



Pandemic, Face Mask from Oncological View

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Letter to the Editor

During the corona pandemic, wearing a face mask has become one of the most common things that many countries and their health centers encourage their people to wear. To the extent that it has become mandatory in some of them [1,2].

There are many different types of masks and it can be bought or handmade. Recently WHO's recommended fabric mask that compose of three layers [2,3]:

- An inner layer of absorbent material such as cotton
- A middle layer of non-woven material such as polypropylene
- An outer layer of non-absorbent material, such as polyester or polyester blend

In regard to these materials, there are many research in the literature indicate the possibility of carcinogenicity of all of the mentioned three composition. Although they do not classify as carcinogenic yet, but studies show that is maybe a potential carcinogens with some studies shows their association with certain cancers [4-6]. Such as cumulative cotton dust was associated with an increased risk of all cancers combined in all lag models, and risks were more pronounced with the exclusion of lung cancer and other studies suggest increased risks of cancers such as larynx, non-Hodgkin's lymphoma, sinonasal and gastrointestinal cancers, among cotton textile workers [4].

Another study in regard to polypropylene, state that the results of all studies of polypropylene production workers are pooled the summary risk ratio for colorectal cancer is 1.37 (95% confidence interval 0.83 to 2.11) [5].

In addition to that, the material most commonly used to make the routinely used surgical face is polypropylene. Masks can also be made of polystyrene, polycarbonate, polyethylene, or polyester. Where these substances also may be carcinogenic [7-9].

One of the important things to mention in regard to one of these materials is that after years of debate and evidence collection. Styrene "which is a chemical building block of polystyrene" was announced as "Possibly carcinogenic and should be investigated more closely" by the World Health Organization (WHO) which reclassified styrene from being a "possible carcinogen" to a "probable carcinogen" [7,8].

For forty years, this has been the conclusion of researchers who have been unsure of whether there is an increased risk of cancer [8].

We definitely encourage adherence to the instructions issued by the competent authorities, but at the same time, we want to shed light on the possible potential long-term effect.

At the same time, the effectiveness of mask has not been proven as WHO state in "Advice on the use of masks in the context of COVID-19 Interim guidance 6th April 2020" that evidence that wearing a medical mask by healthy individuals in the households or among contacts of a sick patient, or among attendees of mass gatherings may be beneficial as a preventive measure. However, there is currently no evidence that wearing a mask (whether medical or other types) by healthy persons in the wider community setting, including universal community masking, can prevent them from infection with respiratory viruses, including COVID-19. Medical masks should be reserved for health care workers. The use of medical masks in the community may create a false sense of security with neglect of other essential measures [10].

Masks may be safe if they are used for a short time "this also needs to be proven", but what if we talk about daily exposure to these substances for a long time? For this pandemic, duration from the beginning of its emergence until the time of writing this article is 9 months with expectations of its continuation for a longer period? With exposure *via* one of the speediest administration route

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Received Date: 17 Aug 2020

Accepted Date: 07 Sep 2020

Published Date: 10 Sep 2020

Citation:

Alsharshahi Z. Pandemic, Face Mask from Oncological View. *Clin Oncol.* 2020; 5: 1734.

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inhalation? And direct contact? And how safe is it for children?

With the possibility of such latent and potential harm, proof of benefit, the study of the possibility of such harm, and a balance between benefit and potential harm is necessary.

We reiterate our commitment to adhere to the health instructions issued by the competent authorities. At the same time, we expect the competent authorities to take into account such potential risks, study them, ensure their safety early and carefully, and ensure that the actual benefit of the mask is worth it.

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