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Introductory Chapter: Confronting COPD by Merging Experience with Enterprise

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1. Introduction

1.1 Combining experience and enterprise

The general backdrop in the management of Chronic Obstructive Pulmonary Disease (COPD) has remarkably transformed in the past two decades. Gone is the erstwhile nihilistic outlook of COPD as this is replaced by fresh optimism in the approach to curtailing the disease [1]. Among the newer developments in recent years that led to increased alacrity in confronting a disease that continues to defy efforts aimed at reducing its morbidity and mortality is the recognition that people all around the globe can play significant roles in reducing the COPD disease burden [2]. Leading the charge in this global enterprise are, quite expectedly, the front-line healthcare professionals who are bearing the load of caring for multitudes of patients suffering from the disease. Undaunted by the inundation of challenges posed by this disease, clinicians have been energized to assume additional roles over and above their duty of care. Many experienced and leading clinicians have gathered together multi-disciplinary local and international organizations that contribute to the advocacy, research, education, and development of clinical practice guidelines on COPD. The recent trend of identifying and managing “treatable traits” in respiratory disease is a prime example of initiatives started by experienced pulmonologists that led to major cooperation and knowledge transfer, resulting in major paradigm shifts in the management of COPD. Identifying a simple biomarker like peripheral eosinophilia that is related to important clinical events such as exacerbation rates and is responsive to treatment with steroids has had major impact on symptoms and progression of the disease.

Another potential contribution from experienced clinicians in the field of respiratory medicine is in the exponential development of digital technologies in Respiratory Medicine. For the novice in medical technology, the following are broad categories of digital development in the field of respiratory medicine:

1. Telemedicine – this includes tele-consultation, tele-monitoring and tele-rehabilitation, all increasing in demand with the current pandemic
2. Artificial Intelligence (AI) – current uses include Google AI that has been shown to be as good as or better in diagnosing/predicting lung cancer using screening CT scans than traditional reporting by radiologists. Google Augmented Reality (AR) microscope also are less likely to miss cancer diagnosis, reducing the workload of pathologists

3. Digital diagnosis – software systems that provide diagnosis of medical conditions using available information without human doctors
4. Equipment software – mobile health or m-health, the practice of medicine or public health supported by mobile devices
5. Medical robotics – including use of virtual reality & mixed reality that allows interaction with the user (e.g. surgeons during procedures)
6. Others e.g. Biosensors & electronic health records

Clinicians need to prepare for the brave new world of digital medicine. Having acquired decades of experience with “real-world” challenges in their specialty, experienced health professionals stand in good stead as mediators between the technological industry and patients’ needs and desires. We should be the ones providing this link in order to protect the interests of patients from inappropriate use of digital technology developed by PHD scientists without the benefit of prolonged interaction with patients. While we face the looming prospect of digital technology one day replacing the role of human doctors, experienced physicians should meanwhile embrace our intermediary role in helping scientists perfect their scientific developments while guiding patients on the use of digital technologies for the betterment of their health. For the benefit of patients, we should seek to keep abreast with digital medicine and not be overwhelmed by the technological tide or leave clinical decision-making solely between patients and tech providers. Unlike technologists and their machines, we as physicians have to a vow to keep – to always put our patients’ best interests first.

2. Knowledge transfer during pandemic

COPD is one major disease that is multifactorial in pathogenesis and affects multiple bodily systems in such ways that multi-disciplinary collaboration is inevitable and often essential in delivering optimal care to its sufferers. At the beginning of a new decade when the world is ravaged by an unforeseen pandemic caused by the Coronavirus COVID-19, alliance of stake-holders in COPD is more essential than ever before. The reliance on technology in order to reduce physical human-to-human contact can either prove to be a boon or bane to closer cooperation to improve patient care. As the world grapples with an unwelcome novel lung infection, we cannot afford to ignore the incessant impact of a disease that continues to kills more people annually than all respiratory tract infections combined (inclusive of those related to coronavirus COVID-19, accurate at the time of writing). Knowledge transfer is imperative in fighting any disease new or old and sharing essential medical information quickly is crucial.

It is time for a new paradigm in tackling the age-old disease of COPD. No longer can stake-holders afford to research or treat this disorder in the isolation of ‘ivory-tower’ institutions. The expected shift in the locus of disease burden to the Majority World urgently requires contextualization of medical progress to suit local environment and habits [3]. Continuing contributions from international intelligentsia and academic sources will be helpful in developing a wider perspective of the approach to this common global disease, as well as provide clinicians everywhere an updated reference for the management of this malady.

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