

5. BLOOD GLUCOSE AND BLOOD PRESSURE

Raised levels of blood sugar can lead to the development of diabetes, which is a chronic condition that can have very seriously damaging effects. In 2014, an estimated 422 million people had diabetes worldwide, and in 2016, 1.6 million deaths were directly caused by the disease (WHO, 2018[22]). Maintaining an individual's blood glucose controlled is very important, particularly for people who has been diagnosed with diabetes. Fasting blood glucose (FBG) contributes to diagnose and monitor diabetes, and can be under control because of effective treatment with glucose-lowering medication and as a result of health promotion activities. Therefore, controlled fasting blood glucose is thus a proxy for both promotion of healthy diets and behaviours and medical treatment of diabetes, all of which is normally provided in primary care settings (WHO, 2019[23]).

High blood pressure or hypertension manifests by causing headaches, difficulty breathing or nosebleeds, and, if left untreated can lead to more serious cardiovascular problems such as stroke, myocardial infarction and kidney disease. Worldwide, 1.13 billion people have hypertension and fewer than 1 in 5 people with hypertension have the problem under control (WHO, 2019[24]). The absence of hypertension is a result of prevention efforts such as the promotion of physical activity and healthy diets. When hypertension develops, it can be controlled with medication as well as with life style adjustments. This indicator is thus a proxy for both health promotion and medical services, usually primary care (WHO, 2019[23]).

The prevalence of raised FBG is higher than the OECD average in all LAC countries (Figure 5.24). In 2014, Saint Lucia and Saint Kitts and Nevis had the highest prevalence with over 14% of the population having raised FBG, while Peru, Bolivia and Ecuador had the lowest with 8% or less. Moreover, between 2004 and 2014, all LAC countries increased the prevalence of raised FBG, with a regional average growth of 22%. Only Venezuela grew in a smaller rate than in OECD countries, and Saint Lucia was the only country with an increase of over 50%. The increases in FBG can be linked to the growing overweight epidemic in LAC countries (see section on Overweight and Obesity in Chapter 4).

In 2015, the average prevalence of raised blood pressure in LAC was 22%, close to the OECD average of 21% (Figure 5.25). Saint Kitts and Nevis, Suriname and Peru had the highest prevalence of over 25%, while the lowest prevalence was observed in Paraguay, the only country below 15%. Between 2005 and 2015, most of LAC countries reduced the prevalence of raised blood pressure with an average of -8%, lower than the OECD reduction of -16%. Four countries experienced an increase in the period: Suriname (8%), Saint Kitts and Nevis (4%), Antigua and Barbuda (3%) and Guatemala (2%). Changes in risk factors and improvements in detection and treatment of raised blood pressure have, at least partly, contributed to these general reductions, but other factors such as improvements in early childhood nutrition and year-round availability of fruits and vegetables, might explain it as well (Zhou et al., 2017[25]).

In ten LAC countries with data, we can observe a general positive association between people being diagnosed with hypertension and receiving either medical advice or anti-hypertensive medication (Figure 5.26). Costa Rica shows the highest levels of both population diagnosed and having access to treatment, while Belize and Mexico show the lowest levels. Chile presents a relatively high rate of hypertension diagnosis, but low levels of treatment. To achieve the goal of effective treatment coverage, the main challenge for countries' health systems is to increase detection and provide population-wide health promotion activities and medical treatment to the population in need (WHO, 2019[23]).

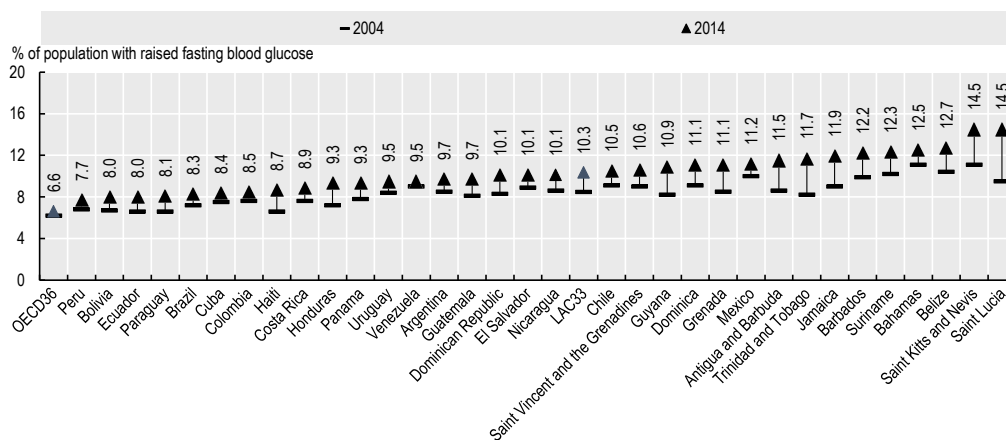
Definition and comparability

The prevalence of raised blood pressure is defined as the percentage of the population with systolic blood pressure equal or over 140, or diastolic blood pressure equal or over 90. It is based on measured blood pressure. If multiple blood pressure readings were taken, first reading per participant was dropped and average of remaining readings was used. The prevalence of raised FBG is defined as the percentage of the population with fasting glucose equal or over 126 mg/dl (7.0 mmol/l) or history of diagnosis with diabetes or use of insulin or oral hypoglycaemic drugs. It is based on measured blood glucose. The percentage of the population receiving advice or treatment (Figure 5.26, (Geldsetzer et al., 2019[26])) was defined as people who were diagnosed with hypertension and had received relevant lifestyle advice (i.e. losing weight, exercising, reducing salt intake, or quitting tobacco use) or anti-hypertensive medication.

References

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- [25] Zhou, B. et al. (2017), "Worldwide trends in blood pressure from 1975 to 2015: a pooled analysis of 1479 population-based measurement studies with 19.1 million participants", *The Lancet*, Vol. 389/10064, pp. 37-55, [http://dx.doi.org/10.1016/S0140-6736\(16\)31919-5](http://dx.doi.org/10.1016/S0140-6736(16)31919-5).

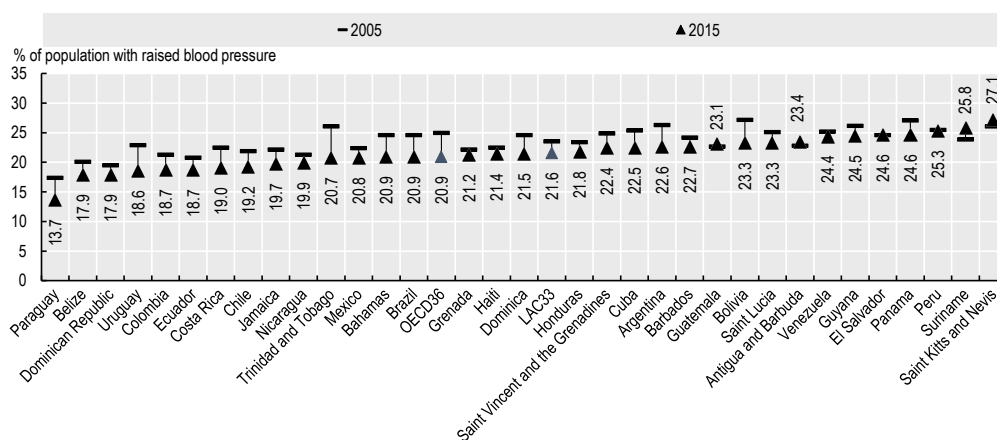
Figure 5.24. Raised fasting blood glucose among adults, 2004 and 2014



Source: WHO GHO 2017.

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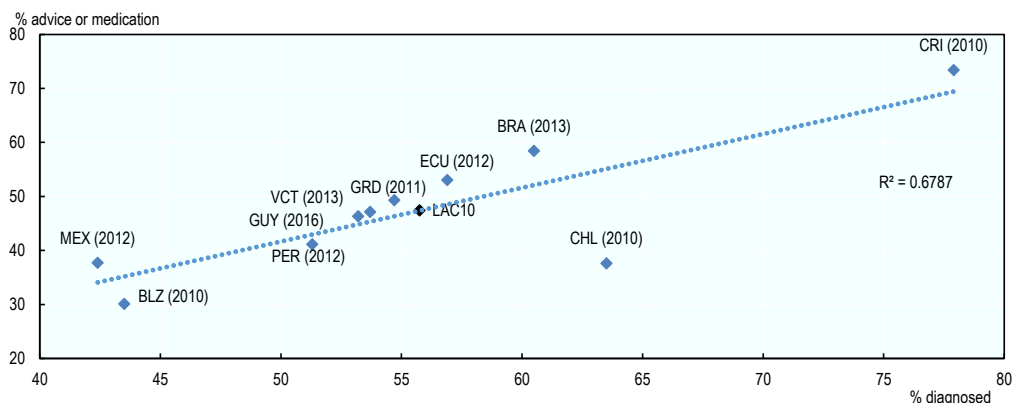
Figure 5.25. Raised blood pressure among adults, 2005 and 2015



Source: WHO GHO 2017.

StatLink <https://stat.link/c0xval>

Figure 5.26. Percentage of the population with hypertension aware of their diagnosis vs population that have received advice or medication



Source: Data from Geldsetzer et al (2019[26]), "The state of hypertension care in 44 low-income and middle-income countries: a cross-sectional study of nationally representative individual-level data from 1.1 million adults", [http://dx.doi.org/10.1016/S0140-6736\(19\)30955-9](http://dx.doi.org/10.1016/S0140-6736(19)30955-9).

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