



Worth Investigating: Sunbathing (Sunfacial) With Masks On (SUMA) For Cleansing "Cold" Viruses

Peer review status:

No

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Article ID: WMC005672

Article Type: Research Protocol

Submitted on: 26-Dec-2020, 10:07:05 PM GMT **Published on:** 27-Dec-2020, 08:17:38 AM GMT

Article URL: http://www.webmedcentral.com/article_view/5672

Subject Categories: INFECTIOUS DISEASES

Keywords: Sunbathing, Sunfacial, Masks, Viruses

How to cite the article: Gupta D. Worth Investigating: Sunbathing (Sunfacial) With Masks On (SUMA) For Cleansing "Cold" Viruses. WebmedCentral INFECTIOUS DISEASES 2020;11(12):WMC005672

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Source(s) of Funding:

NOT APPLICABLE

Competing Interests:

NOT APPLICABLE

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My Hypothesis

It is my opinion that as SARS-CoV-2 is mutating into new variants complicating the ongoing raging pandemic, it remains to be seen whether transmissibility of mutating viruses makes their virulence irrelevant when determining their pathogenic potential considering that globally human bodies have had already developed too many co-morbidities before the pandemic to make them potentially vulnerable to complications of highly contagious viruses irrespective of their virulence with flourishing globalization and exuberant mobilization providing susceptible populations across the free-spirited world while potentially halting or reversing virulence-transmission trade-offs [1-11]. Although consistently controlling SARS-CoV-2 transmission may appear difficult in the long haul due to innately free-spirited and easily fatigued human behavior, it is my opinion that it may be important to realize that viruses may adapt to chemicals and antibodies by mutating into variants but it may be difficult for them to adapt to non-conductive micro-environments like in-mask heat and humidity complemented with outdoor/indoor sunlight whereby imperfect masks may be facilitating development of immunity by blocking "lethal" doses of virulent viruses while allowing just "homeopathic" doses of immunogenic antigens across them [12-14].

Therefore, contrary to my strong affliction due to masks prior to pandemic [15], I have developed strong affection for masks since pandemic. This flip of affliction to affection has evolved secondary to my personal subjective experience and objective observation of unnatural heat and humidity under my masks which led me to coin the hypothesized "therapeutic" role of masks against "cold" viruses [16-18]. The report from United States, Department of Homeland Security, Science and Technology, demonstrating ambient modalities for surface and airborne decay of SARS-CoV-2 has further encouraged my thinking process [19-20]. Similar documentations about inactivation of influenza with sunlight, heat and humidity have strengthened my resolve to pursue my hypothesized theory [21-22]. Therefore, I am hereby sharing my envisaged protocol regarding combination of sunbathing and masking

(SUMA) as a cleansing protocol - a non-pharmacological "therapy" - against "cold" viruses like influenza and SARS-CoV-2 [23].

Envisaged Materials And Methods

After institutional review board approval and research subjects' written informed consent, twenty asymptomatic laboratory confirmed COVID-19 patients and twenty asymptomatic laboratory confirmed flu patients can be included in this envisaged study. Thereafter, ten COVID-19 patients plus ten flu patients can follow below-mentioned SUMA-A protocol while the remaining ten COVID-19 patients plus ten flu patients can follow SUMA-B protocol as follows:

SUMA-A:

Test 1 (Baseline Test)

Then Indoor Non-Mask Period Ending At Test 2

Then Outdoor Sunbathing Only Period Ending At Test 3

Then Outdoor Sunbathing Plus Mask Period Ending At Test 4

Then Indoor Mask Only Period Ending At Test 5 (Final Test)

SUMA-B:

Test 1 (Baseline Test)

Then Indoor Mask Only Period Ending At Test 2

Then Outdoor Sunbathing Plus Mask Period Ending At Test 3

Then Outdoor Sunbathing Only Period Ending At Test 4

Then Indoor Non-Mask Period Ending At Test 5 (Final Test)

To streamline uniform behavior among subjects during their test periods while avoiding in-mask heat-humidity plus sunlight related heat stress among them [24-25], subjects may not eat/drink/exercise/speak/socialize during their calm resting/reading/browsing test periods while a total of five tests at five different time points being performed to trend the quantified

nasopharyngeal/nasal viral loads for SARS-CoV-2/influenza in subjects undergoing transition between various combinations and permutations of sunbathing and masking. Subjects can take light meal up to six hours before the start of their test periods and clear drinks up to two hours before the start of their test periods. The test periods can be designed for early mornings when sunbathing seems to be safest.

Although duration of mask use may potentially matter for the attenuation of viral loads [26-27], duration of study can be limited to 2-hours covering four 30-minute-periods due to sunbathing durations being restricted per online sunbathing calculator [28-30]. Moreover, depending on Sun Protection Factor (SPF) of sunscreen creams used by research subjects according to their skin types to counter solar intensity's ultraviolet indices, the duration of study can be further restricted to 1-hour covering four 15-minute-periods. Alternatively, replacing sunbathing with just sunfacial may allow subjects to safely tolerate being outdoor in sun with their season-appropriate clothes on in contrast to when they are asked or want to sunbathe with minimum clothes on. Similarly, to further elucidate the differential attenuation effects on viral loads due to the differences among masks, it can be considered to further expand the study to include four groups wherein SUMA-A and SUMA-C can have similar sequential protocols with the only difference being the type of mask used (SUMA-A: surgical mask; SUMA-C: N95 respirator) while SUMA-B and SUMA-D can have similar sequential protocols with the only difference being the type of mask used (SUMA-B: surgical mask; SUMA-D: N95 respirator).

Expected Line Of Results

Essentially, compared to cleansing of external environment by sunlight plus ambient heat and humidity acting against SARS-CoV-2/influenza [19-22], SUMA is envisaged to cleanse internal environment with sunlight being ably supported by in-mask hot and humid microclimate. Rapid onset and quickly effective "therapeutic" combination of sunlight plus heat plus humidity against SARS-CoV-2/influenza may be difficult to create in the ambient external environments 24x7x365 across the globe. Moreover, humans' naturally defensive trans-nasal physiology may further neutralize this "therapeutic" combination of sunlight plus ambient heat and humidity [31], if ever present, unless their faces (noses and mouths) have been

appropriately covered with masks. Thus, in-mask micro-climate may make the ambient climate irrelevant by continuously creating "therapeutic" environment against SARS-CoV-2/influenza that may get further enhanced in the presence of sunlight. Metaphorically, SUMA is envisaged to cleanse the "cold" viruses being exhaled by the bodies so that these exhaled viruses are neither re-inhaled under the masks by the bodies exhaling them nor transmitted to the bodies coming in close contact to the virus exhaling bodies because SUMA is envisaged to attenuate the cumulative load of contagious/infectious "cold" viruses on the internal environment as well as external environment.

Conclusion

Summarily, it is envisaged that it is worth investigating if masked COVID-19/flu patients may be inactivating/neutralizing their viral loads to some extent by breathing within in-mask micro-climates and if this inactivating/neutralizing activity against SARS-CoV-2/influenza may be further accentuated when these masked patients are sunbathing (sunfacialing) secondary to the envisaged effects of SUMA cleansing.

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