# Journal club: Reducing health inequality – a simple step for practising healthcare professionals to take

Let's adopt a Buddhist approach to this journal scan. In short, let's define the problem and outline what we can specially do in clinical practice to address health inequalities, both pragmatically and practically.

The research study by Vicks et al (2022) consisted of a population of over 373 000 people aged 45–64 years. Four distinct ethnic groups were looked at. The reference group was non-Hispanic White people, while the comparison groups were Chinese, Filipino and South Asian. Across all weight categories, diabetes prevalence was higher for Asians overall than White adults, and within the Asian groups it was highest for Filipino and South Asian adults. In the South Asian group, compared to the White reference group, prevalence ratios for men/women at a healthy BMI were 1.8/2.8 for prediabetes and 5.9/8.0 for diabetes, respectively.

Then there are the sex disparities identified by Ambroz et al (2022). The authors found that, in the context of treating hypertension with multiple agents or if microalbuminuria was present, females were less likely to be treated with a RAAS inhibitor, such as ramipril or losartan, than males (81.9% vs 89.3%). Statin therapy was a quarter less likely to be commenced in females than in males (19.7% vs 24.7%).

Finally, and as expected, Gardner et al (2022) provide further evidence on the role of deprivation and its association with increased progression from prediabetes to type 2 diabetes. The increased risk associated with deprivation was at least 17%, with South Asian and mixed-race ethnicities carrying an additional risk of progression of 31% and 22%, respectively.

## What are the solutions?

So, how to solve these inequalities? Not all glucose-lowering drugs are equal (although when sitagliptin becomes generic, I plan to use it: any way to lower $HbA_{1c}$ that little bit more and reduce progression to insulin therapy). In the study by Mannucci et al (2022), all the main glucose-lowering drug classes were investigated as to their potential to improve diabetes outcomes. The principal outcomes included all-cause mortality, 3-point major adverse cardiovascular events (MACE) and hospitalisation for heart failure (HHF). Doubling of serum creatinine, worsening albuminuria and renal death were considered as secondary endpoints. A large total of 255 randomised controlled trials were analysed.

GLP-1 receptor agonists and SGLT2 inhibitors were associated with significant reductions in all-cause mortality (12% and 15%, respectively) and MACE (11% and 10%). SGLT2 inhibitors were associated with reduced risk of HHF by 32%, worsening albuminuria by 33% and doubling of serum creatinine by 32%. Metformin and pioglitazone were associated with a significantly lower risk of MACE, by 40% and 15%, respectively. However, pioglitazone was associated with a 30% higher risk of HHF. Insulin secretagogues were associated with an increased risk of all-cause mortality by 12% and of MACE by 19%.

In the CAPTURE study by Østergaard et al (2022), there was a distinct increase in life expectancy associated with optimised cardiovascular risk reduction using, for example, statins and RAAS inhibitors. The lifetime benefit from optimal risk management was 3.9 years and 1.3 years in patients with and without established cardiovascular disease, respectively. Further addition of an SGLT2 inhibitor or GLP-1 receptor agonist in patients with cardiovascular disease gave an additional mean lifetime benefit of 1.2 years.

All in all, with the evidence summarised, we have the potential to add around 1–5 years of relatively healthy life to our patients. This is an average: some might gain less but others could gain more than a decade. The pragmatic solution, then, is that, after reinforcing advice on healthy lifestyle, most of our patients with type 2 diabetes will need to take the RAAS inhibitor, the statin and the SGLT2 inhibitor. ■

Ambroz M, Geelink M, Smits KPJ et al (2022) Sex disparities in medication prescribing amongst patients with type 2 diabetes mellitus managed in primary care. *Diabet Med* **40**: e14987

Gardner MP, Wang J, Hazlehurst JM et al (2022) Risk of progression from pre-diabetes to type 2 diabetes in a large UK adult cohort. *Diabet Med* 29 Oct: e14996 [Epub ahead of print]

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Mannucci E, Gallo M, Giaccari A et al; SID-AMD joint panel for Italian Guidelines on Treatment of Type 2 Diabetes (2022) Effects of glucose-lowering agents on cardiovascular and renal outcomes in subjects with type 2 diabetes: an updated meta-analysis of randomized controlled trials with external adjudication of events. *Diabetes Obes Metab* **25**: 444–53

Østergaard HB, Humphreys V, Hengeveld EM et al; CAPTURE investigators (2022) Cardiovascular risk and lifetime benefit from preventive treatment in type 2 diabetes: a *post hoc* analysis of the CAPTURE study. *Diabetes Obes Metab* **25**: 435–43

Vicks WS, Lo JC, Guo L et al (2022) Prevalence of prediabetes and diabetes vary by ethnicity among U.S. Asian adults at healthy weight, overweight, and obesity ranges: an electronic health record study. *BMC Public Health* **22**: 1954