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Increased pollution due to COVID-19 pandemic and bioremediation: A dire need of management

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Abstract

The purpose of this study was to provide an overview of the effects of COVID-19 on macro-plastic pollution and to consider short-term and long-term scenarios for its possible environmental and human health consequences and to discuss possible strategies to address and overcome key challenges. It was emphasized that, whether or not they are involved in a healthy health crisis, future actions should reflect the balance between public health and environmental protection, as there is no doubt that they are interrelated with bioremediation and microbial metabolism in the presence of optimal environmental conditions. Bioremediation uses natural and psychological microorganisms to break down toxic and harmful substances aerobically and anaerobically. It can be handled by a mixed microbial consortium or pure microbial strains on site (in situ) or off site (in the case of case) Phyto therapy or even natural care. Nutrients suitable for impurities, especially petroleum hydrocarbons are researched technologies for us, for this a biotechnological approach designed for bioremediation and observation. COVID 19 Pandemic pushed the world into a new challenge of waste management. In general, physicochemical technologies are used, which allow for proper ecological biomedical processes. Some bacteria are mobile, feel the contamination, and move towards it to neutralize it. This review emphasizes on current pollution, which is result of COVID 19 pandemic, as people follow use and discard strategies for different things which is a threat to our environment.

Keywords: Environment, waste management, COVID 19

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1. INTRODUCTION

Since December 2019, the world has been battling an epidemic that started with the new Corona virus (SARS-CoV-2), caused by chronic respiratory syndrome called COVID-19[1]. The severity of COVID-19 is associated with a highly contagious disease (for example, direct contact with humans or contact with contaminated surfaces/lips, airborne droplets, and transfer of droplets in the mouth[2-4]. And the lack of safe and effective vaccines has garnered attention and fears from governments, health professionals, the scientific community and the general public to prevent and control births. However, what started as a health crisis quickly became an economic, social and environmental threat. By closely monitoring the economic and social impacts and current highest public health priorities, the environmental consequences of COVID-19 cannot be minimized[5].

1. ENVIRONMENT AND COVID 19

At first glance, the outbreak of COVID-19 is indirectly included in the United Nations Sustainable Development Goals for 2030 (namely 11, 12, 13, 15 SGDs). Increase overall health and safety in cities by reducing greenhouse gas emissions, reducing external air pollution, ambient noise levels (including underwater noise from marine activities) and pressure in terrestrial and wildlife. Indoor air quality, the growth model of plastics required to dispose of (including PPE) and waste management, a priority for environmental sustainability, have failed. Covid 19 continues to add waste to our environment.

2. INCREASING MEDICAL WASTES IN PANDEMIC

Cities with high levels of COVID-19 are trying to prevent a significant increase in hospital waste production through health centers. For example, King Abdullah University Hospital in Jordan produces ten times more hospital waste (650 kg CO2 per day) than the average birth rate on a normal day of hospital work, covering 95 patients with COVID-19. Other parts of the world, such as Catalonia, Spain and China, saw a sharp increase in hospital waste of 350 and 370%, respectively[6].

3. DISPOSABLE PLASTIC USAGE AS NEED OF TIME

The increase in waste production from personal protective equipment soon became an additive for the disposal of other plastics that could be used. For example, the demand for plastics is expected to increase to 17, with 40 for packing and medical use in other uses[7]. Due to safety issues associated with shopping at supermarkets during COVID-19, consumer and supplier selection led to freshly cooked food in plastic containers. And disposable plastic bags for food and food packaging. Using these priorities, the plastics industry has raised concerns with government officials about food safety, health and contamination when using available packaging and bags during pandemic. Initially, the plastics industry took advantage of these concerns[6].

4. DISINFECTANTS AND HUMAN HEALTH

As COVID-19 spreads from contaminated surfaces, many disinfection campaigns were carried out in various centers, Such as hospitals, offices, clinics, universities and airports. And public places like streets, public gardens and even the beach. However, the choice of disinfection and chemical disinfection areas is highly controversial. For example, most products used for COVID-19 disinfection contain covalent ammonium and sodium hypochlorite according to EPA standards (bleach)[8]. According to many studies, regular use of ammonium and bleach is detrimental to human health. For example, many studies report a link between the use of antibiotics in health care professionals and chronic blockage between the home and lungs and asthma and health care equipment and antibiotics[9]. In addition, very few infants are exposed chemicals toxic effect associated with cancer and asthma in children. In addition, most antibiotics like sodium hypochlorite and quaternary ammonium are rapidly depleted when sprayed on surfaces where the organic matter has been sprayed[10].

5. IMPROVEMENT OF MUNICIPAL WASTE-MANAGEMENT

In the case of an epidemic or epidemic, it is important to determine the extent of reuse or reuse of the substance. Because it was actually made for Flare or Landfill. It is also important to set proper goals, such as adherence to and adherence to waste management levels (reduction, reuse, recycling and recovery) to conserve resources[11]. Sometimes we think we have unlimited resources, but now more or less the resources in the world are showing our carelessness and indifference to using them. In terms of health awareness, contaminated soil is often the result of past industrial activities. Environmental effects associated with the preparation, use and disposal of effective ingredients. Water is the most dangerous threat in the world and contaminated land is a potential threat[12]. Some technologies use different high temperature combustion and chemical degradation. It can go a long way in reducing the levels of various contaminants. However, there are disadvantages that can increase visibility due to technical complexity, low cost of use and unacceptable burners.

6. POLLUTION FOR WORKERS AND RESIDENTS

Bioremediation has been used in many parts of the world, including Europe. The success rate in technology development with more information and experience every day. There is no doubt that bioremediation has a great capacity to deal with certain pollutants in agriculture. Unfortunately, biomedical techniques have advantages and disadvantages. It is not widely known or understood, especially by those directly involved in biomedical counseling. Biomedical processes, practical theory, direct techniques that follow and suggest biomedical recommendations. Some experiments examine organic biomedical literature[13] and inorganic pollutants[14], and another test looks at pertinent field application case histories[15]. Among the important achievements of these studies are the treatment of soil and groundwater. Biotherapy is a process that involves biodegradation of organic waste. Keep the situation below the focal point set by the aggressive or controlling authorities[16].

The use of organisms in medical medicine is mainly microorganisms. Pollution stains are not toxic. It also uses natural bacteria. This is usually the result of the actions of different bodies, when a bacterium enters an infected area to improve digestion, we have a process known as biological growth. These are microscopic microorganisms that attack enzymes that contain enzymes in terms of environmental effectiveness and make them safe. Most biomedical systems operate under aerobic conditions, but work under aerobic conditions[17], microbes may allow the organisms to irritate the molecules.

7. BIOREMEDIATION FACTORS

Bioremediation process control and optimization is a complex system made up of many factors. Factors include microbial populations that can reduce contamination. Contamination of microbial population; Environmental factors (soil type, temperature, PH, oxygen or other electrons and nutrient receptors).

7.1. Recent strategies for Bioremediation

The use of quantitative genetic engineering affects the ability of microorganisms to use certain properties. Impurities such as hydrocarbons and pesticides. These principles were first mentioned in the 1980s and late 1990s. As "engineer" microorganisms exist to improve their properties of decay[18]. To redesign the metabolic pathway of Pseudomonas aeruginosa, a hybrid test capable of simultaneously dissolving a mixture of benzene, toluene and psilin substances was tested. A combined pressure is expressed where both the tod and tol pathways are expressed, and the benzene, toluene and p xylene compounds are found to locate the minerals without adding any metabolic mediators[19]. Sometimes different actions usually lead to public hatred, researchers focused on improvement of natural microbial growth.

8. CONCLUSION

Given this trend, it is important to recognize the urgent need to rethink world priorities, regardless of economic, social and environmental consequences. High volume of plastic waste is produced around the globe which can be a threat to environment.

CONFLICT OF INTEREST

No conflict of interest

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