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Study of conducive environmental conditions for control of congenial diseases.

Dr. D. VIJAYA KUMAR
PRINCIPAL
Kodada Institute of Technology & Science for women
Kodada Telagana state

ABSTRACT:
Virus is more likely to spread in situations where virus carrying particles exhaled by an infected person accumulate in the air (like cigarette smoke)and other people breathe in these particles if you are in crowded outdoor space with no wind for a prolonged period of time you will be at relatively higher risk an indoor space that is not well ventilated and in which an infected person is present is perhaps the risky situation for most people awareness of risky situations and taking precautions like wearing masks and ensuring ventilation (or)air purification can reduce your risk of catching virus.

KEYWORDS: virus, smoke, particles, higher risk , ventilation , Air purification.

INTRODUCATION:
Covid-19 is an airborne disease and the latest omicron variant of sars covid -2 is the most transmissible thus for while vaccination is effective is reducing the risk of hospitalizations and there awareness of risky situations and taking precautions like wearing mask and ensuring ventilation air purification can reduce your mask of catching virus recently the Hindu News paper(JAN 10) published articles discussed the best masks and masks hearing practices ,here we expand an ventilation and airborne filtration. over the past two years we have learned that the virus is more lightly to spread is situation where virus carrying particles exhaled by an infected person can assibilate in the air (like cigarrattesmoke) and other breath in this particles outdoor air candidates where you are not close to any where generally safe on the other hand if you are is a rounded outdoor space with no wind for prolonged period of time you will be at relatively higher risk an indoor space that is not well ventilated and is when an effected person is present perhaps riskiest situation most people that for think for instant of covid -19 positive patient being isolated in a room a not wearing a mask the first step to reduce your risk of catching covid into where a well fitting high filtrate mask thus second step is to reduce the time you spend in such risky situations the next steps ventilations and air purification

Role of Ventilation: ventilation is the act replacing stale room air with fresh outdoor air as more people (or) live in an apartment as office ,our additives warm up the space and our exhaled carbon dioxide (CO_2) can build up ,leading to undesirable effects like drowsiness and impaired cognitive function fresh outside air can have significantly lower CO_2 and could be cooler than indoor room air and so let thing in fresh air lower indoor CO_2 lends and cool the indoor space if source in an indoor space is contagions they emit virus carrying particles when the breath (or) talk (or) shout (or) shout (or)sing uninfected people same space can then breath in these viral particles and get infected so the simplest solution natural ventilation is to open window (or keep a shop door open)
To the out doors exchanging the virus –laden indoor our for fresh outdoor air natural ventilation may not always be enough as it can depend on window conditions the

positioning the size of window and other factors ventilation can be increased (or)pedestal fans that bring out side air in from are window (or) door way with indoor air being naturally pushed out of another open window however in hotter weather we may not want hot outdoor air entering cooled indoor residences and workplaces further with increasing air pollution in most Indians cities unfiltered ventilation things in constructions dust and traffic pollution which are also bad for our health in such situations air purifiers

AIR PURIFIERS:

Air purifiers can remove our home particles (whether dust (or) smoked exhaled virus-carrying particles (or) other bacteria)and thus limit indoor transmissions of COVID-19 other respiratory illnesses like the flu , colds, and diseases like tuberculosis' also transmitted by respiratory particles and droplets further air pollution from outdoor(natural gas cooking, unused/coupler burning) sources can cause respiratory illnesses including has asthma attacks thus ,air purifier in door spaces can be beneficial to our health at all times many such air purifiers available in India whether in stores (or)with reputable online realigns and priced from Rs4,000 to Rs 5,000 so how do we choose ? we recommend air purifiers with a high efficiency particulate air (HEPA) filter some units come with activated carbon fillers the reduce odors' (for example ,volatile organic compounds (or)VOCS)which may also be helpful however electronic air purifiers using ionizes and similar now HEPA technology are not recommend/ ionizer units often perform well below

Advertised – specifications in your apartment for there electronic/ ionizer unit can produced harmful by products including indoor ozone ultrafine particles and add additional VOCS just stick to simple HEPA filters.

NEED OF STUDY :

Good ventilation and indoor air quality are important in reducing airborne exposure to viruses including SAR-COV2 that causes COVID -19 as well as other diseases vectors ,chemicals, and odors however buildings vary in design ,age ,heating ventilation air conditioning (HVAC)systems and there ability to provide adequate ventilation and air filtration the American society of heating refrigerating and air condition engineers(ASHRAE)under scores the importance of ventilation and air filtration in reducing the transmission of COVID-19 through position airborne transmission sars-cov-2 is significant and should be controlled ventilation helps your home rid its self moisture smoke ,cooking odors and indoor pollutants structural ventilations controls heat levels attic moderates dampness crawl space and basement keeps moisture out of insulated walls ventilations refers to the exchange of indoors and outdoors air without proper ventilation insulated and airtight house will seal in harmful pollutants such as carbon dioxide and moisture that damage a house proper ventilation helps keep a home-

Energy efficient safe and healthy. No there is no evidence providing air purifiers can remove corona virus usually (HEPA) filters can trap particles of little has 0.3 microns but corona is even smaller some air purifiers it UV lights can thing small pathogens but there is no specific sliders showing the can destroy the novel coronavirus our air purifiers such odors can be removed you will not have to do any hard work most people of the opinion that purifier tend to always consume too much energy due to this they are very reluctant in purchasing air for their air purifier can space refresh stale of air reducing the changes of health issues caused by indoor pollutants which can tigger respiratory infections neurological (or) aggregate the symptoms asthma suffer us quality air purifiers eliminate several types indoor air pollutants keep us healthy have seen do it your self solutions like the corsirosenthal box which has a fan of one side air filters on four other sides the organization para pan India in partnership with achieve buildings makes bobble air

cleanness based coarse Rosenthal box priced at the lower end of commercial air purifiers while are never guarantee so now we have a choice of HEPA (with or with out activated carbon)air purifiers how do we decide ?work at the clean air delivery rate (CADR)usually Reported in $m^{3/}$l higher is generally better has the rated (CADR) is only achieved at maximum fan speed which can be noisy we may want to run the quietly (i.e. at lower fan speed) in some situations while ensuring satisfactory air filtration to size the air purifier for an indoor space calculate the air changes per fans (ACH) as ACH=CADR /room volume where the room volume is singly length *width*height*(all the meters of CADR this in m^3/L)if there is a hall / and are balcony at open that open to the room with large open air parts(For example always open of (or)no doors there should be include in the room volume as well an ACH above 5 good the higher the better we should also note that is not necessary to purchase a commercial air purifier the last 2 years.

CONCLUSION:

Ventilation refers to the exchange of indoor and outdoor without proper ventilation an other insulated and air light and house bill seal in harmful pollutants such has carbon monoxide and moisture that can damage a house proper ventilation helps keep a home energy efficient safe and healthy control impurities air regulation stop condensation reduce temperatures health benefits ventilation is need to provide oxygen for metabolism
And to dilute metabolic pollutants (carbon dioxide and odors)in a work place ventilation is used to control exposure to airborne contaminates it is commonly use to remove contaminates such as fumes dusts and vapours in order to provide a healthy and safe working environments ventilation is the process of fresh air into indoor spaces will removing stale air letting fresh air into indoor spaces can help remove air that contains particles and prevent the spread of corona virus proper ventilation also redness surface contamination by removing some virus particles fallen of the air and land on surfaces the key demand for ventilation in hospitals is to provide clean green filtered fresh air whilst removing the stale humid , polluted air from within the buildings air purifiers can refresh stale air reducing the chances of health issues caused by indoor pollutants moreover his whilst thus eliminate some types of mold and bacteria does not work well on mold bacterial spores such has require retightened UV radiation and prolonged exposure has air purifier have a positive impact air drive same may ask if that impact extents to sleep air pollution does not whom be safe sleep so the simple answer is yes if you want the full benefits of your air purifier it should be remaining is your bed room when you sleep air purifier essentially work by sanitizing which may include pollutant allergens and toxins' there the exact opposite of essential of oil defuse and humidifiers' which has particles to indoor air using and air filtration system for home tour reduce the risk of air airborne relive allergies long then your , AC's life span protect your children and elderly enjoy a better spelling home ease asthma symptoms achieve super year sleep improve your over all wellness air purifier are design clean your indoor air so you and your family can breath healthy some purifiers do also take up oxygen from the air save purifiers do also take up oxygen from the air however this does not actually reduce the levels of oxygen you breath.

REFERENCES:

1)Allard F.editor. natural ventilation handbook ;Jones& James 1998
2)Awbi H.B. ventilation of building 2ND ed New York 2003
3)why we need ventilation and air purifiers published by editional topic hindu news feb 16 2002
4)Residential air cleaners a technical summery july 2018, US environmental protection agency

5)air cleaner regulation ,California air resources board may 11 2021.