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CARDIOPULSE

Leaders

How an 'accidental doctor' became a renowned cardiologist

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Mark Nicholls speaks to Prof. Dorairaj Prabhakaran, Vice President (Research and Policy) at the Public Health Foundation of India, Executive Director of the Centre for Chronic Disease Control in New Delhi, and Professor (NCD Epidemiology) at the London School of Hygiene and Tropical Medicine, about his career, research and interests.

Dorairaj Prabhakaran describes himself as an 'accidental doctor'. As an 18-year old, and about to take his 12th grade exams, he unexpectedly fell seriously ill and was admitted to hospital with a life-threatening stomach condition. At that time, he had a strong interest in maths and physics and with an aptitude in these subjects, was expected to become an engineer.

'However, when I was admitted to hospital', he explained, 'I witnessed what doctors can do. I became fascinated with the medical profession and decided to do medicine and never regretted that decision, so, I am really an accidental doctor'.

He fully recovered after 10 days in hospital and went on to train as an undergraduate at the Bangalore Medical College before moving to the All India Institute of Medical Sciences (AIIMS) in New Delhi where he pursued Internal Medicine and Cardiology, and where he decided to opt for a career in cardiology.

Influence and inspiration

Prof. Prabhakaran grew up in Bangalore, the eldest of five children, where his father was a junior civil servant with the Government of India, while his mother looked after the family.

Now 59, and Vice President (Research and Policy) at the Public Health Foundation of India and Executive Director of the Centre for Chronic Disease Control in New Delhi, there are a number of people who have influenced him, personally and professionally.

'In terms of early childhood, my parents imbued the importance of empathy to others', he said. 'Subsequently, several family members, my teachers and now my wife and children have all shaped my personality'.

However, on a professional level, two individuals have been important influences. The first is the late Prof. Rajendra Tandon, who he remembers as 'an astute clinician and a master teacher.'

'As young trainees we were fascinated by his clinical skills and hemodynamic knowledge and he kindled my interest in cardiology', said Prof. Prabhakaran. 'I can easily say that I joined cardiology because of him'.

The second is Prof. K. Srinath Reddy, currently President of the Public Health Foundation of India, who he met as trainee resident at AIIMS.

'In a hierarchical academic world, he was friendly, approachable and appeared to have a solution for all the problems we had', he continued. 'We had an instant connect, forged a lifelong friendship, but he also inspired me to move into the world of preventive cardiology and public health and he continues to be my mentor'.

Prof. Prabhakaran trained at McMaster University in Ontario, Canada, as a research Fellow in 2002–04, under Prof. Salim Yusuf, where he learnt several aspects of large international collaborative studies and building teams, which helped him immensely on building a team of cardiovascular researchers in India.

Over the last 15 years that has seen a strong partnership forged with Emory University and several Indian Institutions, with Profs. Venkat Narayan and Mohammed Ali from Emory University; Nikhil Tandon from AIIMS; and Mohan Viswanathan from the Madras Diabetes Research Foundation, all close collaborators.

In addition, he liaises closely with paediatric cardiologist Dr Krishna Kumar (a close friend from residency days) and together they have

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edited a two-volume textbook for Indian Cardiologists dedicated to the memory of their mentor Prof. Tandon.

Low-cost solutions

An important aspect of Prof. Prabhakaran's work is in advancing science in the prevention of heart diseases and diabetes in India. A core element of that lies in identifying low-cost solutions for several aspects of cardiovascular disease (CVD) in multiple healthcare settings. These involve mHealth in primary prevention of CVD, evaluating the role of polypill in CVD prevention, and using innovative approaches such as yoga in cardiac rehabilitation following acute myocardial infarction. He is currently funded to evaluate if yoga-based interventions can reduce mortality and improve quality of life in patients with heart failure.

'During my training in cardiology, I was intrigued by the lower age of onset of CVD among Indians', he said. 'This led me to explore the mechanistic causes and the potential of preventive and low-cost therapeutic solutions to combat this huge public health challenge'.

Recognising the importance of large population-based cohorts for understanding the complex play of social, economic, genetic, and environmental factors in shaping CVD dynamics in diverse population groups India, he, along with several colleagues, established the CARRS (Centre for cArdiometabolic Risk Reduction in South Asia) cohort.

Large cohorts

These cohorts in India have provided major insights in diverse domains, ranging from epidemiology, biomarkers, role of nutrition, on heart diseases and diabetes. As an example, this has enabled the study of such areas as the role of air pollution in increasing the longitudinal risk of CVD in Delhi and Chennai.

His group is evaluating a large scale-up across multiple health systems, and today projects to understand the mechanistic pathways of CVD and diabetes in India are continuing.

He said: 'These cohorts are well-phenotyped and are well placed to provide several mechanistic insights into the high propensity for cardiovascular disease and diabetes in South Asians'.

An eminent cardiologist, epidemiologist, and academician, he has moved beyond the conventional world of clinical cardiology to advance science in the prevention of heart diseases and diabetes in India, adding that: 'Essentially my research has moved from evidence generation through epidemiological research and clinical trials to implementation science evaluating efficiency and program implementation'.

A project he looks back on as his most important work—and one that is dear to his heart—is his first major project developing a simple and low-cost comprehensive cardiovascular risk reduction programme at six large industrial worksites in India 20 years ago. The intervention was cited as an example of a good worksite programme for evaluation in other settings by the World Heart Federation/World Economic Forum meeting in Davos in 2008 and by the US Institute of Medicine in 2010.

Cooking and Scrabble

Prof. Prabhakaran, who has more than 500 publications in scientific journals, is a member of the Research Committee of the Cardiology Society of India, Chairman of the Science Committee of the World Heart Federation, and has also held several senior academic and government advisory posts in India.

Away from medicine, he enjoys spending time with his family watching movies, playing Scrabble, or discussing a wide range of topics.

His wife Poornima is a medical doctor who obtained her PhD in Social Medicine from University of Bristol in the UK and as a passionate environmental health researcher heads the Center for Environmental Health at PHFI. They have a daughter, Ashwini, who is studying at the University of British Columbia in Canada, while their son Raghav will be going to university in September. A keen cook, who loves to dabble in new recipes, Prof. Prabhakaran describes himself as a 'voracious reader' of both fiction and non-fiction.

He remains very proud of his team, as well as several mentees both within India and internationally who have become leaders in their own right and added: 'I have learnt a lot from these young colleagues, and it is indeed a humbling experience'.

Advice he would give to young researchers as they set out on a path towards success within the field, is: 'I think most recipes for success go beyond knowledge and brilliance. It is the empathy to patients, fellow human beings, an open spirit of enquiry, critical thinking, fostering friendships and nurturing collaborations that are key to becoming a successful leader. In addition, young researchers should try and become mentors. Time doesn't cost anything but, of course, hard work is necessary'.

Conflict of interest: none declared.