SHORT COMMENTARY

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Tripledemic: A Short Commentary

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ABSTRACT

Tripledemic is an informal word used to describe the collision of RSV (respiratory syncytial virus), seasonal influenza and COVID-19 cases. Tripledemic is a recent consortium of viruses that have permuted and caused public health havoc since the holiday season of 2022. The incidence of this triad is being reported in an almost synergistic manner and researchers are pushed to figure out the common grounds for this sudden outbreak.

KEYWORDS: Tripledemic, Epidemiology, Viruses

INTRODUCTION

The surge of respiratory distress has now started appearing like a permacrisis. Newspapers and dailies are brimming to the top with mutated variants of viruses. It's like there was a ticking bomb of viruses that suddenly went off. The most recent in the list has to be a combination of three conditions, Covid-19, RSV (respiratory syncytial virus) and influenza flu. This viral crossover is a recent affair and has been in talks since the holiday season of 2022. Most started referring to the season as a "Tripledemic" holiday. With Omicron around the corner and incidents about the latest variant of COVID-19, it is very overwhelming to be witnessing so many synergistic diseases all at once.

WHAT IS TRIPLEDEMIC

The word Tridemic / Tripledemic is an informal wordplay of 2 words "triple" and "pandemic". It refers to the collision of three very prominent respiratory viruses, each pandemic on its own: SARS-COV-2, Flu, and RSV (respiratory syncytial virus) to an overwhelming extent. All three are active simultaneously. People all over the world are reporting to hospitals with colliding symptoms of 3 different viral diseases. These cases are peaking at fast rates and considering their chances of becoming fatal, tripledemic is being imposed as a potential mega pandemic.

WHY IS THIS NOVEL COALITION IN TALK?

Viral infections and seasonal influenza has always been common finding amongst people as season changes and winters approach. But, after the emergence of COVID-19 and all its counterparts over the past 3 years, it has started becoming difficult to quantify the extent and severity of these infections. It is difficult for people to treat any flu as normal, especially after the havoc of SARS-COV-2.

Since the start of the global pandemic of COVID-19 in 2020, it's estimated that 6.6 million people have died worldwide, with nearly 650 million confirmed infections. Prior to the pandemic, the World Health Organization (WHO) estimated that seasonal influenza may result in 290,000-650,000 deaths and 3-5 million cases worldwide each year, while RSV accounts for 29,000 deaths, and 3.5 million cases worldwide per year4, which makes this simultaneous presence even more dangerous.

This malicious triad is known to affect children more than adults1 and even though the incidence of RSV, influenza and SARS are overlapping, their duration of effectively and mode of spread are somewhat different from one another. These diseases aren't peaking all at the same time, causing a crest and trough pattern in their incidences.

MODE OF SPREADING

The tripledemic triad impacts the same set of organs-nose, throat and lungs. They even possess identical symptoms, each slightly varying in their course based on the immunity of the individual and the virulence factor of the agent. Covid 19 is known to transmit between people via respiratory droplets and majorly via

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contact routes. This transmission occurs when a person in your vicinity (within 1 m) coughs or sneezes. COVID-19 is also transmitted by direct contact with infected people and indirect contact with surfaces in the immediate environment of an affected individual2. RSV is one of the most common causes of hospitalization in newborns and persists with chances of reinfection throughout life5. RSV spreads both by direct as well as indirect contact with the secretions of infected people. Most commonly it is known to spread through contaminated surfaces. Inoculation of the eyes and nose causes RSV transmission. It can be self-inoculation after touching contaminated fomites. It is said to survive on non-living objects for up to 6 hours.3 Influenza virus spread mainly by droplets from flu coughing, talking or sneezing. Influenza subsides sooner than RSV or Covid. People with Influenza are less contagious than COVID. It is found that children are reported with cases of RSV and flu whereas adults are mostly struck by SARS-COV 2. Cases of flu are seen to be declining among the elderly and a somewhat stable proportion is seen among youngsters.

SIGNS AND SYMPTOMS

The symptoms of this exacerbated viral crossover is similar to any other viral infection. Fever, chills, sore throat, runny nose, anorexia, fatigue, sore throat, body aches, headache and fatigue are some of the common symptoms. Sequential occurrence and similar signs make it difficult to identify the primary virus involved7.

VIRAL INTERFERENCE

These three viruses are being analyzed and studied to rule out the cause of this sudden breakthrough. These viruses have been around us for longer than the Covid pandemic, the question here is why is this collision suddenly taking place? As soon as the horror of COVID sublimed, masks went off and social distancing became history. Most latent virus uses came out profoundly with Omicron, and is the latest BA4/BA5 still around the corner, with low immunity and favorable temperature in the winter season of 2022-23.

The concept of viral interference explains the concurrent respiratory infections. Viruses react amongst themselves and result either synergistically or antagonistically. At the level of the host, the course of infection of one virus might get influenced by prior or sequential infection of another virus. Viruses can even compete amongst each other to claim dominance and this can cause a particular set of symptoms overpower other9.

tripledemic is one such example of additive interaction of viruses. Positive virus-to-virus interaction leads to co-infection causing increased severity and pathogenesis of the disease. These interactions are probably dependent on the timing of infection, the interplay of viruses and the host's innate immunity response.[6]

Immunity Debt also plays a role in this tripledemic trio. The population's immunity is in debt from masking, reduced exposure and social distancing. Our bodies have started developing immunity against SARS-COV 2 but we are far from developing counter immune responses to other respiratory illnesses like RSV and Influenza. The population immunity against RSV and Influenza is low and hence we are facing increased number of cases of the latter.

WAYS OF PREVENTION

With new diseases coming upfront every day, it's getting overwhelming to think of how to cope with these situations. Following respiratory etiquettes is the most suggested way of proceeding forward. Covering your mouth while sneezing and coughing. Using sanitizer every time you touch your mouth or nose. Wearing a mask in public places and maintaining social distancing is important.[8] Bivalent vaccines and boosters along with the current regimens to fight COVID 19 can effectively enhance immune protection that has waned since the beginning of the pandemic10. Following all precautions as guided for the COVID-19 pandemic shall help us in overcoming this coherent viral crossover and thereby addressing the massive health and wellness discrepancy.

CONCLUSION

Tripledemic is a common finding in hospitals these days that has left everyone gasping with uncertainty. The predictability of health hazards is cutting short each passing day. The only thing that's certain here is that we are still far away from completely recovering from the COVID holocaust and the terror that trails along in the form of its variants. Boosting innate immunity, training our bodies to develop resistance, wearing masks and maintaining respiratory etiquette is our best foot forward.

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