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Use of personal protective equipment (PPE) during COVID-19 pandemic: A letter to the editor on “Envisioning the UN Sustainable Development Goals (SDGs) through the lens of clean water sanitation, life below water, and life on land in Fiji”

ARTICLE INFO

Keywords
 COVID-19 pandemic
 PEE
 Pollution
 Marine ecosystem
 And SDGs

ABSTRACT

COVID-19 pandemic is a designated worldwide public health emergency, the use of a variety of plastic-based personal protective equipment (PPE) has escalated as a means of reducing infection. Emerging reports imply that the rapid expansion of PPE during the COVID-19 outbreak has exacerbated microplastics contamination in the ocean. In response, this letter to the editor will disclose the impact of PPEs on clean water sanitation, life below water, and life on land in regards to SDGs 6, 14, and 15, respectively.

Dear Editor,

The perceptive article by De-la-Tarre et al. [1] and Canning et al. [2] regarding the use of personal protective equipment (PPE) in the COVID-19 pandemic and its threatening impact on the marine eco-system and pollution on land is an alarming concern.

Subsequently, in this letter, the key goal is to present the undesirable impact of PPEs on clean water sanitation, life below water, and life on land. The UN Sustainable Development Goals (SDGs 6, 14, and 15 respectively) envisions a healthy living, sustainable environment, safety without any inequalities [3]. Sadly, in 2020 a global pandemic due to



Fig. 1. PPE pollution during COVID-19 pandemic in Fiji (personal collection).

<https://doi.org/10.1016/j.ijss.2021.105995>

Received 3 June 2021; Accepted 6 June 2021

Available online 9 June 2021

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COVID-19 was experienced and currently, it is impacting and harming the well-being and nature with improper disposal of PPEs.

To avoid virus transmission different methodologies were released by the world health organization (WHO) on COVID-19. The common practices to follow are to keep social isolation measures (social distancing) and wear PPE's while interacting with others. Some of the implications of COVID-19 are the psychological and mental well-being of individuals across the world. Numerous consequences of wearing PPE have impacted nature as a whole. Due to the ongoing COVID-19 pandemic, the use and disposal of face masks, gloves, face shields, and other types of PPE has increased considerably. Plastic pollution is one of the most complex issues to address, and during the COVID-19 pandemic, innumerable single-use plastics materials and disposable PPE's are required as a critical step to prevent the spread of the virus [1]. Due to the extreme severity of the situation, medical personnel and the general public have demanded PPE, particularly face masks, face shields, and gloves with no clear instructions or disposal mechanisms, and the production of face masks has increased by more than exponentially in the last one months. According to Okuku et al. [4], on a standing stock surveys the COVID-19 PPE pollution contributed up to 16.5% of the total litter. Similarly, a large numbers of PPE (a total of 29,254 PPE items) were found, out of which 97.9% were face masks [5].

Fiji is a small Pacific Island Country. In 2021, Fiji with a population of 902,518 [6] encountered the second wave of COVID-19 pandemic. As a result, unprecedented challenges on medical health, social, economic and environmental is observed. During this period a large number of PPE pollution was noticed, in which the threatening challenge is for municipal waste management and is a leading carrier for aquatic ecosystems pollution. Within a 100 meter zone on a street, around 10 facemasks were found (see Fig. 1). All this littering will be transformed into microplastic which will impact marine life, life on land (dogs, birds, and cats), and water. Due to the negligence caused by Fijian citizens, a huge amount of used PPE's is ending up in the marine ecosystem which is a serious and alarming concern. On the same note, to achieve sustainability and to envision a healthy living, sustainable environment, safety without any inequalities, therefore SDGs needs to be addressed in order to minimize the impact of PPE pollution.

Current situation of COVID-19 pandemic is having far reaching effects into the environment, as well as people's socio-economic and mental well-being. Government and regulating bodies should put action of PPE pollution, apply applicable measures to control the litters, create awareness, and support the citizen with their basic needs.

Sources of funding

No funding received.

Author contribution

Aneesh A. Chand was lead author on this letter.

Declaration of competing interest

No conflicts of interest.

Provenance and peer review

Not commissioned, internally peer-reviewed.

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