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Deploying the Free Social Media Platforms for Open Science Practice: Opportunities and Challenges

The need of proper communication of scientific facts to the public has been significantly highlighted throughout the enduring COVID-19 pandemic. Overlapping with that is the transformation of most of our social interactions as well as the educational activities to the online setting. An evolving medium to communicate research outcomes to the end users who are the public audience that has no specialized scientific background is the practice of open science. It provides an inclusive and effective environment to communicate science, while bypassing barriers due to regional differences or background diversities. Thus, open science practice is consistent with SDG#10 that aims for combating inequalities.

The free social media platforms such as Facebook, Instagram, and others are considered a potential tool to be deployed for open science practice. Since the numbers of social media users have surged to 4.33 billion in April 2021 which accounts for more than 55% of the world population as per the latest data report of the Global Digital Overview. Such tools can be harnessed in a prudent way to raise the public awareness with the purpose of disease prevention as well as supporting good health and wellbeing (SDG#3).

Both the Global Young Academy (GYA) and the African Academy of Sciences (AAS) consistently support open science activities organized either by their members or the working groups. As a member in both entities, I wanted to highlight an example for an open science platform that I have established based on my area of scientific expertise. The platform is named "**Cancer and the Castle Guardians**" It is available on both Facebook and Instagram. It provides simple cancer prevention awareness tips based on the latest research and also offers dedicated posts with tips to help cancer patients to decrease some of the adverse effects encountered with chemotherapy. The information is written in both English and Arabic languages to increase the outreach. Since, the scientific and medical publications are written in a way that is difficult to comprehend by the public audience who lacks the proper background. The purpose of **Cancer and the Castle Guardians'** platform is to transfer the research outcomes in a simplified and practical way to the general audience so that they can benefit from the advances in scientific research. Stemming out from the moral responsibility, I believe that more scientists/doctors should participate in communicating the research outcomes to the public to help in improving health and wellbeing.

A key challenge that is related to using social media platforms as a mean for communicating science is that such platforms are not governed by review systems to check that the page authors have the right credentials and expertise. For example, you can find some random pages on social media with unknown authors that provides incorrect information on some medications or inaccurate health tips. This could have dangerous public health consequences. We all encountered some posts across the COVID-19 pandemic. However, not every reader has the sufficient background to rule out which piece of information is incorrect. Accordingly, it is crucial to push the social media platforms to develop a system that requests and checks for the official credentials of the page creator/author before approving to create a public page that communicates scientific or health advice. I believe this would be a practical solution. However, this is not the only setback. Despite that free social media platforms can help in

developing outreach activities to almost half of the humans in our world. The remaining half of our fellow humans are still suffering from being deprived from internet service coverage. Since internet access is now almost crucial for life and cannot be considered a sort of luxury anymore. More efforts should be dedicated by the NGOs to support the right of internet access to every human in the regions of our world that are still not covered.