Children under pressure: an underestimated burden?

Saverio Stranges, Francesco P Cappuccio

Perspective on the paper by Jackson et al (see page 298)

The study by Jackson et al represents a significant contribution to our knowledge in the area of hypertension research and related clinical practice. The definition of national blood pressure references for children and young adults, aged 4–23 years, living in Great Britain provides important, complementary information to the updated US guidelines on the management of high blood pressure in children and adolescents aged 1–17 years, as well as to earlier attempts to define normative blood pressure values from other countries. In addition, these centiles will integrate existing charts in the UK regarding other important parameters (eg, body mass index), thereby allowing for a more comprehensive characterisation of the health of children. Some distinctive aspects of the study by Jackson et al should be highlighted: the representative and large sample size of the seven surveys from which blood pressure data were drawn; the consistent method applied for blood pressure measurements; the use of a statistical technique such as the LMS method to construct blood pressure centiles, which accounts for the skewness (L), median (M), and coefficient of variation (S) of the blood pressure distribution. Indeed, this statistical tool had been previously used in a German study to derive normalised reference values for the 24-h ambulatory blood pressure in children and adolescents aged 5–20 years.

In addition to the statistical value of their contribution, the study by Jackson et al is particularly relevant because it gives emphasis to a significant problem in the medical field: hypertension in childhood. In the past few decades, the definition of normative values for blood pressure in the paediatric age range has been increasingly recognised as an important issue in clinical practice and public health because of the changing patterns in the epidemiology and associated determinants of hypertension among children and young adults. Several reasons justify the increasing attention to
带走这个问题。首先，原发性高血压，尤其是在学龄儿童和青少年中，已经形成了一种临床和流行病学的重要问题，至少可与上述与第二级条件有关的问题相比较。

第二，根据Jackson et al，存在证据显示，随着体重从儿童期到成年期的增加，可能会出现多种并发症。在心血管病中，原发性高血压可能引起心肌和脑血管病变，并可能导致儿童在青春期之前发生动脉硬化。

因此，更需要关注血流动力学问题在儿童期的潜力以进行长期的健康问题。10 第三，原发性高血压可能在儿童期出现，这可能是由部分过早组织损伤（如体外血管硬化）引起的，并且可能引起儿童早期的动脉硬化，以及心血管病的发生。

相反，这些数据支持发病率的持续增长。在成人期的血压水平和在原发性高血压的发病率在新几代中可能是不同的，这可以确定在心血管病的发病率及死亡率中有一个较高的比例。

开放问题在这一领域中至关重要，即在观察到的性别差异中，儿童期原发性高血压的发病率，以及年龄的增加。

临床意义在于血流动力学的变化和环境因素，以及其与高血流动力学的关系的相互作用，这可能在儿童期的血压水平中表现出来。

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