicines. Pharmacists a person who has a great scientific knowledge about the use, safety, effectiveness, side-effect and the interaction of drugs with other medicines or food etc. Pharmacist is also known as a druggist or a chemist. Pharmacist by the use of their knowledge can manage the disease by medicines and reduce the side-effects and toxicity and provide maximum care to the patient [1]. In the latest pandemic conditions covid-19, the pharmacist plays a very huge role in controlling, preventing the disease. Pharmacist provide appropriate medication, ensuring appropriate medication inventory, provision of facial masks and provide proper education on hygiene, social distancing, busting the myth, neutralizing the misleading narratives. Pharmacist working in several localities and health facilities are link to patient either directly or indirectly [2].

Covid-19 is a disease which is caused by severe acute respiratory syndrome corona virus 2(SARS-CoV-2) which is reported and rapidly spreading. It is originated in Wuhan city of Hubei province of china [3]. Environmental sample from the Huanan sea food market also tested positive which indicates that the virus proceed from there. On 31st December 2019, China notified the outbreak to the world health organization and on the 7th January the virus was identified as a corona virus >95% similar with a bat corona virus. After the first case of mainly respiratory viral illness, first reported in Wuhan province china. In late December 2019 SARS-CoV-2 rapidly distribute across the world and the short span of time compelling the World health organization to proclaim it as a worldwide prevalent on 11 March 2020. Since being declared as a worldwide prevalent, covid-19 has ravaged many countries worldwide has overcome many healthcare systems. The prevalent has also resulted in the loss of income due to extend shutdown , which had a falling effect on worldwide economy. Virus also effect other countries like (Thailand, Japan, South Korea etc). The covid-19 is spread by inhalation and contact with infected person's droplets and the incubation period from 214 days.

- ALPHA (B.1.1.7): First variant of concerned described in the United Kingdom in late December 2020.
- BETA (B.1.357): first reported in South Africa in December 2020.
- GAMMA (P.1): first reported in Brazil in early January 2021.
- DELTA (B.1.617.2): first reported in India in December 2020.
- OMICRON (B.1.1.529): first reported in South Africa in November 2021 [4].

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II. HISTORY

There are several theories about when the very first case revise. According to an confidential report from Chinese government the first case can be detect past to 17 November 2019, the person was a 55 yr old citizen in Hubei province. There were 4 men and 5 women announce to be poisoned in November, but none of them were Patient Zero". Starting from December, the figure from corona virus cases in Hubei moderately increased reaching 60 by 20 December and last 266 by 31 December. According to official Chinese source these forward sufferers mostly linked to human seafood wholesale market, which also taken live animals. On 30 December, a test record addressed to Wuhan Central hospital, from capital Bio Med lab, express that there was an incorrect positive result for SARS, create a group of doctors at Wuhan Central hospital to aware their co-workers and applicable hospital authorities of the results. It is estimated that 20% of people with Covid-19 will require to be rehabilitated for treatment [5]. Structure: Covid-19 are enveloped positive sense RNA viruses vary from 60 to 140 nm diameter with spike like projection on its surface giving it a crown like presentation under the electron microscope, hence the name corona virus. Four Corona virus namely HKU1, NL63, 229E, and OC43 have been in movement in humans normally cause mild respiratory diseases [6].

III. ROLE OF PHARMACIST

1) Role of community pharmacist-:

- Disease education and counselling.
- Education on hand and respiratory hygiene.
- Provision of facial mask.
- Encourage social and physical distance.
- Busting the myths and neutralize the misleading narratives.
- Ensure appropriate medicine inventory.
- Medicine and disease management.
- Effective medicine supply to customer.

2) Role of Hospital Pharmacist-:

- Inventory management.
- Pharmacovigilance at hospital level.
- Drug utilisation evaluation.
- Provision of personal protective equipment.
- Active member of clinical trial team.
- Development of clinical guidelines.
- Hospital pharmacist's education services.
- Disinfection and sterilization services.
- Provision of authentic and updated Research information.

3) Role of drug regulatory pharmacist-:

- Adequate drug supply.
- Ensuring good selling practices.
- Occasional quality testing through drug testing laboratories.
- Ease operational Barrier

4) Role of industrial pharmacist:-

- Member of covid-19 Research and development.
- Improving access to medicine.
- Monitoring of reported Adverse drug reaction.
- Urgency to comply with legal requirements.
- Optimize rational drug use.
- Pharmacovigilance.
- Ensuring appropriate drug supply.

5) Role of Academic Pharmacist:-

- Provide health education.
- Spreading awareness on preventive measures.
- Provision of facial mask.
- Encourage social and physical distancing.
- Education on hand and respiratory hygiene.
- Promote health related activities [7].

IV. HARMFUL EFFECTS OF COVID-19

The organ mostly affected by covid-19 are the lungs which leads to respiratory tract infections ranges from mild to lethal.

Mild effect of Covid-19:

- Fever
- Cough
- Shortness of breath
- Headache
- Sore throat
- Vomiting
- Chills
- Runny nose
- Chest pain
- Pink eyes (conjunctivitis)
- Rashes

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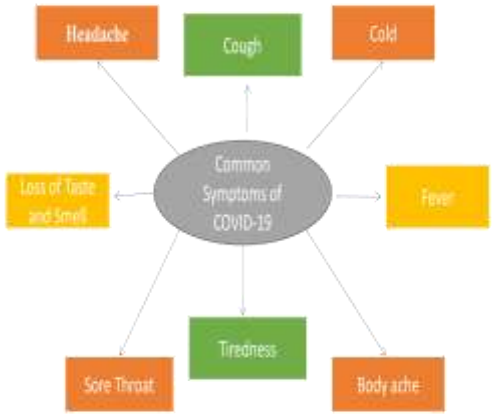

Lethal effect of Covid-19:

1. Cancer
2. Chronic Obstructive Pulmonary Disease(COPD)
3. High Blood Pressure
4. Type-1 and Type-2 Diabetes
5. Asthma
6. Liver disease
7. Down syndrome
8. Obesity, over weight
9. Chronic kidney disease
10. Weakened immune system
11. Serious heart disease [8].

V. CAUSES OF COVID-19

The virus travels in respiratory droplets released into the air when an infected person coughs, sneezes, talks, sings or breathes near you. You may be infected if you inhale these droplets. You can also get coronavirus from close contact (touching, shaking hands) with an infected person and then touching your face. Sometimes the Covid-19 virus can spread when a person is exposed to a very small droplets or aerosols that stay in the air for several minutes or hours-called airborne transmission. The virus can also spread if you touch a surface with the virus on it and then touch your mouth, nose or eyes. But the risk is low. The COVID-19 virus can spread from someone who is infected but has no symptoms. This is called asymptomatic transmission. The COVID-19 virus can also spread from someone who is infected but hasn't developed symptoms yet. This is called presymptomatic transmission [9].

VI. DIAGNOSIS:

Testing for Covid-19

There were different types of tests includes:

Swab test : In this the sample is taken from your nose or throat.

Nasal aspirate: In this a saline solution is injected into your nose and then the sample is collected with light sunction.

Tracheal aspirate: Also knowns as bronchoscope. In this a thin tube put into your mouth to reach your lungs and from where the sample is collected.

Sputum test: In this you are required to cough up sputum in a special cup or swab used to collect your sample.

Blood test: Blood is taken from the veins as a sample.

I. Rapid diagnostic test based on Antigen Detection: In this sample is taken from the nose, lungs and throat used to detect the viral protein (Antigen) related to Covid19 virus. It ensures speedy diagnosis and its usage is CDC approved.

II. Rapid diagnostic test based on Host Antibody detection: It detects the presence of antibodies in the blood of infected people. The strength of antibodies depends upon age, infection, medication and severity of disease etc [10].

VII. PREVENTION

Stopping the spread starts with you .

- Wear a mask.
- Clean your hands.
- Maintain safe distance.
- Get vaccinated.

Protect yourself and others around you by knowing the facts and taking appropriate precautions. Follow advice provided by your local health authority. Check with your local health authority for the most relevant guidance for your region.

To prevent the spread of COVID-19:

- Maintain a safe distance from others (at least 1 metre), even if they don't appear to be sick.
- Wear a mask in public, especially indoors or when physical distancing is not possible.
- Choose open, well-ventilated spaces over closed ones.
- Open a window if indoors.
- Clean your hands often. Use soap and water, or an alcohol-based hand rub.
- Get vaccinated when it's your turn. Follow local guidance about vaccination.

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- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
- Stay home if you feel unwell.

Masks:

Properly fitted masks can help prevent the spread of the virus from the person wearing the mask to others. Masks alone do not protect against COVID-19, and should be combined with physical distancing and hand hygiene. (11)

VIII. TREATMENT OF COVID-19 VIRUS

I. At Home

If the symptoms are not seen patient can recover at home, patient should:

- Rest: help to feel better.
- Stay Home Stay Safe.
- Increase water intake: as it keep body hydrated
- Monitor some parameters like; level of oxygen, body temperature regularly.
- Ask the doctor for any OTC drug to lower your fever.

II. In Hospital

In case of any severe effect the medical staff check the signs that were causing serious problems. They might:

- Check the level of oxygen in the blood.
- Check chest X- ray
- Check the body temperature

Chloroquine : It is used in the starting of covid-19 to reduce the symptoms of disease.

Remdesivir: It is the first medicine approved by FDA for the treatment of Covid-19 patients over the age of 12.

Sotrovimab: It is the only monoclonal treatment for the omicron Variants.

2. Oral Antiviral medication, include Paxlovid and Molnupiravir are available for the outpatients used for mild to moderate conditions of Covid-19 under FDA [12].

Vaccines for Covid-19 in India:

- Corbevax vaccine
- Covaxin vaccine
- Covishield vaccine
- Johnson & Johnson vaccine
- Moderna vaccine
- Novavax vaccine
- Sputnik Light vaccine
- Sputnik V vaccine
- Zydus Cadila vaccine.

IX. DISCUSSION:

The Covid-19, spread across the world following a trajectory that is difficult to predict. The health humanitarian and socioeconomic policies adopted by countries will determine the speed and strength of recovery. Government are try to accomplish all standards requires to fulfil to those people need in this crises. The World health organization declared the Covid-19 outbreak, around the world treatment and vaccines are developing to diminish the spread of the virus.

The current study described the role of the pharmacists during the COVID-19 pandemic were found. Several methods of communication were performed by pharmacists in different settings of treatment and diagnosis of the disease. Moreover, all studies reported that actions taken by pharmacists, mainly drug information and patient counseling. Thus, this structured review showed that detailed description and impact role which is needed in order to guide the actions of the pharmacists in this and-or other pandemic.

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