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A REVIEW OF WASTE MANAGEMENT DURING PROTECTION KITS AND OTHER MATERIAL

Dr.Srinivasan R Emeritus Professor[1],

Dr. Kumaravel S Professor & HOD[2]

Meenakshi Academy of Higher Education and Research

srinivasanr@mmchri.ac.in

Abstract

In recent months, the dissemination of the COVID-19 pandemic across the world was worrying. The use of face mask is important in order to slow down the rate of transmission of COVID-19 to humans, according to guidelines from the World Health Organisation (WHO). The use and manufacture of facial masks and other components (gloves, facial protectors, protection suits, safety shoes), made of polymeric materials like antiviral textiles, most of whom end in microplastic ponds, has been dramatically increased by this pandemic. The South America focus reflects an environmental issue, the use and mismanagement of this form of personal protective apparatus (PPE) [1,2]. In addition, the use of plastics in a single use is being increased and the plastic recycling is being decreased as a result of the pandemic curfew, more waste from plastic is exacerbating on coasts and beaches. Researchers have recently developed nano-particles Ag and Cu for PPE antiviral polymeric textile technology to reduce contamination and spread of COVID-19. Antiviral polymer waste may, since they are a big emerging class of pollutants, have a long-term detrimental impact on marine ecosystems. This research also focuses on the broader use of plastics in beaches and the coast, which could raise the risks to aquatic organisms in the coming years, as well as the possibilities of the COVID-19 pandemic. The possible effects of the pandemic on waste management programmes and future study recommendations to develop adaptive coastal management policies are also discussed[3,4].

Keywords: COVID, Plastic, Waste Management

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BACKGROUND

Plastique is one of the synthetically or semi-synthetically revolutionised fabrics of the 20th century. Thanks to their flexibility, strength, abundance, clarity, lightweightness and low cost, it has many advantages over conventional materials in several fields of use. They will deliver a package of tailored solutions to a broad range of everyday requirements based on the intrinsic or external properties of plastic materials. Plastics produced 359 million tonnes worldwide in 2018, Asia's leading producer was 50.1 percent, led by the United States, 18 percent, 17 percent for Europe, and 7 percent for the Near East. 4% of the manufacturing and production of plastic goods for packaging, particularly processed products that are for use in rigid containers and films, has been managing by Latin American nations, primarily Mexico, Brazil, Argentina and Colombia [5–7].

Because of their nonsubstantial and pervasive existence, plastic materials have become a global pollution issue. A significant part of plastic waste comes from soil-based sources into the oceans. They can be transferred to marine environments by heavy waves, waterways, storm drains and tides or by overt dumping[8,9]. These materials are extremely dispersed in the atmosphere into smaller plastic fragments, owing, inter alia, to erosion mechanics and processes resulting from heavy waves, mechanical abrasion of rocks and sand, UV light and hydrolysis.. These plastic particles are categorised as meso, micro and nanoplastic according to their dimension. mesoplastics are small sections varying from 5 to 25 mm whereas microplastics (MPs) are classified as particles of less than 5 mm caused by large plastics deterioration (secondary plastic), or releases during the production phase of commercial goods (primary MPs). Nanoplastics (NPCs) are essentially classified as colloidal plastic particles (1 nm–1 μm). Due to the collodal spectrum of these PNPs present a Brownian movement in watery systems. In addition, all these plastic pieces may be used as a vector for other toxins, or they may be carried into the feeding chain by marine species. South America has created, in beaches, bays, shorelines and in aquatic habitat, plastic contamination and inadequate waste management of these materials[4,10–12].

The disposal of the health waste (HCW) from COVID-19 treatment centres is one of the crucial measures in managing the spread of the infection. The treatment and storage of HCWs coming from positive corona patients will continue to raise significant healthcare problems with the growing number of contaminated patients. The ownership and management of HCW has now been a central element in managing COVID-19 distribution[7,8,13,14].

MEDICAL WASTE

The concept of medical waste has also evolved with recent changes as a result of the COVID-19 epidemic. As now, some waste, such as food waste and other stationary materials, were not known previously to have been contagious, but must be regarded as infectious waste immediately after contact with COVID-19 patients[7,15–17]. Not only is corona waste restricted to the hospital, it often dumps trash into a communal dust bin that can spread diseases to all of population in households or asymptomatic patients. Health staff, infected customers, housekeepers, waste handlers, etc. are subjected quickly to disposable health residues, such as: caps, handles, personal protection devices, examination kits[18–20]. The contagious aspect of HCW contaminated by COVID-19 is also a big problem facing hospital management, as is the sudden rise in the rate of generation of waste. Because of the corona pandemic, Chinese hospitals are producing loads of medical waste every day and almost six times the normal volume.

PANDEMIC AND WASTE MANAGEMENT

The pandemic of COVID-19 has demonstrated the important role of plastics in our everyday lives. As a lifestyle for ensuring the health and welfare of healthcare staff at front and of everyday people during a pandemic, plastics for personal protective equipment (PPEs) and other single-use surgical equipment and packing options based on their intrinsic properties have come in [16,21–23]. During this unprecedented crisis, plastics are however known to be a malicious polluter because of their indiscriminate littering and mismanagement with increased plastic use and waste production. This paper discusses and examines whether plastics function as protectors of health or environmental toxins in the time of a pandemic. Taking into account the utility, limitations and management of plastic and the fate of plastic, a rational assessment indicates that the reckless behaviour, the mindset and lack of knowledge of customers and the focus on waste management infrastructure as main factors, leading to mismanagement, turn plastic into a waste management infrastructure Plastic can be used to guard against leakage in the atmosphere if adequately handled and complemented with the circular economy techniques for reduction, recycling and recycling. Several decontamination strategies have been implemented around the world to secure the production chain of PEP's to guarantee successful reprocessing in order to prioritise the circulatory system economy[24–27]. Political guidance to encourage the implementation of safer practises

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and sustainable technological solutions along with customer awareness education are the time required to deter plastics from turning from polluter protector-sensitive.

DISCUSSION

The planet has ended with a lifestyle that is becoming modern standard, with Coronavirus Injury 2019 (COVID-19), a pandemic of global significance caused by extreme acute respiratory syndrome coronaviral 2 (SARS-CoV-2). SARS-CoV-2 has been known to communicate quickly from person to person (with the median incubation time lasting for around 5.1 days), and to affect 2.4–3.3 patients on average from only one reported case. The crisis of COVID-19 demonstrated the important role of plastics in our everyday existence[28–30]. During the pandemic, plastics made enormous contributions to the health and public health sector. As well as national lockout, social distancing, travel ban and public meeting, regular use of hand sanitizers and the use of mainly plastic-based personal security equipment (PPEs), etc. The precautionary steps were introduced to deter the virus infection of COVID-19 spreading, facing caps, gloves for ordinary people to cover medical suits, aprons, gowns and ears, surgical masks and other EPPs for frontline health personnel. Plastics combine a high weight-to-weight power and flexibility longevity. Because of the properties of these plastics, they are irreplaceable in the health industry and are used in many procedures and transplants, including primary uses for single-use surgical equipments and packaging[31,32].

During and following the COVID-19 period, municipal authorities, especially in developed countries, have been searching for the most efficient disposal techniques for the treatment of medical waste. When evaluating HCW's various alternative disposals and choosing the right technology, various tangible and intangible parameters must be taken into account; this can be framed as a challenge for the multi-criteria decision-making process[33–37]. We suggest a methodology for assessing HCW disposal based on socio-technical and triple fundamental viewpoints in this article. The best HCW disposal process. On the basis of a current literature review, we have defined ten requirements for choosing the best disposal strategies for HCW. Next we will test the 9 HCW alternate disposal system using the Blurry VIKOR method. An Indian case study has shown the feasibility of the suggested system in a real-life study. Results help to create a strategy to pick the right HCW disposal strategies for local authorities. Our results suggest that combustion is among the alternatives available the best waste management technique. Although the data collection says "incineration" is the right approach, the environmental issues resulting from it must not be ignored. In time for COVID,

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the safest form of incineration might be the data analysis, but "COVID" should not be a justification for "environmental pollution[38–40]."

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