



Multiple Role of Pharmacist to Tackle Over Covid-19: Frontline Healthcare Professionals

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Abstract

In fighting against covid-19, frontline healthcare workers have been vital role to tackle the pandemic. All healthcare professionals play vital for prevention of transmission of disease, treatment of diseased patients, formulating new medicines, conducting trails etc. among all these professionals pharmacists also play the equivalent role to reduced the covid situation in various sector such as community and hospital. pharmacist play the multiple role in health care system. the lockdowns are being observed all over the globe and the pharmacy professionals are performing frontline roles 24 hours. community pharmacists have reduced the burden on the healthcare system by diverting the influx of patients away from hospitals through triaging and screening patients while Hospital and clinical pharmacists collaborated with multidisciplinary team to improve COVID-19 patients' outcome and reduce mortality and to facilitate the pandemic control in hospitals. Now and later pharmacist professionals are always plays a vital role for analyzing data, formulation of drugs, formulation of therapeutical plan, production of medicines, equipments, vaccines for smooth running of covid-19 tackle programme.

Keywords: Frontline Workers; Pandemic; Covid-19; Pharmacists

Introduction

The Coronavirus (COVID-19) is an infection caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) first emerged in Wuhan (China) in December 2019, spreading rapidly across the world. Almost 21 million population are infected and around 750 thousands people are died till date. On the 11th of March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic [1,2]. Fever, cough, difficulty breathing, fatigue and headache are the major symptoms seen in covid-19 patients [3]. While billions of people are in their homes in order to decrease the risk of transmission of the infection, health workers are on the frontline against COVID-19 [4]. All professional are committed to ensure the better health outcomes in every situation. Pharmacists, doctors, nurses, other paramedics and non-technical staffs are the major frontline workers [5].

Pharmacy is practiced in a wide range of settings: community pharmacies, hospitals, long term care facilities (age care, child care), the pharmaceutical industry, mail service, managed care and government facilities, research and development. Pharmacist are responsible for the quality and proper of medicines supplied to patients, ensuring that the supply of medicines is within the law, advising patients about medicines, moreover pharmacist play vital role in hospital, community pharmacy to control and supply of appropriate medicine to make stoke or availability of all medicine on timely. Pharmacist also ensure from synthesis of proper medicines, vaccines conduct preclinical, clinical trials [6].

In this covid-19 pandemic along with many frontline health worker like doctors, nurses, pharmacist also have equally important role in controlling covid-19 as a frontline health worker to stop spread of infection and care of infected person in various role.

Community pharmacist and covid-19

Community pharmacies remained open to the public despite stricter lockdown restrictions. Community pharmacists play a vital role in closing the gaps that are exacerbated by the additional strain on the system and reduced access to healthcare providers. Despite the initial shortage of personal protective equipment, pharmacy staff continued to provide direct patient care. Pharmacies are delivering medications to patients free of charge, educating patients on tele-health services, assessing patients that require renewal of chronic medications, performing consultations on minor ailments, clarifying misconceptions about COVID-19 treatments, and contributing to COVID-19 screening [2]. In developed countries pharmacy is a diagnostic center for RT-PCR. For low to middle income countries, community pharmacies offer the advantage of medical advice without cost to patients who are unable to afford physician fees [7,8]. Beside all the activities only supplying face masks, gloves, sanitizer, providing OTC medicines for fever, cough, sneezing, also counseling on distance maintaining, delivery medicine door to door is reduced covid-19 spread by certain level.

Pharmacists are accessible to all community in all urban and rural areas, pharmacist will be very helpful in future for immunization for covid patients.

Pharmacists on a role of Antiviral stewardship is vital during the pandemic. In lieu of antivirals with established efficacy for COVID-19, novel experimental agents are currently being evaluated in controlled studies globally for the prophylaxis and treatment of COVID-19 [9]:

1. Telemedicine, pharmacists: With great impact on transportation and shutdown of all private and government health-care facilities only provides emergency and covid services, With the closure of OPDs there has been a great unrest among the patients with other diseases. With nowhere to go and to exercise and save themselves from the virus exposure at the hospitals, opens the door for Telemedicine provisioning in this time of crisis. There is a growing demand for telehealth and telemedicine has run already by many pharmacy provide greater care [10,11].

Hospital pharmacist and covid-19

Hospital pharmacists are support pharmaceutical care services by participating in making evidence-based decisions for medication, monitoring and evaluation of medication safety and efficacy,

providing strengthened care for special population and co-morbid patients, monitoring and management of convalescent plasma therapy, providing emotional counseling and psychological support and providing scientific information about COVID-19 vaccines. Until and after the available of certain medication or vaccines, pharmacist play vital role to make guidelines and implementation of covid patients with evidence based decision. Meanwhile, hospital pharmacists should provide close monitoring and evaluation of medication safety and efficacy, management of drug interactions, and monitoring and management of convalescent plasma therapy. Hospital pharmacist also take care for medicine supply, stock management services in various department. hospital pharmacists should also provide screening services, drug information services and medication review services to all facility hospitals.

Alongside ICU nurses, physicians and respiratory therapists, hospital pharmacists contribute to COVID-19 management protocols by participating in inpatient rounds, ensuring sufficient medication supply to support ICU beds while managing critical drug shortages through the implementation of conservation strategies and sourcing alternatives [12]. Misuse of drugs lead shortage of drugs like hydroxychloroquine, remdesivir, ritonavir, immunomodulating agents, antioxidants drugs etc. supply is taken care by hospital pharmacist. Beside all this, pharmacist play a vital role on ongoing clinical trials in various hospital in different phases.

Clinical pharmacist and covid-19

Providing pharmaceutical care is on of the main task in clinical pharmacy. During the pandemic, clinical pharmacists provide evidence based pharmaceutical care services for COVID-19 patients. Assisting to develop treatment plan, monitoring efficacy or adverse reaction, attending clinical rounds, medication reviews, multidrug therapy review, preparing discharge and proper counseling of patient are the vital roles play by the clinical pharmacist. Investigational drug pharmacists play a significant role here; active involvement of those practicing in infectious diseases like "antiviral stewardship", information technology, critical care, distribution, and management can streamline the process and speed the time to therapy for study patients. Due to the lack of healthcare workers and lack of time give opportunity to give better understanding among themselves [13].

Industrial pharmacist and covid-19

The hidden but most important sector is pharmaceuticals industry and their respective pharmacist and workers. For the

great achievement of pharma-industries all doctors pharmacists smoothly conducting services. in the devastating situation smooth supply of proper medicines, surgical items, masks, sanitizer help proper controlling of covid situations. HCQS, remdesivir, immunomodulating agents etc. and other related medicines to treat in symptomatic patients in hospitals or home need proper supply by working extra shifts. Biomedical field with proper diagnostic equipments help to identify the patients. Screening tools like thermal gun (temp recordings), swab collection tools, PCR detecting machines proper supply to the health care provides great and smooth running of programmes. Day night shifts of same no of pharmacist worker along with other non-technical worker play vital role to tackle covid situation.

Pharmacist on research and development

In a short time period researcher are successfully produces vaccine and they are on trials. From the formulation of drugs, discovering the structure of covid-19, its receptor and effect of drugs on the receptor are serious challenges till date. Besides all this problems all health workers along with pharmacist play a vital role to develop plasma replacement therapy techniques, vaccines, drugs like favipiravir, remdesivir, in short time. they also discovered hydroxychloroquine's to suppress symptoms, immunomodulating agents etc.

Pharmacists provide an invaluable interface in this process by liaising with scientists and clinicians across the development arena. During the discovery research phase of development of a medicine pharmacists will work with other scientists to develop and select drug compounds that may be valuable as medicines. They will also help the project team, which might include medicinal chemists, bioscientists, toxicologists, pharmacokinetics and others, to understand the biopharmaceutical properties of the compound, the dosage form and how the route of administration might affect the rate and extent of absorption [13].

Within clinical research, pharmacists can help assess the safety and efficacy of new medicines. Skills learnt during pharmacy training allow them to contribute to the entire clinical trial process from planning the trial, developing the prototype formulations for administration first in animals and later for trials in humans, the production, packaging, labelling and supply of the medicine to clinical researchers, through to the monitoring and reporting of complex studies [13].

Pharmacists in miscellaneous role

Covid-19 is a newly diagnosed virus of Coronaviridae, most of the healthcare and other non-technical staffs are not aware of this. community people and other healthcare students have lack of knowledge regarding this. Whiles lecturer in the pharmacy or medical colleges was doing great job to spread the proper knowledge, preventing methods, control of spreading disease by educating others.

Implementation of law by government authority, pharmacy councils, medical councils, pharmacist associations, drug development authority, pharmacovigilance sector etc. play vital role to tackle covid-19.

Conclusion

Pharmacist have several scope and various role performed in healthcare facilities in pandemic condition. Several role of pharmacists like community, clinical and hospital, industrial as well as other play vital role in controlling pandemic.

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Competing Interests

No known competing interest to declare.

Bibliography

1. Zhu N., *et al.* "A novel coronavirus from patients with pneumonia in China, 2019". *The New England Journal of Medicine* 382 (2020): 727-733.
2. World Health Organization. "Coronavirus disease 2019 (COVID-19) situation report" (2019): 52.
3. "COVID-19: protecting health-care workers". *Lancet* 395 (2020): 922.

4. Centers for Disease Control and Prevention Coronavirus disease 2019 (COVID-19). How to protect yourself and others.
5. Hedima EW, *et al.* "Community Pharmacists: on the frontline of health service against COVID-19 in LMICs". *Research in Social and Administrative Pharmacy* (2020).
6. Press release UK Government £300 million announced for community pharmacies to support them during coronavirus outbreak (2020).
7. CVS Health. COVID-19 testing: Information and locations (2020).
8. Bukhari N, *et al.* "Pharmacists at the frontline beating the COVID-19 pandemic". *Journal of Pharmaceutical Policy and Practice* 13.1 (2020).
9. Office of the Premier. Newsroom: Pandemic Pay Provides Support for Frontline Workers Fighting COVID-19 (2020).
10. Centers for Disease Control and Prevention. Testing in the U.S (2020).
11. Shah TK, *et al.* "Health care for all: effective, community supported, healthcare with innovative use of telemedicine technology". *Journal of Pharmaceutical Policy and Practice* 11 (2018): 3.
12. Yau S. "Recognition of hospital pharmacists and pharmacy technicians, as frontline workers eligible for pandemic pay during COVID-19" (2020).
13. Pharmacists provide Covid-19 testing. *Globe and Mail* (2020).

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