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# APAC lays focus on medical waste management

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**It is high time now that the medical staff and professionals are trained regarding proper disposal of medical waste**

Development and introduction to new medical devices and equipment is good. However, what is not good is the unhealthy state of these being dumped in landfills causing adverse effects on the environment and human health. This calls for an urgent need for waste management.

Medical waste management market has been expanding phenomenally over the recent years, and mounting heaps of biomedical waste worldwide is expected to be a fundamental driver for this! Various economies with high disposable incomes generate up to 0.5 kg of toxic waste per hospital bed every day, while low-income countries generate nearly 0.2 kg on an average.

In fact, the press conference study of the Joint Prevention and Control Mechanism of the State Council of China presented facts that nearly 468.9 tonnes of medical waste are generated almost daily, given the ongoing COVID-19 pandemic outbreak.

Meanwhile, in Indonesia, the medical waste generated, scaled up to 12,740 tonnes just within 2-months after individuals were first infected by the dreaded pandemic in the area in 2020.

This implies that COVID-19 is apparently not the only health crisis the world is struggling with currently, the waste generated by it is also raising alarming concerns, paving the way for medical waste management. It has been estimated that global medical waste management market size would reach an unprecedented valuation of $9.6 billion by 2026.

**Asia's medical waste challenge**

The dreaded coronavirus pandemic that surfaced from the Wuhan district of China, has not only turned various economies upside down, but also affected the environment and lives of people severely. How is the environment overwhelmed dumping of biomedical wastes? The Hubei province of China saw a prolific surge in infectious medical waste generation to 240 tonnes a day in 2020.

Calculating this, the Asian Development Bank had then estimated that 5 major cities across Southeast Asia including Jakarta, Manila, Bangkok, Hanoi, and Kuala Lumpur could be dealing with a total of 1,016 tonnes more medical waste daily, given the rise in COVID cases. Various authorities were warned of severe consequences in case the waste was left untreated for a longer period of time.

Owing to this, several large facilities across various APAC economies have been commissioned by government-backed initiative for purposes of safely collecting and disposing of huge volumes of medical waste.

For instance, Indonesia's health company-Medika, had in 2019 contracted Inciner8 to help dispose the waste generated by a number of healthcare centers, clinics, hospitals, and laboratories.

In recent times, large facilities have been built up by government-backed initiatives for the purposes of safe collection and disposal of great volumes of medical waste. The company supplied their most advanced high-capacity medical incinerator- i8-M700 Medical Incinerator with a loading procedure which is highly autonomous.

**Role of incinerators**

Medical waste incineration involves the burning of wastes produced by veterinary facilities, hospitals, and medical research facilities. These wastes include both infectious medical wastes as well as non-infectious, general wastes.

In May 2021, Himachal Pradesh in India had publicised its plans of revamping its bio-medical waste incineration volume, up from 2.4 metric tonnes (MT) per day to massive 6.4 MT per day by authorising a new Common Bio-medical Waste Treatment and Disposal Facility to curb the burden of medical waste generated.

Although medical waste incineration has come out to be a key in Asia's challenges towards managing medical waste, the World Health Organisation (WHO) policy paper of 2004 and Stockholm Convention, has stressed the need to consider the risks associated with the process in the form of heavy metals, acid gases, particulate matter, and carbon monoxide emission, which is a health hazard in itself.

**Practicing waste management and long-term care settings**

Across Southeast Asia, the geriatric population is growing at a notable pace and indicates the considerable future demand for

nursing homes and long term care facilities. It would not be incorrect to state that the dreaded coronavirus pandemic outbreak has added to the mounting heaps of medical waste being generated from long term cares and nursing homes.

Medical care in nursing homes is often not complicated as in hospitals, but the amount of waste generated is quite similar or less. Most facilities in long term care ink contracts with trained, licensed, and professional medical waste management companies to make sure that all of the waste being disposed adheres to the federal, local, and state guidelines.

Speaking on managing medical waste in such facilities, it is imperative to note that segregation is the key for regulating disposal costs and ensuring the safety and health of staff. All the staff members in nursing homes and large care settings are required to be trained on the methods of differentiating medical waste.

The United Nation has estimated that almost 60 per cent of the global geriatric population will be in Asia by the year 2030. A significant number of adults are unable or unwilling to care for elderly family members, owing to various reasons, while hiring an in-home caretaker is also not a booming trend in the region.

According to June 2020 reports, privately owned residential aged care facilities in Australia have witnessed considerable growth since 2012, while the rate of occupancy throughout the segment was around 88 per cent during 2019-2020. The tremendous demand for elderly care across Asia Pacific will augment medical waste management industry share.

**Medical waste management policies**

Various state and central governments have created guidelines to promote the proper waste management tactics and practices. Consider the example of the Indian government:

According to the ‘Guidelines for Management of Healthcare Waste as per the Biomedical Waste Management Rules of 2016’, the quantity of biomedical waste generated in the healthcare facilities is nearly 10 to 15 per cent of the total waste. It consists of materials which have been in contact with the patient’s blood, infected parts, secretions, and biological liquids.

Moving ahead, the 2016 guideline categorises the bio-medical waste coming in from the healthcare facilities into 4 different categories based on the colour code and segregation pathway. Diverse types of bio medical waste are further assigned to each of the categories as enlisted:

? Yellow Category: includes human anatomical waste, chemical waste, expired or discarded medicines, microbiology, biotechnology, and other laboratory wastes

? Red Category: includes waste generated from disposable items

? White Category: includes waste sharps along with metals

? Blue Category: consists of discarded or broken and contaminated glass such as medicine vials and ampoules.

Talking about the transportation of biomedical waste generated, the Guidelines highlight that the waste must be transported in covered trolleys through a route which has low traffic flow of visitors and patients, in an attempt to reduce the contact of toxic chemicals with patients.

So, what more can be done? Practicing 3Rs: Reduce, Reuse, and Recycle.

? Reduce: limiting or reducing the generation of waste to focus on working with medical staff to make possible changes towards less wasteful clinical practices.

? Reuse: making use of non-disposable products for health services can potentially aid in minimising waste quantities. Importantly, the reusable items should be periodically sterilised to prevent the risk of infection.

? Recycle: recycling all possible items to cut down landfill pollution.

While one cannot restrict the generation of biomedical waste coming from hospitals, vet cares, and other healthcare settings, incorporation and implementation of better waste management policies and tactics would prove out to be a considerate move towards building a stress free environment, adding to positive growth curve for medical waste management industry in 2021 and beyond.

In fact, it is high time now that the medical staff and professionals are trained regarding proper disposal of medical waste while guiding them through the proper routes of bio medical waste transportation.

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