

Primary health care and family physicians provide frontline care to the dermatology patients during the era of COVID-19: Recommendations and future directions

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ABSTRACT

COVID-19 has affected those disciplines where close contact is required and where there is no need for urgent care such as the field of dermatology. Due to the contagious nature of the virus, front line health care workers such as family health care physicians and primary health care doctors are using personal protective measures (PPE), which might result in skin disorders. In addition, social distancing has also resulted in the compromise of teaching and learning mainly bedside teaching in the dermatology wards. Moreover, there is also uncertainty about the guidelines different to be followed by primary health care and family physicians while assessing patients of dermatology. We aim to provide an overview of how COVID-19 has affected the primary health care workers and physicians. We have highlighted the challenges faced by the family health care physicians from the perspective of dermatology along with recommendations and future directions for family health care physicians. Results reveal that wearing PPE measures might be challenging for primary health care workers and family physicians as it can cause facial inflammatory papules, acne rosacea, seborrheic dermatitis, and facial itching. They cannot escape encounter with the patients, and they need to be careful by undertaking some precautionary measures while taking care of the patients in general with a specific focus on COVID-19. COVID-19 has also affected all teaching and learning in the field of dermatology. However, academic institutions can use digital tools such as zoom or skype to continue learning dermatology during the crisis of COVID-19.

Keywords: Challenges, COVID-19, dermatology, future directions, primary health care physicians

Introduction

There is a rapid spread of novel disease throughout the world caused by COVID-19 and this novel virus has crossed the frontiers.^[1,2] The infected individuals from COVID-19 can develop flue or pneumonia-like symptoms and in severe cases, it can lead to multi-organ failure.^[3] This disease is

spread from one individual by body secretions such as saliva or nasal droplets and it can also pass from human to the next by coming in contact with the infected individual or by touching the infected areas.^[4,5] This deadly virus started its journey in one of the provinces of China named Wuhan at the end of 2019 and spread with great speed through China and the remaining world.^[6] Overall, it has been observed that there is an exponential rise in the number of cases with a peak in every country followed by a decline of cases if necessary control measures are taken on time.^[7] Despite the effective and timely measures, almost all of the developed and developing countries have faced substantial morbidity and mortality from this unanticipated pandemic.^[8,9]

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Generally, after the virus had its origins in China, the frequency of COVID-19 cases increased remarkably out of China by March, 2020.^[10] Developed and developing countries reporting confirmed cases and fatalities to the World Health Organization (WHO) rose initially within few weeks and then within a few days due to the highly contagious nature of the virus.^[8,9] It was 16th March 2020, when the WHO formally professed the CoVID-19 to be a pandemic with 168,000 confirmed cases and 6500 deaths across the globe.^[11,12] This official declaration by WHO created an environment of chaos throughout the world affecting not only the health sector but also education, finance, transportation, and travel across the globe.^[13]

This COVID-19 virus tends to spread swiftly from one human to the other and even from one city to the next and from one country to the other.^[14] Therefore, the governments of the respective countries had to take stringent control measures to avoid spoiling the health and quality of life of several human beings.^[15] These measures included curfews, lockdowns, social distancing, closure of schools, and even restrictions on the hospitals on providing only emergency and necessary care and canceling all elective health care and services.^[16,17] These measures taken by different governments have affected the health system to a greater extent not only in the short-term but it will have unfavorable consequences in the long run for which governments and health care systems of the countries might need to change their existing structures, plans and policies.^[18]

Similar to other specialties in the health sector, COVID-19 has also affected those disciplines where close contact is required and where there is no need for urgent care such as the primary health care and family medicine.^[19] Moreover, this might be even more challenging for those primary health care physicians who also encounter patients with skin diseases. This is because primary care doctors confront and handle a substantial number of patients with skin illness.^[20] Generally, 6% to 7% of all visits in the outpatient departments are for skin disorders, and 60% of such patients are cured by primary health care physicians in the field of family medicine.^[20] As the result of the current pandemic, care for the patients of dermatology might be procrastinated due to close contact with dermatology patients.^[21] For example, given the nature of the COVID-19 and its frightful infectious progression, it might become difficult and challenging for the primary health care physicians to provide necessary treatment to the patients.^[22] Similarly, the patients might decide not to visit the dermatologist if there is no need to urgently visit them rather they visit primary health care physicians because they might be more accessible during the COVID-19 pandemic. Since these primary health care physicians have to assess these patients, therefore, they have to wear protective measures such as mask, gloves, gown, eye shields and other necessary equipment to protect themselves from getting infection. Thus, primary health care physicians at the frontline have also modified their lifestyle due to preventive measures such as wearing protective equipment. These changes might cause more skin diseases such as occupational and contact dermatitis among these primary health workers and physicians,

however, the evidence regarding such findings is not assessed. Moreover, there is also uncertainty about the guidelines different primary health care workers should follow while assessing the patients of dermatology. Therefore, in this opinion article, we have highlighted the challenges faced by the primary health care physicians as frontline workers from the perspective of dermatology along with recommendations future directions.

Material and Methods

We searched articles from databases such as Google Scholar and PubMed. We conducted text-word and vocabulary searches in Google Scholar and PubMed. The articles that were published on the topic of dermatology in the field of family medicine or primary health care and COVID-19 were searched to have the evidence to support the opinion of authors. We searched all the articles by using search terms such as ‘Skin Problems assessed by primary health care physicians, and COVID-19’, ‘Dermatology in the field of family medicine and COVID-19’ ‘Challenges faced by primary care physicians from dermatology perspective and COVID-19 pandemic’ and ‘Future directions for primary health care workers from dermatology perspective and COVID-19’. We included articles that were published in the English language, however, we studies from developing and developed countries were eligible. We examined all primary and original articles pertinent to our objective while writing this opinion article to support our point of view based on the available premise. Given the duration of the COVID-19 pandemic, our search was limited between 2019 and 2020 and we applied filter on the time duration while searching the articles in the databases. All eligible articles were identified in the chosen databases by using a snowball sampling technique consisting of backward and forward reference searching of articles. Besides, all references of the eligible articles were also reviewed to avoid missing any article appropriate to the objective. After searching for different databases and following the above criteria, we reviewed full-text articles of the studies that highlighted the issues, challenges, and future direction for the primary health care physicians from the perspective of dermatology during the pandemic of COVID-19.

Challenges faced by primary health care workers from perspective of skin or dermatology manifestations due to COVID-19

Since this novel coronavirus can enter the body through mucosal membranes the likelihood of causing infection increases if there are mucosal eruptions. In addition, the biopsies of newly diagnosed COVID-19 cases also demonstrate vascular changes on the skin. However, specific skin symptoms of COVID-19 disease have not been reported so far in the literature. Because primary health workers must have to use personal protective equipment (PPE) while assessing patients, there is a possibility of developing skin problems. For example, studies have demonstrated that PPE can invigorate different skin conditions or can worsen previous skin disorders among frontline workers such as primary care physicians and doctors in the field of family medicine. More

specifically, it has been found that prolonged wearing one can develop facial inflammatory papules if protective goggles are worn for a protracted-time period. Besides, one can easily develop acne rosacea, seborrheic dermatitis, and facial itching due to the same reason.^[23,24] Also, one can develop delayed pressure urticaria after wearing goggles and masks tightly to the skin.

The studies have shown that almost two-thirds of primary health care workers providing COVID-19 care in China developed hyperhidrosis.^[23] This in turn may lead to high likelihood of non-diphtheroid corynebacterial ailments, some infections due to bacterial, and tinea. Although one of the enforced practices is to wash hands frequently, excessive hand washing can cause skin problems mainly in people having sensitive skin. For instance, the epidermal barrier functions can be disturbed by increased handwashing and by using disinfection as it can lead to irritant contact dermatitis due to disturbed epidermal barrier.^[22] Moreover, personal protection is also caused by wearing protective gloves. However, prolonged wearing of gloves causes hyperhidrosis and hyperhydration of the horny layer resulting in interrupted epidermal barrier function, maceration, and skin erosion as few of the severe outcomes. It might also upsurge the chances of allergic contact dermatitis.^[23]

There is a possibility of occupational skin diseases developed by primary health care workers, which is revealed by one of the studies conducted in Hubei, China on doctors and nurses serving COVID-19 patients in the tertiary care hospitals.^[25] Overall, the study demonstrated that the burden of occupational skin disorders was 97.0% among doctors and primary health care workers providing care at the frontline.^[25] Moreover, in around 83.0% of the primary health care workers, the nasal bridge was affected as the commonest site followed by forehead, cheeks, and hands. This was mostly found among those primary health care workers and physicians who worn the PPEs for more than six hours a day without any break. These primary health workers were twice as likely to develop the occupational hand dermatitis due to hand washing of more than ten times per day and prolonged warming of gloves.^[25]

One more study was conducted in Wuhan, China, which demonstrated that 74.5% of the primary health care workers providing frontline care had developed skin problems with hands being affected mostly, followed by nasal bridge and cheeks. More specific skin manifestations in these workers were found to be xerosis, eczematous lesions, and maceration.^[26] It was found in another study that using hot water while washing hands and also using alkaline soaps may enhance the probability of dermatitis of hands among primary health care workers.^[27]

In addition to these challenges, dermatologists have also reduced their speed of assessing the patients. Thus, these patients are diverted to primary health care physicians due to this pandemic. Those patients with legitimate issues and disorders (severe dermatoses, abscesses requiring incision and drainage, rapidly growing and painful tumors) cannot be delayed. Therefore, these

patients with severe skin disorders are also prioritized by primary health care workers and physicians in the field of family medicine to provide ethical and moral treatment to those who need the most.^[28] Likewise, academia is also facing challenges for the primary health care physicians who want to pursue their careers in the field of dermatology due to the closure of universities and other teaching avenues. This has affected in-person teaching including seminars, workshops, bedside learning, and teaching in the outpatient departments or dermatology wards due to social distancing.^[29] This might result in declining learning and teaching curve for a brief time period and can be overcome by taking smart and timely actions.^[29,30]

Recommendations and future directions

The frontline health workers such as family health care physicians cannot escape the encounter with the patients, therefore, they need to be careful by undertaking some precautionary measures while taking care of the patients in general with a specific focus on COVID-19. More specifically, these workers need to clean disinfect and dry their hands before wearing gloves.^[23] In the field of family medicine and primary health care, disinfectants usage is well accepted as opposed to the soap and disinfectant combined. Moreover, primary health care physicians can use protective creams before assessing the patients with skin diseases and moisturizers can be used while working during the shift to reduce the chances of occupational dermatitis.^[22,23] Furthermore, it is also advised to wash hands after changing the gloves followed by using a skincare product.^[23]

A Cochrane review has been carried out regarding the interventions to prevent occupational dermatitis and that review could be one framework of guidance for the primary health care workers and family physicians to prevent themselves from catching dermatitis.^[31] According to the findings of the review, moisturizers combined with barrier creams can cause substantial improvement, however, whether it can plummet the prevalence of irritant dermatitis of hands need to be evaluated in the future. Moreover, during the pandemic of COVID-19, there are specific guidelines for dermoscopy including reducing the practice of dermoscopy in the field of dermatology, identification of suitable patients, disinfecting area of the body and dermatoscope, advising patient and clinician to wear masks, and use shielding protections for the dermatoscope unless COVID-19 pandemics is subsided.^[32]

In addition, patients with dermatology disorders can also suffer more when infected with COVID-19, therefore, multidisciplinary assessment of risk for such patients is advised by the primary health care workers before assessing such patients with the skin diseases. For example, given the intensity of the COVID-19 and associated comorbidities such as asthma, immune-modulating therapy might be continued or stopped according to the expert opinion of primary health care workers in consultation with dermatologists if required and recent framework of guidelines on vigorous infections and systemic therapy.^[33]

Lastly, those primary care health workers and physicians who are interested to increase their knowledge regarding skin conditions can seek help from Tele dermatology to replace or bedside teaching and digital tools can be utilized such as zoom or skype teaching to continue learning dermatology during the crisis of COVID-19.^[30] Moreover, these primary health care physicians can set up their schedules in a way that reduces unnecessary visits to the hospitals and they should also prioritize the patients ethically who are in the dire need of treatment.

Conclusion

Like other health care specialties, primary health care physicians are also facing some challenges in the era of COVID-19. Therefore, they must be prepared as they are crucial in providing timely and effective care to the patients presenting to them with skin diseases. They need to follow the current guidelines to treat the patients affected by COVID-19 and need to take suitable actions to prevent themselves from catching infections.

Key Points

There is uncertainty about the guidelines different to be followed by primary health care and family physicians while assessing patients of dermatology. Although wearing personal protective measures can cause some skin related problems even among primary health care physicians, they can adapt or modify their lifestyle to cope with the ongoing stress of COVID-19. In addition to this challenge, COVID-19 has also affected all teaching and learning for those primary health care physicians who are perusing their careers in the field of dermatology. However, academic institutions can adapt tele dermatology to substitute bedside teaching, and digital tools such as zoom or skype teaching can be utilized to continue learning dermatology during the crisis of COVID-19.

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Conflicts of interest

There are no conflicts of interest.

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