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Reducing The Environmental Footprint of Unnecessary Medical Interventions

Mohammad Zakaria Pezeshki[1]*

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The substantial environmental footprint of health care system is supported by several studies (1, 2). If the global healthcare system were a country, it would rank as the fifth largest emitter of greenhouse gases in the world (3).

Health care system has several environmental footprints for example air pollution, water contamination and carbon footprint. Unfortunately, overmedicalization and overutilization of medical services including unnecessary overtesting, overtreatment and even over-prevention are prevalent worldwide (4). Alarmingly about 30 percent of medical tests and treatments are deemed unnecessary (5).

Unnecessary medical services are those that are ineffective, meaning they do not improve clinical outcomes, or those for which the potential harms outweigh the benefits. Only a few studies have measured the environmental footprint of tests and medical procedures that are often used unnecessarily, incorporating the rate of unnecessary use in their calculations. One of these rare studies assesses the carbon footprint of unnecessary vitamin D testing (6), while another quantifies the environmental footprint of overtreatment for distal radius buckle fractures (7). This commentary first presents concerning global statistics on deaths attributed to environmental pollution, including climate change, as well as the percentage of environmental, particularly carbon, footprints generated by the healthcare system, then discusses how physicians can reduce the healthcare system's environmental footprint by avoiding unnecessary medical interventions.

According to an estimation from WHO, 12.6 million deaths, almost 1 in 4 of total global death, are attributable to unhealthy environment (8). The first global assessment shows between 1% and 5% of global environmental pollution is due to health care environmental footprint (1). Climate change is one of the fundamental threat to human health. It is expected that between 2030 and 2050, climate change will cause approximately 250,000 deaths in world annually year (9). Globally,4%–5% of the emissions of greenhouse gases are attributed to health care systems (2).

Unnecessary overutilization of healthcare services intensifies the vicious cycle between healthcare utilization and environmental footprint, endangering both planetary health and the sustainability of healthcare systems. When physicians order unnecessary tests and treatments, it leads to increase use of outpatient and hospital services, which significantly amplifying the environmental footprint. This increased footprint contributes to a rising incidence of physical and mental diseases. Diagnosing and treating these diseases requires additional healthcare services, further worsening the environmental footprint. Furthermore, unnecessary tests and treatments can sometimes harm patients, resulting in further clinical interventions that worsen the cycle. Reducing unnecessary tests and treatments is a very important step toward breaking this harmful and costly vicious cycle and protecting human health, planetary health, and the long-term sustainability of healthcare systems.

It is crucial to emphasize that every physician, when ordering laboratory tests, medical imaging, prescribing medications, or performing surgical or non-surgical procedures, should consider the environmental footprints of unnecessary clinical services. Choosing Wisely Canada (CWC) has developed recommendations to guide physicians about decreasing their carbon footprint by avoiding unnecessary clinical services (10). These recommendations include

Corresponding author: *Dr Mohammad Zakaria Pezeshki, zakaria.pezeshki@gmail.com*

[1.] Social Determinants of Health Research Center, Department of Community and Family Medicine, Tabriz Medical School, Tabriz University of Medical Sciences, Tabriz, Iran

medications, energy use, waste reduction and travel sections. It is highly recommended that ministries of health in developing countries develop guidelines to assist physicians in minimizing their environmental footprint by avoiding unnecessary interventions and prioritizing environmentally sustainable medical practices. It is also suggested that researchers measure the environmental footprints of medical tests and treatments that are commonly used unnecessarily, incorporating the rate of unnecessary use into their calculations.

Conflict of Interests

The author declares that he has no competing interests.

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