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Hair Covering Personal Protective Equipment (PPE) Is Essential Need for Frontline Healthcare Workers – Fight Against COVID_19

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Review Article

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Abstract

Protective gears are recommended for airborne diseases transmitted through small particles (droplets), for this reason, the term "PPE" has become popular and much spoken of since the outbreak of COVID-19. PPE stands for Personal Protective Equipment (Osha, 2019). PPE is used in most professions where the potential risk of contracting the deadly virus is high. The focus of this article will be on the healthcare sector and what significant role PPE plays in combating COVID_19 pandemic. To continually contribute to the literature, this article seeks to address how incomplete PPE can affect and increase the risk of contracting the deadly virus. Healthcare workers such as doctors, nurses, and caregivers have been and still are in the frontline fighting the COVID_19 virus, as a result, there is the need for a complete PPE including hair covering, face shields and surgical masks, to help keep them safe from contracting this transferable virus.

Keywords: Healthcare, PPEs, frontline-workers, Healthcare-givers, Covid_19, Pandemic

Introduction

Covid-19 virus is a major threat to human existence; especially to those who have to deal with it in the frontline i.e. the frontline health workers [1].

Physical distancing has been one of the primary preventive approaches used to prevent the spread of COVID 19. However, it is not possible for healthcare workers to maintain physical distance with the patients they are treating. Hence, it is important for healthcare givers to use a full PPE when treating COVID_19 patients [2].

A full PPE must cover every exposed part of the human body from head to toe. Unfortunately, due to shortage of PPE or in some situations, lack of awareness of the importance of using full PPEs, some healthcare workers do not cover their hair or/ and head while treating COVID-19 patients[12].

As it is now known, the COVID_19 virus can survive out of the human carriers for many hours. What this means is uncovered hair while treating a COVID_19 patient can likely get the virus because of the exposed hair. The virus can last long hours on surfaces and in a situation where the virus is on the hair of a healthcare giver, who even though is wearing other PPEs, but not using a hair PPE, the virus can travel from the hair to the healthcare giver's face [2] [13].

When the smallpox epidemic broke out many years ago, there was a debate if the entire population should be vaccinated. Although covid-19 virus is yet to have a vaccination; similar debates are ongoing if the whole population should get vaccinated when the time comes. As of now, there is no vaccination available, only precautions for preventions [3].

This virus is highly contagious and in the words of Shereen et al., "the coronavirus disease 19 (COVID-19) is a highly transmittable and pathogenic viral infection caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which emerged in Wuhan, China and spread around the world" [4].

Since the influenza in 1918, the covid-19 is now seen as the most serious respiratory virus causing global pandemic [5]. According to the Director of Yale Institute for Global Health.

Review and Discussion

Dr. Saad Omer wrote that the hair is one surface that hasn't gotten enough attention in respect to the virus spread. Although, what we know about the characteristics of this virus is continually evolving, it becomes imperative to use this article to call out to scientists and researchers to investigate how long the virus lives on human hair/beards.

Nevertheless, it is better to take protective measures by being over protective rather than being under protective of our healthcare workers by insisting on hair covering PPEs for them. Mathematical models can be developed to fight infections diseases [6].

According to Canadian Institute for Health Information, the percentage of COVID -19 cases among health care workers in canada, as at July 23,2020, was about 19.4% out of a total case of 112,672. The reality is, healthcare frontline workers are constantly in the face of this virus, hence, an urgent recommendation and a wake-up call for policy makers to implement bylaws and regulations that insist on the provision of full PPE for frontline healthcare workers, including their support staff like the healthcare center's cleaning and administrative staff, whom are also at the high risk of contracting this virus from the healthcare centers[13].

To recover adequately from a pandemic situation, the way information is spread is very important and the awareness should be prompt to humans who play a vital role in its rapid spread, hence a need to educate humans with information promptly to ease the infection spread and enhance swift recovery [7].

It is very important for our frontline healthcare givers (doctor, nurses, and caregivers) and healthcare cleaners to take personal protective measures and ensure they use full PPEs including covering every exposed part of their body, especially their hair. "Different viruses transmit among hosts with different degrees of efficiency. A basic reproductive number (R0) indicates an average number of cases getting infected from a single infected case." [8].

Centers for Disease Control and Prevention suggests that the COVID_19 virus can survive for some time out of the human carrier's body, ranging from minutes, hours and days depending on what surface it is on [9]. Some examples are; 5 days on Metal (doorknobs, silverware, jewelry), 4 days on wood (furniture, decks), 2 to 3 days on plastics (milk containers, detergent bottles, bus and subway seats, elevator buttons, backpacks), 2 to 3 days on stainless steel (sinks, pans, pots, refrigerators), 1 day on cardboard (shipping boxes), about 4 hours on copper (cookware, pennies, teakettles), 2 to 8 hours on aluminum (soda cans, tinfoil, water bottles), up to 5 days on glass (drinking glasses, windows, mirrors, measuring cups), 5 days on ceramics (dishes, mugs, pottery), up to 5 days on paper (books, newspaper) [10].

Incubation period leads to delay in symptoms appearing and covid-19 cases do not reflect the real time numbers due to lack of testing capacity [11]. A veterinary professor at the University of Guelph; Dr. Scott Weese says he has been asked this question on how long the virus can survive on the beard (hair). In his answer, he says "No one knows for sure", but it is known and said by other infectious disease specialists and epidemiologists, the novel coronavirus cannot tolerate most environments outside the human body that was initially carrying the virus, but can survive for some time, which Dr. Weese says hours not days. Also, Dr. Sumon Chakrabarti estimates the virus can survive on human beard for some minutes [12].

Saloons now have one of the biggest risks of distributing the COVID_19 virus among people who visit the saloons and are within close contact with each other [13].

"The serial interval of COVID-19 is close to or shorter than its median incubation period. This suggests that a substantial proportion of secondary transmission may occur prior to illness onset." [14].

Recommendations

These scenarios were obtained from observing healthcare workers in the hospitals put on and take off their PPEs, while attending to COVID-19 patients. Hence a recommendation to insist on a complete head to toe PPEs for frontline healthcare workers.

Scenario 1

A doctor who wasn't wearing a hair covering PPE was treating a COVID_19 patient just before the end of the shift. The patient sneezed and coughed, which released some of the virus droplets to the air. The virus got onto the exposed part of the doctor's hair because she had no hair covering PPE on. At the end of the shift and while taking off the goggle PPE, her hair shoved onto her face.

Few days later, the doctor was down with COVID_19 infection, and the situation analysis showed the virus droplets from the patient got on her exposed hair, which eventually got to her face while taking off the goggles PPE.

The virus made its way to her lungs through her mouth and nose, causing her to be infected by the COVID_19 virus.
This could have been avoided if the doctor had a full hair PPE cover.

Scenario 2

A male healthcare worker attending to some COVID_19 patients was wearing his PPEs but had no PPE over his head and face to protect his beards.

Unfortunately, the virus got on his beards when a patient he was caring for was breathing heavily with their mouth opened. The male frontline health worker got infected.

Conclusion

No small step should be ignored in fighting this dangerous virus covid-19. Implementing analytic framework is very important in order to develop strategies for public health evaluation to fight, control and eradicate this infectious COVID-19 virus [15]. More attention and laboratory analysis need to be carried out on the human hair/bread, to scientifically understand the level of precaution that is to be taken to protect our frontline healthcare workers [16-17].

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