

Interviews

Awadhesh Kumar Singh and Alison McNeilly spoke to *EMJ* about what made them pursue careers in diabetes and how COVID-19 has impacted their work.

Featuring: Awadhesh Kumar Singh and Alison McNeilly.



Awadhesh Kumar Singh


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Q1 What initially sparked your interest in the field of diabetes?

More than two decades ago, during the 3-year course as a post-graduate trainee of internal medicine and working in the largest medical college of Asia, that too under a renowned diabetologist, I was exposed to handling an extremely busy diabetes clinic catering several hundred patients a day, with a limited backup supporting staff. I think this was the trigger for my keen interest in pursuing post-doctoral course in diabetes and endocrinology. Even during my undergraduate days, there was a notion that if you do not fully know how to treat diabetes and tuberculosis in India, you have not learnt anything about internal medicine. The field of diabetology was set to hold a great promise since a lot was left to be learnt about the complex pathophysiology including the management of Type 2 diabetes mellitus (T2DM).

Q2 Diabetes is an increasingly prevalent disease amongst the population. Have you seen much improvement in its management and treatment over the last few years?

India had the dubious distinction of diabetes capital of the world earlier and is still in race to remain as such, as projected in recent International Diabetes Federation (IDF) Diabetes Atlas.¹ Fortunately, modern pharmacotherapy has changed the entire landscape of T2DM management today. The last two decades have witnessed several newer classes of antihyperglycaemic agents (AHA) that has helped us in a great way to manage T2DM today. Besides being effective glucose lowering agents, some of these newer AHAs have shown a consistent beneficial effect on preventing long-term diabetes complications such as heart and kidney diseases, including prolonged survival in



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people with T2DM. These convincing evidence with newer AHA has forced all major guidelines in the world to change the choice of using pharmacotherapy in T2DM in last couple of years, especially in a background cardiovascular and kidney diseases.

With over 100 publications to your name for research in diabetes and its treatment, what do you believe to be the current gap in the literature that merits greater attention?

While we have progressed substantially in the field of T2DM including its management over past two decades, as mentioned earlier, we still have miles to go. Several knowledge gaps exist in current literature. One of them that merits greater attention include risk stratification in Asians. We still lack a proper validated tool to risk stratify people with T2DM in Asia, despite knowing the heightened risk of cardiovascular and kidney diseases including premature death at younger age. This gets even more complicated by generalising the term 'Asians', which encompasses several distinct ethnic identities including East Asians, South Asians,

migrant Asians, etc., who have a typically distinct genotypic, phenotypic, and psychosocio-cultural differences. Second, while we all follow international diabetes guidelines that gets modified from time to time, based on the outcomes from the multinational studies, notably the representation of some ethnic groups is disproportionately low. Therefore, guidelines may not be generalisable. In my opinion, regional groups should modify guidelines based on their country-specific available evidence.

You have also co-authored numerous publications on the topic of COVID-19. How do you feel the field of diabetes has been impacted by the pandemic?

Widespread lockdown and forced closure of non-emergency outpatient departments during the COVID-19 pandemic gave me the opportunity to learn, research, revisit, write, and publish quite a few papers in relation to COVID-19. So much so that our initial few papers on COVID-19, written during the earlier part of pandemic, become one of the top cited papers in the world. Needless to say, each and every sector including research

in the field of diabetes got immensely effected. Several ongoing clinical trials in diabetes had to be prematurely stopped.

Q5 How did you acquire the leadership skills to carry out your role as Chairman of the World Congress of Diabetes, India, in 2018?

I have always been a keen learner, since my undergraduate days, and have closely followed my seniors in organising meetings and conferences. I have been immensely enthusiastic to organise and participate in all these conferences, given the opportunity. I have been a part of several academic organisations throughout my journey including our regional Integrated Diabetes and Endocrine Academy (IDEA) and national organisations such as the Research Society of Diabetes in India (RSSDI) and Endocrine Society of India (ESI), and each passing year of learning and experience has helped me to learn and acquire leadership and organisational skills. I am extremely overwhelmed to conduct the arguably largest physical diabetes meeting of the World Congress of Diabetes, India, 2018, conducted during pre-Covid era.

Q6 You have been involved in many Phase III and IV clinical trials for diabetes treatments. Are there currently any innovations on the horizon in the field of diabetes that you think are particularly noteworthy?

As I mentioned earlier, research in the field of diabetes has always been exceptionally ahead over other streams of medical science. There have always been something waiting in pipeline in the field of diabetes that needs a closer watch. Amongst many, the most-exciting and new kid on the block is a novel dual glucose-dependent insulinotropic polypeptide and glucagon-like peptide-1 receptor agonist tirzepatide and once-weekly basal insulin icodec. As we all are celebrating 100 years since the discovery of insulin in 2021, we are still waiting for oral insulin for a long time. Glucose responsive insulin or smart insulin is what future holds as breakthrough in insulin segment.

Q7 In your recent publication 'Diabetes Monotherapies versus Metformin-Based Combination Therapy for the Treatment of Type 2 Diabetes', what were the main points that you were trying to deliver?

In this review, we analysed the evidence available from all randomised, head-to-head trials that reported the efficacy and safety outcomes with diabetes monotherapy versus metformin-based combination therapies. From the available evidence, it is apparent that a metformin-based combination therapy reduces HbA1c better than monotherapy with AHA. Amongst the metformin-based oral combinations, metformin plus sodium-glucose co-transporter-2 inhibitor (SGLT-2I) therapy appears to have the best HbA1c reduction, with a longer durability of glycaemic control without any apparent increase in hypoglycaemia or other adverse events other than genital tract infection (GTI). Interestingly, GTI was significantly less associated with metformin-SGLT-2I combination compared to the SGLT-2I monotherapy and this finding was quite new for me. We had some evidence earlier suggesting that combination of SGLT-2I with dipeptidyl peptidase-4 inhibitors had less GTI compared to SGLT-2I monotherapy.

Q8 What has been your proudest achievement throughout your career as an endocrinologist?

The opportunity and power to save lives in itself is the greatest honour for any medical professional. On the professional front, the delight and contentment after treating my patients, and to contribute to improving medical care in my country, is something that makes me immensely satisfied and proud each day. On the academic front, the delight of having contributed to science and research to high impacting, esteemed journals and to be included amongst the group of editors of the bible of endocrinology, the *Williams Textbook of Endocrinology* (2020), South Asian Edition, during the peak of the ragging COVID-19 pandemic, makes me immensely humbled. To know that I have played at least some role in encouraging and guiding budding diabetologist and lighting up a passion in them toward the subject makes me feel truly overwhelmed and satisfied.

References

1. International Diabetes Federation (IDF). IDF Diabetes Atlas: Ninth edition 2019. 2019. Available at: https://www.diabetesatlas.org/upload/resources/material/20200302_133351_IDFATLAS9e-final-web.pdf. Last accessed: 13 August 2021.