

Review Series: The “Long and Winding Road” to Our Goal of Primary Prevention of Allergic Diseases

Disease Prevention in the Age of Convergence - the Need for a Wider, Long Ranging and Collaborative Vision

Susan L Prescott^{1,2,3,4}

ABSTRACT

It is time to bring our imagination, creativity and passion to the fore in solving the global challenges of our age. Our global health crisis and the pandemic of noncommunicable diseases (NCDs) is clearly rooted in complex modern societal and environmental changes, many of which have effects on developing immune and metabolic responses. It is intimately related to wider environmental challenges. And it is unsurprising that many NCDs share similar risk factors and that many are associated with a rising predisposition for inflammation. Allergy is one of the earliest signs of environmental impact on these biological pathways, and may also offer an early barometer to assess the effects of early interventions. There is dawning awareness of how changing microbial diversity, nutritional patterns, sedentary indoor behaviours and modern pollutants adversely affect early metabolic and immune development, but still much to understand the complexity of these interactions. Even when we do harness the science and technology, these will not provide solutions unless we also address the wider social, cultural and economic determinants of health - addressing the interconnections between human health and the health of our environment. Now more than ever, we need a wider vision and a greater sense of collective responsibility. We need long-range approaches that aim for life long benefits of a ‘healthier start to life’, and stronger cross-sectoral collaborations to prevent disease. We need to give both our hearts and our minds to solving these global issues.

KEY WORDS

allergic disease, developmental origins of health and disease (DOHaD), diet and nutrition, microbiome, non-communicable diseases (NCDs)

ABBREVIATIONS

NCDs, non-communicable diseases; DOHaD, Developmental Origins of Health and Disease; RCT, randomized controlled trial; CVD, cardiovascular disease; UN, United Nations.

This is not a comprehensive review. Nor is it an up-to-date review. It is not even a balanced perspective of the topic. In fact, to my great delight, I have been instructed to completely ignore that conventional approach, and to focus on my personal experiences, my

struggles and even my failed efforts in developing primary prevention strategies for allergic disease.

First though, I will take the liberty of redefining the scope of this agenda, as I believe it is critically important to consider the ‘allergy epidemic’ in the context

¹School of Paediatrics and Child Health, ²Telethon Institute for Child Health Research, University of Western Australia (UWA), ³Developmental Origins of Health and Disease (DOHaD) Consortium, Perth, Australia and ⁴International Inflammation (in-FLAME) Network, of the World Universities Network (WUN).
Conflict of interest: SP has received travel reimbursement and honoraria from Danone and Nestle Nutrition Institute.

Correspondence: Winthrop Professor, Susan Prescott, School of Pediatrics and Child Health, University of Western Australia, Perth, Western Australia, PO Box D184, Princess Margaret Hospital, Perth WA 6001, Australia.
Email: susan.prescott@uwa.edu.au
Received 14 November 2013.
©2014 Japanese Society of Allergology



Fig. 1 The interconnections between human health and environmental health. Humans are affecting the 'health' of the planet with adverse effects on our own health.

of the much wider pandemic of noncommunicable diseases (NCDs).¹ It would be shortsighted to consider these as separate or unrelated, and quite against my personal philosophies. Many of modern diseases share the same lifestyle and environmental risk factors, and I strongly believe that we should be taking a more interdisciplinary, cross-sectoral approach if we ever hope to overcome these major global health issues.¹ We also need to see that the human health crisis is intimately linked with the declining health of our environment (Fig. 1).

For over 20 years I have been keenly interested in the 'developmental origins of health and disease' known as 'DOHaD', which was initially grounded in cardiovascular medicine. And although I might be better known for my research in allergy, my work has been inherently interdisciplinary for many years.

So why has a paediatrician and an immunologist with a focus on allergic disease been so intrigued by these ideas about the 'early origins' of adult heart disease? Why had I even been following this literature in the 1980s, in an era before the true dawn of interdisciplinary research?

PREVENTION IS IMPERATIVE IN THE FACE OF OUR GLOBAL HEALTH CRISIS

Before I get to my own philosophies and the journey of my work in disease prevention, I want to emphasize the enormous scale of the NCD pandemic and the need for a global response to the a global health crisis. 'Modern lifestyle' diseases are now recognized as the leading cause of death worldwide, in *both* developed and developing countries. This global health crisis has been building, slowly, silently, and deadly—yet largely unheeded for decades. NCDs are a major cause of poverty and must be viewed as a major global economic threat. In 2011, in response to this global health crisis, the United Nations (UN) General Assembly held its first high-level summit specifically to address the rising worldwide burden of NCDs. This has bought the issue squarely into the global po-

litical agenda, with participation of Heads of State and Governments from around the world. Based on the sobering figures presented in the UN Political Declaration on the 'Prevention and Control of NCDs', there are more than 36 million deaths each year from NCDs.² These chronic diseases account for more than 60 per cent of all global deaths. Tragically, at least 9 million of all preventable NCD deaths are in younger people, in their 'prime' years of life. An astounding 80% of all NCD related deaths occur in the developing, underprivileged regions of the globe.² Without urgent action it has been projected that NCDs will claim the lives of 52 million annually by 2030. Even in Africa, NCDs are also projected to well surpass infectious diseases as the most common cause of death by 2030. No region, no population is unaffected.

There is no doubt that this epidemic is hitting the developing world and lower income populations hardest. While poverty and lack of education are major risk factors for NCDs, NCDs also drive both individuals and economies further into poverty, creating a vicious cycle. It is clear that this cycle can only be broken by addressing the social and economic determinants of health. This underscores the compelling need for a multilateral 'whole-of-Government' approach.

Prevention is clearly the name of this game. It is stamped all over the global strategic plan. But, amazingly, the dominant focus has largely been on 'adult' interventions for NCDs, which are still seen largely as 'problems of adulthood'. Given what we know now, this still limited, shorter-term approach is neither sustainable, nor as likely to succeed as a more comprehensive 'life course' strategy that addresses *all* stages of life and specifically targets 'early life' the most logical period for true preventive intervention. If prevention is to be more effective, it is obvious that strategies need to be implemented *before* disease processes are initiated and *before* risk factors come into play. With clear evidence that the pathways and risk fac-

Download English Version:

<https://daneshyari.com/en/article/3340652>

Download Persian Version:

<https://daneshyari.com/article/3340652>

[Daneshyari.com](https://daneshyari.com)