CHAPTER 2

THE EFFECTS OF CLIMATE CHANGE ON LUNG HEALTH

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1. INTRODUCTION

1.1. Definition of Climate Change and Its General Effects

The Industrial Revolution has led to increased industrialization and urbanization, resulting in excessive consumption of natural resources and a significant rise in greenhouse gas emissions. This situation has disrupted the global climate balance, leading to climate change. Climate change manifests itself through various environmental outcomes such as rising sea levels, increased temperatures, extreme weather events, droughts, floods, and wildfires.[1] According to the 2022 report by the Intergovernmental Panel on Climate Change (IPCC), 95% of the climate crisis is caused by human activities. By 2020, it was observed that the world had become 1.1°C warmer compared to the pre-industrial era.[2] The year 2023 has been recorded as the hottest year since global records began in 1850, and the entire last decade ranks among the hottest years on record.[3] Increasing temperatures and extreme weather events are elevating the incidence of respiratory disorders and heat-related morbidity and mortality.[4]

2. EFFECTS OF CLIMATE CHANGE ON THE RESPIRATORY SYSTEM

According to the 2023 position statement by the European Respiratory Society (ERS), patients with respiratory diseases are among the groups most affected by climate change.[5] More than 8000 liters of air pass through the lungs daily, making them one of the organs most exposed to environmental changes. Factors such as air pollution, smoking, chemical exposure, and infections are primary elements directly threatening lung health by impair-

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